

**PREPARATORY SURVEY REPORT  
ON  
THE PROJECT FOR THE IMPROVEMENT  
OF SECONDARY SCHOOLS  
IN  
THE KINGDOM OF LESOTHO**

**AUGUST 2018**

**JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)**

**MATSUDA CONSULTANTS INTERNATIONAL CO., LTD.  
INTEM CONSULTING, INC.**

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JR
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**Ministry of Education and Training  
The Kingdom of Lesotho**

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## Preface

Japan International Cooperation Agency (JICA) decided to conduct the preparatory survey and entrust the survey to the Consortium of Matsuda Consultants International Co., Ltd. and INTEM Consulting, Inc.

The survey team held a series of discussions with the officials concerned of the Government of the Kingdom of Lesotho, and conducted field investigations. As a result of further studies in Japan, the present report was finalized.

I hope that this report will contribute to the promotion of the project and to enhancement of friendly relations between our two countries.

I wish to express my sincere appreciation to the officials concerned of the Government of the Kingdom of Lesotho for their close cooperation contributed to the survey team.

August, 2018

Akiko Kumagai  
Director General  
Human Development Department  
Japan International Cooperation  
Agency

# Summary

## 1 Outline of the Country

Encircled by Republic of South Africa, the Kingdom of Lesotho (hereinafter referred to as “Lesotho”) is a small country with a land area of 30,000 km<sup>2</sup> (equivalent to 90% of the Kanto Plain in Japan). Entirely situated within the Drakensberg Mountain Range, Lesotho has virtually no flatland, and all its territory lies more than 1,400 m above the sea level. As a constitutional monarchy, the country achieved independence from Britain in 1966, articulating its policy of neutralism and non-alignment. The population is approximately 2.11 million, of which the largest age group is between 15 and 19 years old (12.4%). People aged 20 or below account for 50.7% of the population (Population Census 2006). In August 2014, an internal political conflict in the government led to military actions by the Lesotho Defence Force, which developed into domestic instability lasting for some time. From the end of August through October in said year, however, a mediation led by the South African Development Community restored political stability in the country. The majority of people in Lesotho subsist on self-sufficient farming and stock raising. While the GNI per capita in Lesotho is 1,330 US dollars (classified as a lower middle income country) (World Bank, 2014<sup>1</sup>), income inequality is substantial, where 57.1% of the total population live below the poverty line (an income of 1.25 US dollars per person per day) (World Bank, 2010). The country’s key industries are manufacturing (textile), agriculture (maize, wheat, and sweet sorghum), and construction. Lesotho also produces mineral resources including diamonds, albeit limited in amounts. Income generated by migrant workers in South African mines used to be a primary revenue source for the economy in Lesotho, and yet those workers are in decline in recent years. The country is a member state of the Southern African Customs Union (SACU), together with South Africa, Botswana, Namibia, and Swaziland. Grants obtained from the SACU account for approximately 50% of Lesotho’s government revenue.<sup>2</sup> The official language of the country is English and Sesotho, and the dominant religion is Christianity. HIV-prevalence rate is substantially high, which has imposed a heavy burden on the society.

## 2 Background and Outline of the Requested Project

In its long-term national plan titled Vision 2020 (2003-2020), Lesotho envisions a democratic, peaceful, and stable state, and economic prosperity upon which well-developed human resources are based. It articulates that education is the most critical element to achieve such goals. Furthermore, the National Strategic Development Plan (2012-2016) that elaborates medium-term national strategies set out objectives related to human resources developed through education. As one of the goals, it specifically envisages that special needs education should be mainstreamed at all educational levels. To attain these goals, Lesotho has currently prepared Education Sector Strategic Plan (2016-2026). It highlights priorities in secondary education set on construction of boarding

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<sup>1</sup> Source: The World Bank Databank (<http://data.worldbank.org/>)

<sup>2</sup> Annual Financial Report of Lesotho, 2013

units and science laboratories, provision of ICT solutions, and improvement of inclusive settings in existing secondary schools to improve quality and equitable access to secondary education.

At the primary and secondary school levels in Lesotho, inclusive education has been implemented in many mainstream schools. However, their facilities and systems are not arranged to provide special needs support. This reveals the fact that typical mainstream schools have somehow managed to absorb students with mild disabilities. At the primary education level, on the other hand, students with severe disabilities are admitted only to special education schools or to the few inclusive schools. At the secondary level, furthermore, only four schools enroll students with severe disabilities, which is requested by Lesotho to be included in the Project's target sites. These four schools have integrated children with disabilities, but not under the policy of the Ministry of Education and Training (hereinafter referred to as "MoET"). Previously operating as regular schools, they voluntarily started to accept children with specific disabilities, such as physical disabilities, hearing or visual impairment, on behalf of neighbouring nursing facilities for disabled children. Therefore, these existing schools were not originally provided with facilities to accommodate students with disabilities. Furthermore, deterioration of facilities and persistent congestion of classrooms has restrained various aspects of school life, not only for students with disabilities but also for students without disabilities. While Lesotho has aimed at mainstreaming inclusive education into regular schools, the above mentioned 4 schools the only existing secondary schools available that have adequate experience, appropriate systems, and accessible infrastructure. To promote inclusive education, the country needs to develop a model of inclusive secondary schooling which will serve as a guiding practice for the future.

Under these circumstances, the Government of Lesotho requested a grant aid from Japan to implement the Project for Upgrading and Construction of Secondary Schools (hereinafter referred to as the "Project"), with a total target of 13 secondary schools, including upgrading five existing sites and constructing eight new sites.

### 3 Highlights of the Survey Results and Project Components

From November through December 2015, Japan International Cooperation Agency (JICA) sent a Preparatory Survey Team to Lesotho to conduct an on-site study. Based on the findings through site surveys, evaluations were conducted on land, infrastructure, construction and other conditions, 12 project candidate sites including alternate sites were confirmed. The Team confirmed that the existing sites were given higher priorities than new sites. Drawing on further analyses, an outline design, and project cost estimation done in Japan, the five existing school sites (hereinafter referred to as the "target schools") were determined as the targets for the project. Facilities, equipment, and access passages in the premises will be upgraded and/or constructed, depending on the site conditions.

Table- Project Sites

Code	Site	District
E1	Abia	Maseru
E2	Motsekuoa	Mafeteng
E3	Mt. Royal	Leribe
E4	St Catherine's	Maseru

Having analyzed the survey results in Japan, the Survey Team prepared an outline design, project cost estimation and project plan. From August 30 through September 8, 2017, the Team made a briefing on an outline design in Lesotho and carried out a supplementary survey. Outlines of the Project are as provided in this Preparatory Survey Report.

#### 1) Project components

The components of the Project will be the minimum necessary facilities (classrooms, Science Laboratory, ICT Laboratory, Resource Room, Administration Office, Dormitory, Kitchen, Dining Hall, toilets, Teacher's House, and other ancillary facilities such as elevated water tanks required for implementing Lesotho's standard secondary education curriculum, and furniture (general educational furniture and wheelchair accessible desks), equipment (devices necessary for inclusive education, pedagogical equipment, and kitchen utensils) as well as access passages in the premises. These components will be planned according to the respective site conditions.

#### 2) Summary of facility and equipment planning

Proposed facilities, furniture, and equipment are as outlined below.

Table- Planned Facility Overview

Block	Code	No. of Blocks per Site				Facility components	Area per Block (m <sup>2</sup> )	
		E1	E2	E3	E4			
Classroom Block	2CR		2			Classroom (40 people) x 2	186.98	
	3CR	1	2			Classroom (40 people) x 3	280.46	
	2CR+R	1				Classroom (40 people) x 2, Resource Room	218.14	
Laboratory Block	SL+ICT	1	1			Science Lab, Science Preparation Room, ICT Lab, ICT Preparation Room	311.63	
Administration Block	Standard rooms					Principal's Office, Deputy Principal's Office, Accountant's Office, Secretary's Office, Teacher's Room, Store Room, Office kitchenette		
	ADM-E2		1			Standard rooms+Resource Room, IE-Store Room	280.46	
	ADM-E4				1	Standard rooms	249.30	
Resource Centre	RC				1	PC Room, Reading Room, Discussion Room, Office, Preparation Room, Store Room	209.95	
Kitchen and Dining Block	KD	1	1			Kitchen, Dining Hall, Pantry, Delivery Porch	186.98	
Dormitory	DMM	1	1	1		Bedrooms, Sick Bay, Toilets and Shower Room, accessible toilets, Store Room, Matron's Room	249.60	
	DMM8				1	Bedroom, Toilet and Shower Rooms, Store Room	93.60	
	DMF	1	1	1		Same as DMM	249.60	
Toilet Block	TM4	3				4 booths+urinal	37.98	
	TM4D	1	2	1		4 booths + urinal + accessible booth	61.35	
	TF4			1		4 booths	27.74	
	TF4D			1		4 booths + accessible booth	45.83	
	TF5	3	3			5 booths	31.33	
	TF5D	1	2			5 booths+ accessible booth	51.26	
	TS		1			1 booth+urinal/2 booths	28.80	
Teacher's House	TMS				1	1 booth+urinal/ 1 booth /1 booth	29.76	
Total Block Area by Site	SH	1	1			2 bedrooms, living room/dining, kitchen, bathroom, and toilet	88.36	
	E1 Abia							1,905.31
	E2 Motsekuoa							2,649.52
	E3 Mt. Royal							634.12
Grand Total	E4 St Catherine's							582.61
	Block Total							5,771.56
	Covered passages (in 5 target sites)							864.89
	Total							6,636.45

Table- Furniture

Block	Room	Desks for Students	Desks for Management Staff's	Desks for Teachers	PC Tables	Desks for Wheelchair	Reading Desk	Tables-L	Tables-M	Tables-S	Chairs for Students	Chair for Head Teacher	Chairs for Management Staff's	Chairs for Teachers	Chairs for Visitors	Stools	Kitchen Table-L	Kitchen Table-S	Sink	Cabinets-L	Cabinets-S	Book Shelf	Bunk Bed	Bed	Steel Locker
Classroom Block	Classroom	40		1							40			1											
Laboratory Block	Science Lab															41									
	Preparation Room													2											
	ICT Lab			1	40				1		40			1											
	Preparation Room													1											
Administration Block	Head Teacher's Room		1							1	1				6							2			
	Deputy Head Teacher's Room		1										1		2							3			
	Accountant's Room		1										1		2							3			
	Secretary's Room			1										1							2				
	Teacher's Room (E2)							1	3					32	4						4				
	Teacher's Room (E4)							1						35	4						2				
Resource Centre	PC Room				40						40														
	Reading Room						6				6												21		
	Discussion Room				4		1			14										3					
	Preparation Room				3		2							2								2			
	Office		1										1		2							3			
Kitchen and Dining Block	Kitchen														2		2	1	1						
	Dining Room							8	2		32														
Dormitory	Bed Room (standard)																						16	32	
	Bed Room (E4)																							8	8
	Sickbay																							2	
Others	E1 Abia					6*																			
	E2 Motsekuoa					20*																			

\* to be placed to the rooms as necessary

Table- Equipment

Purpose	Name of item	Quantity
Rehabilitation	Mat, walking frame set, balance ball, parallel bar, cushion for stretching (set)	10
IE	Embossed world map, large print keyboard, talking measuring scale, talking calculator, mountbatten machine, item identification device with voice, engrave machine, voice recorder	8
Science Laboratory	Electronic scale, microscope, skeleton model, ripple tank, oscilloscope set, Van Der Graaf generator	8
ICT	Desktop PC, laptop PC, projector, screen for projector, printer, and copying machine	6
House economics	Electric sewing machine, refrigerator, electric stove with oven, gas stove with oven	6

#### 4 Implementation Structure, Construction Period, and Estimated Costs of the Project

##### 1) Implementation Structure

After an Exchange of Notes (E/N) regarding project implementation between the Government of Japan and the Government of Lesotho, and a Grant Agreement (G/A) between JICA and the



Government of Lesotho are concluded, the Project will be implemented following the scheme of Japanese Grant Aid, in accordance with Procurement Guidelines for the Japanese Grants (for Japanese consultant and local contractor). After this, a contract will be formed between the Government of Lesotho and a Japanese consultant to conduct the detailed design of the facilities and equipment. After completion of the detailed design drawings and tendering documents, a public tender will be conducted in Lesotho. The selected companies will enter into a contract with the Government of Lesotho for construction work and equipment procurement. Construction of the facility and the procurement of equipment will be conducted in accordance with this contract. Furthermore, in accordance with Japanese grant aid guidelines, tendering for construction work and equipment procurement will be divided and performed separately for the Project.

## 2) Construction Period and Estimated Project Costs

The construction period necessary for the Project is estimated a total period of 30 months, including seven months from the signing of the G/A to the invitation to tender; five months from the invitation to tender to the commencement of the work, and 18 months for construction work. The time necessary for equipment and furniture procurement will be incorporated into the construction work period.

The cost required for the implementation of this Project borne by the Lesotho side will be approximately 20 million yen.

## 5 Assessment of Relevance of the Project

### 1) Relevance

- Government of Lesotho has set out a policy underlying “mainstreaming special needs education at all levels” in its National Strategic Development Plan 2012-2016. Furthermore, the Education Sector Plan 2016-2026 calls for shifting the country’s 30% of primary and post primary schools (25% of primary and 5% of post primary) to inclusive schools. The Project directly assists the promotion of inclusive education through developing educational settings in the target schools required for a model school dedicated to such goal. Therefore, it is consistent with the overall strategy of Lesotho.
- Japan has proposed a support for Lesotho to facilitate its human resource development and strengthen social infrastructure. The Project is thus consistent with such aid policy of Japan.
- Facilities and equipment provided by the Project will not require special skills for operations and maintenance. While the Project, when implemented, will need an additional five teachers, there are 41 graduates who completed their teacher training courses majoring in special needs education (2015). Thus, there will be a pool of teachers with necessary skills in inclusive education to be allocated in the target schools.

## 2) Effectiveness

### 【Quantitative Effects】

The Project, when implemented, expects the following quantitative effects.

Indicator	Baseline (2015)	Target (2021)
Number of schools provided with essential learning environment appropriate for students with disabilities	0	4
Number of enrolled students provided with learning environment appropriate for students with disabilities	0	2,453

### 【Qualitative Effects】

The following qualitative effects can be expected through implementation of the Project.

- Educational and boarding environments with less barriers are provided for students with disabilities, which will enhance the quality of and motivation for their learning.
- Science and ICT laboratories provided for students, which will enhance the quality of and motivation for their learning.
- Implementation of the ‘Soft-components’ will improve the quality of inclusive education in the target schools.
- The target schools will serve as model of inclusive secondary schools under a relevant strategy of Lesotho and contribute to the promotion of inclusive education.

In light of the above, the Project is highly relevant, and considered effective.

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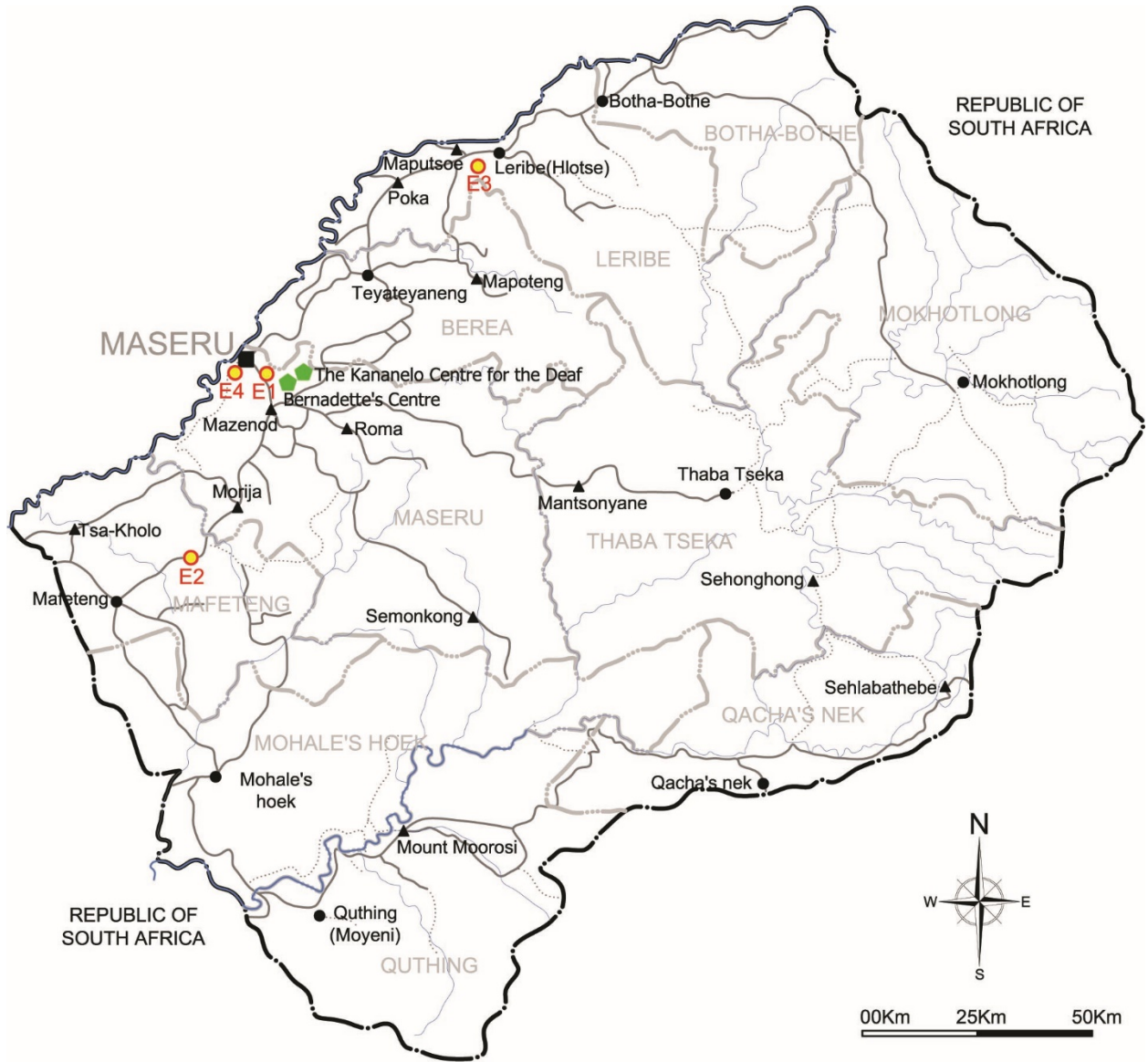
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# Location Map



### Candidate sites for the project

Code	Site Name	District
E1	Abia	Maseru
E2	Motsekuoa	Mafeteng
E3	Mt Royal	Leribe
E4	St. Catherine's	Maseru

### LEGEND

- Candidate Site
- ◆ Special Needs School
- Capital City
- District Chief Town
- ▲ Town
- International Boundary
- District Boundary
- Paved Road
- ⋯ Unpaved Road
- River

# Perspective



Bird's-eye View



Aspect of Project Facilities

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## Abbreviations

DOE	Department of Environment
EFA	Education For All
EFU	Education Facilities Unit
EIA	Environmental Impact Assessment
E/N	Exchange of Notes
ESSP	Education Sector Strategic Plan
G/A	Grant Agreement
GNI	Gross National Income
HI	Hearing Impairment
HIV	Human Immunodeficiency Virus
ICT	Information and Communication Technology
IRIS	Incorporated Research Institutions for Seismology
JC	Junior Certificate
JICA	Japan International Cooperation Agency
LCE	Lesotho College of Education
LGCSE	Lesotho General Certificate for Secondary Education
LRA	Lesotho Revenue Authority
MoET	Ministry of Education and Training
NUL	National University of Lesotho
PD	Physical Disability
PU	Procurement Unit
SACU	Southern African Customs Union
SANS	South African National Standard
SEN	Special Education Needs
SEU	Special Education Unit
TSC	Teaching Service Commission
TSD	Teaching Service Department
VI	Visual Impairment

## **Chapter 1 Background of the Project**

# Chapter 1 Background of the Project

## 1-1 Background and Outline of the Project

In its long-term national plan titled Vision 2020 (2003-2020), Lesotho envisions a democratic, peaceful, and stable state and economic prosperity upon which well-developed human resources are based. It articulates that education is the most critical element to achieve such goals. Furthermore, the National Strategic Development Plan (2012-2016) that elaborates medium-term national strategies set out objectives related to human resources developed through education. It specifically envisages that special needs education should be mainstreamed at all educational levels. To attain these goals, Lesotho has currently prepared Education Sector Strategic Plan (2016-2026). It highlights priorities in secondary education set on construction of boarding units and science laboratories, provision of ICT solutions, and improvement of inclusive settings in existing secondary schools to improve quality and equitable access to secondary education.

At the primary and secondary school levels in Lesotho, inclusive education has been implemented in many mainstream schools. However, their facilities and systems are not arranged to provide special needs support. This reveals the fact that typical mainstream schools have somehow managed to absorb students with mild disabilities. At the primary education level, on the other hand, students with severe disabilities are admitted only to special education schools or to the few inclusive schools. At the secondary level, furthermore, only four schools enroll students with severe disabilities, which is requested by Lesotho to be included in the Project's target sites. These four schools have integrated children with disabilities, but not under the policy of the Ministry of Education and Training (hereinafter referred to as "MoET"). Previously operating as regular schools, they voluntarily started to accept children with specific disabilities, such as physical disabilities, hearing or visual impairment, on behalf of neighbouring nursing facilities for disabled children. Therefore, these existing schools are not originally provided with facilities to accommodate students with disabilities. Furthermore, deterioration of facilities and persistent congestion of classrooms has restrained various aspects of school life, not only for students with disabilities but also for students without disabilities. While Lesotho has aimed at mainstreaming inclusive education into regular schools, the above mentioned 4 schools the only existing secondary schools available that have adequate experience, appropriate systems, and accessible infrastructure. To promote inclusive education, the country needs to develop a model of inclusive secondary schooling which will serve as a guiding practice for the future.

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The Project intends to improve secondary education facilities physically accessible to students with disabilities through upgrading the target schools serving for their learning needs, and thereby contributing to redressing inequality in access to education.

## 1-2 Natural Conditions

### (1) Land and Climate

Lesotho is completely situated in mountainous regions exceeding elevations of 1,400 m, and is primarily divided into four topographic regions: lowlands, foothills, mountains, and Senqu River valley. The five target sites are all located in lowlands, zoned in a temperate humid climate, according to the Koppen’s classification of climate (Cfa). Rainfall is primarily concentrated in summer from October through April, while it is dry in winter. The target sites have a mostly similar climate, with an average monthly temperature ranging from 7°C (July) to 22°C (January). Monthly rainfall ranges from 15 mm (July) to 125 mm (January). Mountainous regions have snow, which is reported only in areas 2,000 m above the sea level and up. The target sites have no record of snow.

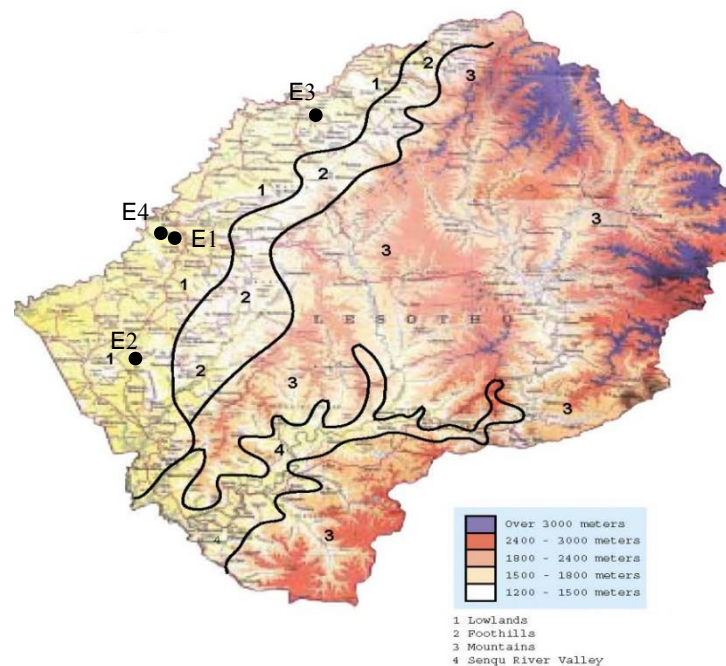


Figure 1-1 Topographic Divisions in Lesotho

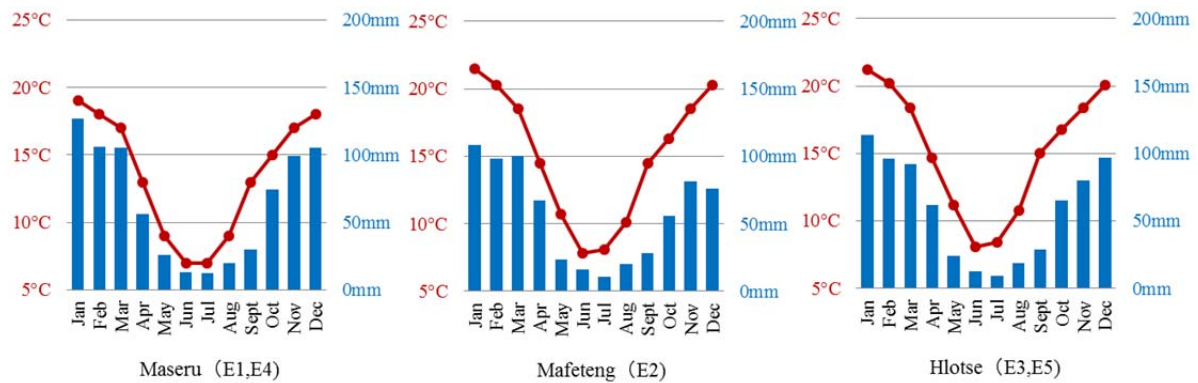


Figure 1-2 Monthly Rainfall and Average Temperature in the Target Sites

## (2) Natural Disasters

According to an interview during the on-site survey, it confirmed no history of damage resulting from natural disasters. Note, however, that Lesotho has often wadis and dongas eroded by rainwater. Thus, the Project should pay attention to exterior planning on the target sites, including facility layout, rainwater drainage, slope protection, and planning and leveling open passage.

## (3) Land Survey

### 1) Topographical Survey

Topographical surveying (plane-table and level surveying) was conducted at all target sites, which was subcontracted to a surveying company in South Africa. Level surveying was carried out with 5-meter grid spacing and contour interval of 0.5 m. Resulting survey drawings indicate the latitude, longitude, orientation, existing structures, trees, obstacles, and infrastructure in the sites. The said surveying was pursued in accordance with site borders verified under the presence of a representative of the target schools.

### 2) Geological Survey

To prepare the optimal foundation design, the Project carried out a geotechnical survey which was subcontracted to an engineering company in South Africa. The surveying method was a dynamic cone penetration test on an excavated bed of 2.0 m at nine points per target site. Undisturbed soil samples were taken from three points in each target site for the purpose of laboratory tests (Atterberg limits, grain size analysis, and triaxial compression test). In addition, soil permeability tests were conducted at two points per site to obtain data necessary for appropriate drainage planning.

The survey revealed that the sites, except for E2, had good soil conditions primarily featured by silty sand, which is likely to have an expected bearing capacity of 100 kPa to 150 kPa. It should be noted, however, that E4 has sandy clay as deep as 1.2 m under the ground surface, and therefore the level of foundation bed must be determined to avoid such clay layer. The survey result also indicates that E2 has silty clay as deep as 2.6 m under the surface, which is highly expansive. The existing school

facilities in E2, constructed with concrete block masonry, have some cracks. These are probably caused by expansive soil below.

Survey results (excerpt) are indicated below, and attached to the Report.

Table 1-1 Geotechnical Survey Results (Excerpt)

Site	E1/Abia	E2/Motsekuoa	E3/Mt. Royal	E4/St Catherine's
(from GL, m)				
Soil -0.6<	Silty SAND	Expansive soil	Silty SAND	Silty SAND
-0.6 ~ -1.2	silty sandy CLAY			Sandy CLAY
-1.2<				Clayey SAND
Expected Bearing Capacity (kPa)	150	100	150	150
Evaluation	good	need soil replacement	good	need to examine foundation level
Permeability	medium rate	very slow	smooth	very slow

### 1-3 Environmental and Social Considerations

#### (1) Legal Systems Relating to Environmental and Social Considerations

Environmental legal systems in Lesotho are governed by Environment Act (No. 10 of 2008). It is a revision of the previous version (No. 15 of 2001), developed on the National Environment Policy (NEP 1998) which set out an objective of sustainable livelihood and development. The said Act provides the overarching administrative framework for environmental conservation and management as well as for implementation of NEP.

Guiding principles of Environmental Impact Assessment (EIA) are articulated in NEP 1998 and the Environment Act enforced in 2001, and continued to be effective in the said Act revised in 2008.<sup>3</sup> Later, draft EIA Regulations<sup>4</sup> were prepared pursuant to the previous Environment Act, which are not yet enacted. Also, National Environment Secretariat (NES), which was replaced by Department of Environment administering Lesotho's environmental issues, developed Guidelines for EIA<sup>5</sup> in 2009 to set forth EIA provisions for the Environment Act 2008. DOE administration took over the Guidelines. According to an EIA officer, however, the Guidelines remain a reference that is now in the revision process. Given these circumstances, the country has not yet developed a concrete set of environmental laws and pertinent legal documents. EIA-related procedures formally adhere to regulations pursuant to the Environment Act 2008.

<sup>3</sup> Regulations pertinent to EIA are stipulated in 'Part V- Environmental Impact Assessment, Audits and Monitoring' of the Environment Act and 'First schedule Part A; Types of Projects and Activities for which an Environmental Impact Assessment is required.'

<sup>4</sup> Draft EIA Regulations 2006; Pursuant to section 122 of the Environment Act 2001 were prepared to align with the previous Environment Act, and yet are not formalized as of 2015.

<sup>5</sup> Guidelines for EIA, National Environment Secretariat of Ministry of Tourism, Environment & Culture, 2009

Part A of the First Schedule of the Environment Act 2008 provides a list of 17 projects and activities that require EIA. A school construction project is not indicated therein. Therefore, the Project is presumably not subject to EIA. Note, however, that No. 1 and No. 7 in Part A of the First Schedule<sup>6</sup> require a review on a project basis whether a given project needs EIA. This is decided by DOE that administers EIA.

## (2) Procedures Required for the Project

As shown in the Environment Act 2008, DOE<sup>7</sup> administers environmental management and EIA. Although DOE belongs to the Ministry of Tourism, Environment and Culture, it generally operates as an independent organization rather than a ministerial unit. The Environment Act articulates that DOE Director has the authority to decide on environmental administration and EIA-related matters.

Specific procedural steps for EIA and the number of days required for the process are not indicated in the law, as EIA's individual law and guidelines are not finalized. According to an EIA officer, however, typical procedures are as described below, requiring 30 working days for a period from project proposal to approval.

- a. MoET proposes a project to DOE (by submitting a project brief).
- b. DOE staff carry out an on-site survey for verification.
- c. EIA will not be required for a project that is identified with no potential problems.
- d. DOE Director presents a Project Approval (Section 3 of Article 20, Environment Act)

A discussion between DOE and MoET concluded that EIA would not be applicable to the Project as the target sites have those schools already in operation.

## (3) Preliminary Appraisal of the Target Sites

The proposed target sites will be developed within the scope of extension work on the existing school premises. Furthermore, the Project is planned to absorb the present capacity of students, and is unlikely to have undesirable impact on the natural environment and communities. Assessed in accordance with JICA Environmental and Social Consideration Guidelines, the Project's target sites are rated Category C.

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<sup>6</sup> 1 and 17 of First Schedule Part A: "1. General (a) any activity out of character with its surroundings; (b) any structure of a scale not in keeping with its surroundings; (c) major changes in land use." "17. Projects or activities that could affect any of the following areas or features which have been demarcated as such by central or local authority"

<sup>7</sup> Previously known as National Environment Secretariat (NES)

## **Chapter 2 Project Components**



## Chapter 2 Project Components

### 2-1 Outline of the Project

#### (1) Overall Goal and Project Objective

The National Strategic Development Plan (2012-2016) that elaborates medium-term national strategies set out objectives related to human resources developed through education. One of the objectives envisages that special needs education should be mainstreamed at all educational levels. To attain these goals, Lesotho is currently preparing an action plan called Education Sector Strategic Plan (2016-2026). It highlights priorities in secondary education set on construction of boarding units and science laboratories, provision of ICT solutions, and improvement of inclusive settings in existing secondary schools to improve quality and equitable access to secondary education. The Project intends to improve inclusive facility settings in secondary education through upgrading the target schools serving for their learning needs, and thereby contributing to redressing inequality in access to education.

#### (2) Outline of the Project

To achieve the above-mentioned objective, the Project is intended to upgrade and/or construct facilities (classrooms, Science Laboratory, ICT Laboratory, Resource Room, Administration Office, Dormitory, Kitchen, Dining Hall, toilets, Teacher's Houses, and other ancillary facilities such as elevated water tanks) and provide furniture (general educational furniture and wheelchair accessible desks) and equipment (devices necessary for inclusive education, pedagogical equipment, and kitchen utensils). The facilities will be designed to foster physically accessible learning environments for students with disabilities by which they are arranged with necessary furniture, equipment, and access passages in the premises.

### 2-2 Outline Design of the Project

#### 2-2-1 Design Policy

##### (1) Basic Policy

To ensure barrier-free based accessibility in the premises, the Project will work on facility planning incorporating an inclusive design taking various disabilities into account, and the facility planning will elaborate on durable and low-maintenance specifications. The on-site survey revealed that part of the target sites is not feasibly adjustable to be accessible by a self-operated wheelchair. The Project will provide necessary facilities and improve accessibility on the premises, incorporating local settings and conditions unique to each target site. A capacity of the planned facilities in respective sites will be calculated based on the number of students at the time of the on-site survey. The Project will not include renovation of the existing facilities, except for minor repainting. Note that E5/Masenate, as requested by the Lesotho side, will replace the existing administration block

that is severely deteriorated in its structural framework with a new facility that meet local specifications.

## (2) Defining the Scope and Scale of the Project

### 1) Selection of the Target Sites

The Lesotho side made a request for five existing school sites and seven new ones (total of 12 sites), and it was confirmed that the former should be given first priority. Considering the estimated costs and budget available for the Project, the four existing school sites were selected as target sites for the project. E5/Masenate was included in the target sites at the time of the Preparatory Survey for explanation on draft survey report because of its high necessity for replacement of the damaged administration block. However, E5 was excluded from the the target sites eventually through considerations in the Ministry of Foreign Affairs Japan.

Table 2-1 Project Target Sites

Code	Site	District
E1	Abia	Maseru
E2	Motsekuoa	Mafeteng
E3	Mt. Royal	Leribe
E4	St Catherine's	Maseru

### 2) Calculating the Number of Classrooms Required

In the Education Sector Plan 2016-2026, Lesotho government envisages to apply four-year programme for lower secondary education instead of current three years. However, actual implementation is unpredictable. Thus, required number of classrooms at each proposed site is calculated based on the current programme.

The table below indicates the number of additional classrooms to be provided in the target schools, according to the number of students and calculation made in the on-site survey Based on the number of students being 40 per class which is the national standard in Lesotho.

Table 2-2 Calculation of the Number of Classrooms Required

Site	No. of students s	No. of Classrooms					
		Required a=s/40	Existing b	Shortage a-b=c	Classrooms to be reconstructed d	New classrooms to be provided c+d	Planned new classrooms
E1 Abia	835	21	17	4	0	4	5
E2 Motsekuoa	734	18	13	5	6	11	10
E3 Mt. Royal	259	6	14	-8	0	0	0
E4 St Catherine's	625	16	14	2	0	2	0

### 3) Deciding on the Project Components and Scale

#### 【Facilities】

Based on the estimated project costs and budget limit, the following components and the quantities will be provided by the Project that are decided on the current state of the existing facilities and various conditions unique to each target site.

Table 2-3 Facility Components

Site		Classroom (no. of classrooms)	Science Lab and ICT Lab	Administration Block	Resource Room/Resource Centre	Dormitory	Kitchen and Dining Block	Toilet	Teacher's Houses (no. of buildings)	Enhanced access on the premises
E1	Abia	5	1	-	1	2	1	○	1	○
E2	Motsekuoa	10	1	1	1	2	1	○	1	○
E3	Mt. Royal	-	-	-	-	2	-	○	-	○
E4	St Catherine's	-	-	1	1	1	-	○	-	○

#### a) Classroom

Although E1 and E2 accept students with physical disabilities, the existing facilities are not provided with barrier-free access, which poses a major difficulty for them. It is estimated that E1 requires four additional classrooms, and yet decided that one classroom should be available for each grade, totaling five, to provide an inclusive school setting. In E2, 11 additional classrooms are required, and thus two classrooms for each grade, totaling ten, will be provided. E3, on the other hand, has eight classrooms left in disuse. The existing classrooms have only one doorway each, which is not desirable for students with physical disabilities in terms of evacuation planning. However, as E3 primarily enrolls students with hearing impairment, the Project will not construct new classrooms. In E4, which enrolls students with visual impairment, two additional classrooms will be required according to an estimate. The teacher's room and other spaces will be relocated to the Administration Block, and those existing rooms will be used as classrooms renovated by Lesotho's funding. The Project will not therefore construct new classrooms.

#### b) Science Laboratory

Science subjects taught in a laboratory include LIC Science (FA-FC, lower secondary education), Biology, and Physical Science (FD-FE, upper secondary education) that comprised

of Physics and Chemistry. These subjects assign 14 periods of laboratory exercises per week in a given stream.

E1 accepting students with physical disabilities has four streams which instruct 56 periods (14 x 4). As they exceed a total of 45 periods per week, two Science Laboratories will be necessary. Two existing laboratories have only one doorway each, and are undesirable in terms of evacuation planning for wheelchair users. The Project will thus construct a laboratory. E2 administers more than three streams that allocate 42 periods (14 x 3). Although the occupation rate of the laboratory will be as high as 93% (42/45), one laboratory will be able to accommodate this demand. The existing laboratory will be reconstructed by the Project, as deemed necessary. E3 is renovating two existing laboratories. No additional laboratory will be required. In E4 which accommodates three streams, a Combined Laboratory and Biology Laboratory are already in place. The Project will not construct new laboratories.

c) ICT Laboratory

All target schools offer ICT, though an elective. Of 164 schools in Lesotho that administer more than two streams, 100 are provided with ICT (64%). The target schools are working well on maintenance of equipment, and the Project will supply necessary equipment. There are 25 class periods per stream, for a total of 50 periods in two streams. While this exceeds maximum 45 periods that can be accommodated in a laboratory per week, 99 out of above-mentioned 100 schools have only one laboratory per institution. Accordingly, one ICT Laboratory will be adequate per target school, as students are taught in a regular classroom.

The existing laboratory in E1 is not suitable for wheelchair users, like its present science laboratory. The existing laboratory in E2 requires reconstruction. A new laboratory will be thus provided at these schools. E3 and E4 will continue to use the existing laboratories.

d) Administration Office

Necessary rooms include the Principal's Office, Deputy Principal's Office, Accountant's Office, Secretary's Office, Teacher's Room, and other spaces such as Store Room. The existing facilities in E2 and E4 partially requires reconstruction. Various rooms are located in dispersed places, which have undermined efficient operations. These facilities will be combined into new construction by the Project. The existing facilities in E1 and E3 will be maintained, as they have no particular problems.

e) Resource Room (E1 and E2) / Resource Centre (E4)

These facilities will be developed as essential components integrated in inclusive education settings. In E1 and E2 where small-scale Resource Rooms will be provided, the prospective users are mainly students with physical disabilities who utilize the rooms for rehabilitation. E3 will utilize an available classroom for the purpose of its Resource Room instead of constructing a new facility. In E4, while stationed with a staff member, the existing Resource Centre called CATCH Centre is rather small, thus requiring reconstruction. The Project will develop an ICT

Laboratory for students with visual impairment and a room to prepare teaching materials for students with disabilities (Preparation Room), which are currently located in another block.

f) Dormitory

Lesotho is mostly located in mountainous regions, making it difficult for students to commute. Accordingly, boarding facilities have high demand, and 82 out of 339 secondary schools (24%) in the country operate dormitories. These facilities are particularly beneficial for students with disabilities, and are highly necessary in terms of promoting inclusive education. It should be noted, however, secondary schools in Lesotho are operated on a self-financing basis, except for payment of teachers' salaries. Although the schools collect fees from boarding students, apart from their tuition, the amount is limited. Dormitory operations have imposed a financial burden on these boarding schools. As a result of discussion with MoET and interview with the target schools operating dormitories, it was revealed that a sustainable boarding system would require two streams (400 students) or more, in which a dormitory accommodates 40 to 60 students. While a matron will be assigned in a dormitory, students without disabilities will take care of students with disabilities. It is usually those students with physical disabilities who need aid in activities in their day-to-day living. Generally, a physically disabled student requires two to four students without disabilities as his or her carers, depending on the degree of the disability.

Table 2-4 Number of Students with Disabilities Enrolled in the Target Schools (in person)

Target School		Number of students with disabilities			
		Type of disability	Male	Female	Total
E1	Abia	Physical	6	3	9
E2	Motsekuoa	Physical	13	16	29
E3	Mt. Royal	Hearing	14	24	38
E4	St Catherine's	Visual	25	7	32

Source: Interview with the target schools (2016)

E1 and E2 have no dormitories, and thus students with disabilities enrolled in these schools must commute from neighboring facilities for disabled children at which they are boarding. When they are accommodated in the Project's new dormitories, these neighboring facilities can absorb and serve more children with disabilities.

E3 operates the existing boarding facility for female students, which requires reconstruction, as well as a dormitory that was originally a multi-purpose hall. A total of 72 students are boarding at these facilities: including 15 of 24 female students with hearing impairment, and 57 students without disabilities (mostly orphans). In a neighboring facility live all of the 14 male students with hearing impairment. The existing facility was not initially built as a dormitory, and is not provided with toilets and showers. It is partly damaged. The number of students enrolled in E3 has declined since it started to accept children with disabilities in 2010. While the total number of students was 259 at the time of the site survey, 345 students were enrolled in the new term.

Stable school management will probably lead to an increase in the number of students. Although the school administers less than two streams as of today, the Project will construct a dormitory as it has been committed to operating the above-mentioned boarding facilities.

Dormitories in E1, E2, and E3 will separate male and female students in different blocks. With considering floor planning, 4 bunk beds will make one unit and one dormitory building will accommodate 32 students (4 bunk beds x 4 units), totaling 64 boarding students in male and female blocks to absorb the number of students with disabilities enrolled in the target schools.

Though a girl's school, E4 accepts male students with visual impairment. At the time of the site survey, 107 female students and 17 male students were boarding at the existing coed dormitories. In the new term, 25 male students with disabilities are boarding. The existing male dormitory has a boarding capacity of 20 beds, and 23 students are accommodated (3 students using mattresses to sleep on the floor), while two are lodging at a private boarding house. Considering that E4 accepts all prospective students with visual impairment, if they wish to board, one male dormitory for 8 students (4 single beds x 2 units) will be provided instead of 5 beds in short currently.

g) Kitchen and Dining Hall

New dormitories must be provided with a dining hall and a kitchen. In addition, the target schools serve lunch for all students. E1, though already equipped with a feeding kitchen, does not have a dining hall. The existing feeding kitchen is away from where a new dormitory will be constructed. This may undermine accessibility for students with physical disabilities. The Project will therefore construct a dining hall and kitchen. E2's existing feeding kitchen will be replaced with a new facility. In E3, a feeding kitchen are located away from a planned new dormitory. However, given that the E3 school primarily enrolls students with hearing impairment, those existing kitchens will be maintained to serve new dormitory users. E4 will continue to use the existing dining hall and kitchen.

h) Toilet Block

VIP (ventilated improved pit) toilets in E1, E2, and E3 require replacement. The existing flush toilets (E1, those for teachers in E3, those for students and teachers in E4) will be maintained. However, the Project will provide new flush toilet in E4 to redress the present situation that male students and teachers also have to use some of the toilets intended for female students.

i) Teacher's House

E1 and E2 have several residential facilities for teachers on their premises. The Principals, however, reside off the premises, due to shortages of accommodation. In Lesotho, Teacher's Houses are generally located on the school premises for the sake of security monitoring at all times. One block of Teacher's House will be provided per each site.

## 【Furniture】

- **General Educational Furniture**

The Project will supply a set of furniture necessary for new facility components. Furniture in Teacher's Houses, however, will not be included in the Project's scope, and will be installed by the residents.

- **Furniture for Students with Disabilities**

In E1 and E2 enrolling students with physical disabilities, the Project will supply two height adjustable desks (for a classroom and ICT Laboratory) per wheelchair user, calculated according to the number of those students currently enrolled.

## 【Equipment】

Requested equipment mainly consists of devices necessary to implement a curriculum, including those used for inclusive education and for general educational purposes. Based on the following selection standard agreed upon with the Lesotho side, the equipment essential for operating the target inclusive schools will be installed.

< Selection Criteria >

- Necessary for implementing inclusive education or curricula
- Essential for facility operation and maintenance
- Users have a technical adequacy
- Maintenance is relatively easy (requires no special skills or expensive and locally unavailable consumables)
- Cost-effectiveness is reasonable.
- Space and facilities rooms necessary for installation is available.
- Appropriate to be procured with a Japanese grant aid

a) **Inclusive education (IE) related equipment**

The Project will supply equipment relevant to disabilities of students enrolled in the target schools. A set of equipment will be provided for students with physical disabilities in E1 and E2, for those with hearing impairment in E3, and for those with visual impairment in E4. It should be noted that E4 has some IE equipment such as a braillewriter already, and also that it will be provided with desktop computers by the World Bank for students with visual impairment. The Project will decide on a set of equipment that will not duplicate devices already available in the target schools.

b) **General education equipment**

The Project will supply equipment essential for implementing the curricula prescribed for subjects. Exception is consumables as well as equipment that is affordable for the target schools.

c) Facility-related equipment

Cooking appliances in Kitchen (stoves and electric kettles) will be installed as a part of the construction work.

(3) Policy for Natural Environment Conditions

1) Measures against Weather Conditions

Lesotho is situated in mountainous regions exceeding elevations of 1,400 m, and is primarily divided into four topographic regions: lowlands, foothills, mountains, and Senqu River valley. Although mountainous regions have snow 2,000 m above the sea level, the five target sites have not so far observed snowfall, as they are located in lowlands at elevations of approximately 1,600 m. The target areas have an average monthly temperature of 20°C at maximum and 7°C at minimum. As outside temperature is low in winter, administration offices in the target schools use space heaters. However, space heaters are not used in school buildings for students. An annual rainfall is as moderate as 700 to 770 mm. Nonetheless, the target areas have heavy rain and the higher likelihood of lightning compared with other areas in the country. The Project will incorporate the following strategies in its facility planning.

- Rooms will be naturally ventilated with the natural force of wind. Insulation materials will be installed underneath the roofs, which are supplied according to local standard specifications.
- Facilities will make use of natural light to secure sufficient indoor lighting, which is particularly important for students with visual impairment (weak eyesight). In order to avoid direct sunlight in morning and evening, the facilities must be elongated in an east-west axis. However, those in sloping sites will be located along the tilt of the land to reduce construction costs. In this case, room curtains will be used to mitigate direct sunlight.
- Roofbed board will be installed to reduce noise generated from rainfall.
- New facility area in E1 and E2 will be accessible with covered passage.
- Lightning conductors will be installed where PCs are placed, including the ICT Laboratory, Science Laboratory, and the Administration Block.

2) Measures against Natural Disasters

According to interviews conducted during the site survey, no history of damage resulting from natural disasters was reported. However, rainwater erosion is prevalent in and around wadis and dongas all over the target areas. The Project should pay due attentions to exterior planning on the premises, including facility layout, rainwater drainage, slope protection, and planning and leveling access pathways. Furthermore, although the site survey found no history of earthquake damage, an IRIS report<sup>8</sup> indicates evidence of earthquakes, albeit minor, in the past. According to the seismic hazard zone map of South African National Standard (SANS), western Lesotho is located in Zone I

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<sup>8</sup> Incorporated Research Institutions for Seismology



that requires attention to the seismic force. Therefore, based on SANS, a structural design will be carried out considering seismic lateral force.

### 3) Measures against Topographical and Soil Conditions

All target sites are located over sloping ground. The layout will be planned according to topographical conditions thereof. As a result of analysis made in a geotechnical survey, it was revealed that a soil bearing capacity was 100 kPa to 150 kPa, which would be sufficient for one-storied structures for the planned facilities. However, topographical analysis shows that the soil of E2 is highly expansive. Adequate measure must be taken.

- Leveling of each building block will be primarily determined depending on the tilt of the land, but from the viewpoint of inclusive education, excessive gaps in levels will be avoided, and kept to a minimum as needed.
- A relevant drain system will be provided around the facilities to collect rainwater and led to site boundaries appropriately considering land conditions of the sites.
- Load bearing tests will be performed before the start of construction to check the bearing capacity of the soil required on site.
- Existing expansive soil around planned new building area of E2 will be replaced to adequate soil and crushed stone up to 1.5m below the ground. On the other hand, considering cost effectiveness for the project, planned new passage accessing to existing building area will be installed without replacement of expansive soil. The new passage will be considered its specification to make ease its maintenance for the school.

### 4) Measures against Social and Economic Conditions

Some of the target schools have set up private security systems as a number of their PCs are allocated in ICT Laboratories. To implement a common theft prevention measure, the Project will install burglar grills in rooms where there is a risk of theft, such as Science and ICT Laboratories and Administration Block.

## (4) Policy for Construction/Procurement Conditions

### 1) Building Permits

An application for a building permit must be submitted to and reviewed by City Council or District Administrator's Office. Although normally requiring two months, the review process will be shortened for the Project as it is essentially a public work. Drawings to be submitted include a site location map, Site drawing, Building layout plan, general drawings (floor plans, elevations, cross sections).

### 2) Building Code and Standards

**【Building Code】**

As Lesotho has no locally developed regulations for facility design, including structural standards, the South African National Standard (SANS) is applied in general.

### **【School Facility Standards】**

Technical requirements are not specified regarding room components and classroom space. In facility planning, the Project will carefully review conditions of the target schools and components necessary for their standard design, and prepare an appropriate plan to implement inclusive education, tailored to local settings and situations.

### **3) Conditions Related to Construction and Procurement**

In the city of Maseru, major projects are being implemented, albeit a few, by a museum and the private sector. Interviews with local construction companies revealed that public tenders were frequently called for housing projects in the suburbs of Maseru, but that the construction market was not in a favorable condition. To win a large scale project, contractors and consultants who experienced a similar project of identical size are likely to be more competitive. It is thus less advantageous for small- and medium-sized companies to be awarded with such contracts. These small- and medium-sized contractors engage in private housing construction or relatively small scale projects funded by aid donors. Including the largest contractors in Lesotho, all companies interviewed by the Survey Team indicated their interest in the Project.

Construction equipment and materials are mostly available in Lesotho, including imported items. Locally produced primary materials are limited to, for instance, aggregate, burnt bricks, natural stones, timber, and such secondary products as concrete blocks. Most of the other primary materials (cement, re-bars, plywood, materials for architectural finishing, and facility/electric equipment) are imported from South Africa. Thanks to geographical accessibility to South Africa and a SACU membership that exempts customs duties on imported items, Lesotho regularly imports materials and equipment from South Africa. The Project will procure local products available in Lesotho and typical import items, selecting relevant materials in view of workability, cost efficiency, and maintainability.

### **(5) Policy Pertaining to the Use of Local Contractors**

#### **1) Local Construction Contractors**

Contractors in Lesotho are registered by the Ministry of Public Works and Transportation. Several companies, including those placed in the top-ranking category, are technically and financially competent to pursue a construction work project similar to the Project. Contractors will be selected in accordance with appropriate and applicable requirements to be met for implementing the Project.

#### **2) Local Suppliers**

Suppliers of construction materials are mainly located in the capital city of Maseru where large- and medium-sized companies operate. They have a variety of materials and equipment available, and those used for school construction are available at local suppliers. On the other hand, many of the

contractors, once awarded with contracts, purchase materials directly from a third country, including South Africa. This is broadly practiced and inexpensive. Therefore, goods purchased via suppliers are limited kinds of materials, secondary products, and supplementary items.

As for furniture suppliers, some of them manufacture products in their large-scale plants. Others serve as agents, supplying South African products. According to MoET's procurement records, furniture has been mostly procured from local suppliers. Major post-delivery problems have not been found, although minor defects were reported, such as a crack on the desk top. It should be noted, on the other hand, that furniture purchased in the previous grant aid project was delivered by an agency supplying ready-made items from South Africa. In light of these suppliers' performance, it is deemed feasible to procure the Project's furniture from local suppliers. Specifications will be designed according to requirements most recently updated by MoET. The Survey Team confirmed that furniture tailored to persons with physical disabilities has been manufactured locally. However, there are few manufacturers producing items of their own companies. The Project will allow suppliers of ready-made items and local products to be both eligible for a tender to ensure competitiveness.

Lesotho has several equipment suppliers that are manufacturers' agents, and they have worked for MoET's projects in the past. However, where appropriate manufacturers' agents are not available for a certain type of equipment, such as proposed IE-related devices, or otherwise where only a few agents are available, there may be a risk that it undermines a fair and competitive tender. It is then allowed to procure third-country products, which is applicable to purchasing some kinds of equipment in the Project.

### 3) Local Consultants

By filing a license application for consultancy to the Ministry of Trade and Industry, a consultant is allowed to open an office. Consulting agencies are not categorized, unlike construction companies. To implement the Project, these local consultants will be effectively used for construction supervision.

### (6) Policy on Operations and Maintenance Measures

In general, facility maintenance will be made simple, with no special skills required for operation and maintenance of equipment. Equipment and materials for which maintenance and obtaining consumables is difficult will not be used. Additionally, in order to lower operation and maintenance costs, the facility plan will ensure natural light and natural ventilation, keeping the use of machinery to a minimum and thereby lowering electricity costs.

### (7) Policy Pertaining to Setting the Grade of Facilities and Equipment

The grade of the facility will be sufficient enough to ensure building durability and inclusive design, while using locally standard materials. Furniture will be specified based on the local standards with a viewpoint of low maintenance cost. Equipment for experiments and practical learning will meet local

specifications. Equipment for students with disabilities will meet specifications that allow for local maintenance.

## (8) Policy on Construction, Procurement Methods, Construction Period

### 1) Construction and Procurement Methods

School buildings of local standard are designed as masonry structure, without giving consideration to seismic force. However, Lesotho is categorized as an seismic zone in the South African building code. Additionally, in the newest version of this code, using a masonry structure for educational facilities is fundamentally prohibited. Aiming to secure large openings to let in natural lighting as IE design, combines the use of reinforced concrete (RC) frames and concrete block curtain walls normally used in Lesotho will be applied in principle.

### 2) Construction Period

Analyzing the work results of previous projects, and based upon survey results including interviews conducted with local consultants, construction companies, consultant staff, and procurement agents during the field survey, it was determined that approximately 18 months is the appropriate period of construction for the four sites.

## 2-2-2 Basic Plan (Facility Plan and Equipment Plan)

### (1) Facility Plan

#### 1) Layout planning

The layout of the facilities on the site will basically follow the policy described below. The conditions unique to each site (size, land shape, slope, adjacent road conditions, existing on-site trees, etc.) will be considered to form an appropriate plan.

- Sites with a sloped topography will generally have a layout that follows the contour line; a layout that limits land forming will be given first priority. Note, however, that E1 will have a layout plan that well integrates locations of existing school buildings.
- In order to avoid direct morning and evening sunlight, building layouts will be parallel to the east-west axis.
- The layout of new school buildings will contain two rows along the contour line, locating a central courtyard in between and facing outdoor passage. This will shorten the distance of inter-facility transfer for students with disabilities. (E1, E2)
- Toilet Blocks will be located close to the school building to reduce the burden for students with disabilities. The layout will be determined incorporating a configuration of the existing facilities.
- In the area around new feeding kitchen, open-air space will be provided for lunch.
- Resource Room for E1 and E2 will be placed in an accessible location adjacent to the Teacher's Room where it can be easily seen and access by teachers and other students.

Resource Centre of E4 will be allocated uniquely at the vacant lot in the center of the premises.

- In E1 and E2, new Blocks will be connected with covered open passages to be accessible for students with physical disabilities.
- Essential parking lots will be provided for the sake of maintenance service staff and visitors.
- Existing trees must be left in place as much as possible.

## 2) Floor planning

While referring to the standard design, an appropriate plan will be followed based on the function of the various rooms and inclusive design. The details and sizes of the various rooms in each building will follow the policy described below and be set while taking into consideration the activity to be conducted in each room and layout of the furniture. The floor area of the facilities and various rooms are calculated using center lines of columns and walls.

- The standard plane composition will use side passage, and will allow natural lighting and ventilation.
- Classroom and laboratories will be planned to accommodate one or two wheelchair users at a time.
- With a view to inclusive settings, classrooms and laboratories will have two points of entrance (front and back). Doors will open inward and have an effective opening of 900 mm.
- Burglar grills will be installed in laboratories and Administration Block where equipment and devices are stored.

### a) Classroom Block

- A classroom will accommodate 40 students, which is standard capacity in Lesotho. To absorb three lower-secondary grades and two upper-secondary grades, Classroom Block will consist of two buildings- one having three-classrooms and the other having two.
- A two-classroom building in E1 will be provided with Resource Room. This is primarily intended to accommodate 4 students with physical disabilities for the purpose of their rehabilitation.

### b) Laboratory Block

Laboratory Block will comprise Science Laboratory and ICT Laboratory, located with the Preparation Rooms in center.

- Laboratory tables and PC desks will be placed at right angles to the teacher's desk to allow the teacher's demonstrations to be seen easily by students.
- The Science Laboratory will accommodate an entire class size of 40 students and one or two wheelchair users.
- ICT Laboratory will accommodate 40 students and replace a regular PC desk with a wheelchair-accessible desk, as required.
- Gas cylinders used for experiments will be placed outside the building.

c) Administration Block

- The Administration Block will accommodate various administration offices, such as the Principal's Office, Deputy Principal's Office, Accountant's Office, Secretary's Office, Teacher's Room, Store Room, and An office kitchenette. E2 will be provided with Resource Room together with IE-equipment Room.
- Resource Room in E2 will be primarily intended to accommodate 4 students with physical disabilities for the purpose of their rehabilitation as in E1.
- The Principal's Office will be allocated along an open passage to obtain a broader view over the school. This will be provided with a storage to place important documents such as test papers, etc.
- The Secretary's Office will be partly used for printing and photocopying, which will require a dedicated space. It will also serve as a reception for visitors of the Administration Block. A small window will be placed accordingly.
- Workspace assigned for teachers in Teacher's Room will have a partition between their desks, while also provided with overhead shelves. A unit of workspace will accommodate six seats. The current number of teachers is 26 in E2 and 33 in E4 (2016). With a possible allocation of more teachers in the future, E2 will provide workspaces for 30 teachers (6 x 5 units), and E4 for 36 (6 x 6 units). A four-seater table will be also supplied to serve guests.

d) Resource Centre (E4)

- New Resource Centre will integrate various rooms currently placed in the current Resource Centre (a reading room, discussion room, office, and storage) as well as a PC Room and a Preparation Room of teaching resources for students with disabilities in a different block.
- In the PC Room, desks for students with disabilities will be assigned on a personal basis (to seat them in designated places) to enhance accessibility for students with visual impairment. They will be grouped for each grade. A group will comprise eight seats to keep the even number, leading to a space required to accommodate 40 seats (8 x 5 grades).
- Reading Room will be designed to provide a braille library and study space, installed with book shelves and counter desk for study and reading. This Room will be open until 9:00 p.m. after the Resource Centre closes at 6:00 p.m. A dedicated entrance from outside will be provided accordingly.
- Discussion Room will serve for a space where students without disabilities recount what was written on the blackboard during the classes that day. This Room will accommodate two groups, each comprising six to eight students. The area must be partitioned off from the PC Room to mitigate talking and the noise from braille printers.

e) Kitchen & Dining Block

- As requested by Lesotho, the heat source for cooking will be electricity, while also enabling the use of gas to use in the event of a power outage. The Kitchen will be equipped with an electric kettle, three electric stoves, two gas stoves, sinks, a cooking table, and serving

counters. Next to the Kitchen area, a pantry and backyard will be allocated to provide access from a parking lot. Serving counters will be allocated separately for Dining Hall and lunch service.

- The front of the kitchen will have covered space to distribute lunch meals, equipped with a hand washing sink.
- Dining Hall will serve exclusively for boarding students, and will have an enough space to serve two turns of 32 students.

f) Dormitory

**【E1, E2, and E3】**

- Structured in a building separately provided for male and female students, Dormitory will contain bedrooms, personal cleaning areas (toilets, shower rooms, and laundry), sick bay, store room, and matron's room.
- Accommodation capacity is 32 persons per building (bunk beds x 16). While a dormitory room is shared in one space, two bunk beds constitute 1 unit (2 x 2 beds=4 boarders) equipped with personal lockers, partitioned off the accommodation.
- Personal cleaning areas will contain common toilets and shower booths, provided with an ironing counter and a space to place a washing machine. Disabled accessible toilets and showers will be provided.
- A sick bay will accommodate two single beds.

**【E4】**

- Dormitory will accommodate male students, with a boarding capacity of 8 persons. It will contain a bedroom, personal cleaning area (toilets and shower), and a store room. Existing matron's room will be maintained.
- As all boarding students in E4 have visual impairment, single beds will be provided instead of bunk beds, partitioned off with lockers.

g) Toilet Block

- Typically used in Lesotho, ventilated improved pit (VIP) toilets have dug holes (pits), over which compartments are installed. While vent pipes are fitted, they do not prevent odor. Thus, Toilet Block must be located sufficiently away from school buildings. Once the pit is full, the compartment is disposed of entirely as common practice. Except for E4 where public sewerage systems are provided, the Project will install a prefabricated toilet system (Enviro-Loo) manufactured in South Africa in lieu of the above-mentioned VIP system. This system fully evaporates liquid wastes, and thus does not incur soil contamination. Solid wastes are decomposed by bacteria and disintegrated into sludge. They are reduced to roughly 5% of the original volume. Notably, another advantage is that the forced aeration ventilation system that enables these processes substantially mitigates odor. This system has been applied in the "Project for Construction of Primary and Junior Secondary Schools in Limpopo Province" implemented in South Africa in 2004, and is proven effective.

- With a view to improving an inclusive setting, the Enviro-Loo system allows allocation of Toilet Blocks adjacent to school buildings, and this will mitigate accessibility problems for students with disabilities.
- Sanitary fittings will be planned according to the number of students currently enrolled. Toilet stools will be supplied as required, considering that one Enviro-Loo can be used by 20 persons each at maximum. Accessible booths will be provided, where necessary, in a reasonable distance for students with disabilities.

Table 2-5 Planned Number of Toilets

Site		Number of target users				For students					For teachers/staff				
		Student		Teacher		Male			Female		Male			Female	
		Male	Female	Male	Female	WC	U	Lv	WC	Lv	WC	U	Lv	WC	Lv
E1	Abia	430	405	11	16	17	17	9	21	9	-	-	-	-	-
E2	Motsekua	233	501	7	15	9	9	5	26	11	1	1	1	1	1
E3	Mt. Royal	100	159	4	17	4	4	2	8	4	-	-	-	-	-
E4	St Catherine's	17	-	9	23	1	1	1	-	-	1	1	1	1	1

Legend: WC: Toilet (Water closet), U: Urinal, Lv: Hand washing sink

- Incinerators will be placed adjacent to toilet buildings for female students and teachers/staff to dispose waste sanitary napkins.

#### h) Teacher's House

- Structured in a one-storied building, Teacher's House will consist of rooms each provided with two bedrooms, living / dining room, kitchen, bathroom, and toilet. Although design specifications will be planned in line with local standard design, the area of each house will be reduced.

Planned facilities are as outlined in the table below.

Table 2-6 Planned Facility Overview

Block	Code	No. of Blocks per Site				Facility components	Area per Block (m <sup>2</sup> )
		E1	E2	E3	E4		
Classroom Block	2CR		2			Classroom (40 people) x 2	186.98
	3CR	1	2			Classroom (40 people) x 3	280.46
	2CR+R	1				Classroom (40 people) x 2, Resource Room	218.14
Laboratory Block	SL+ICT	1	1			Science Lab, Science Preparation Room, ICT Lab, ICT Preparation Room	311.63
Administration Block	Standard rooms					Principal's Office, Deputy Principal's Office, Accountant's	



						Office, Secretary's Office, Teacher's Room, Store Room, Office kitchenette	
	ADM-E2		1			Standard rooms+Resource Room, IE-Store Room	280.46
	ADM-E4				1	Standard rooms	249.30
Resource Centre	RC				1	PC Room, Reading Room, Discussion Room, Office, Preparation Room, Store Room	209.95
Kitchen and Dining Block	KD	1	1			Kitchen, Dining Hall, Pantry, Delivery Porch	186.98
Dormitory	DMM	1	1	1		Bedrooms, Sick Bay, Toilets and Shower Room, accessible toilets, Store Room, Matron's Room	249.60
	DMM8				1	Bedroom, Toilet and Shower Rooms, Store Room	93.60
	DMF	1	1	1		Same as DMM	249.60
Toilet Block	TM4	3				4 booths+urinal	37.98
	TM4D	1	2	1		4 booths + urinal + accessible booth	61.35
	TF4			1		4 booths	27.74
	TF4D			1		4 booths +	45.83
	TF5	3	3			5 booths	31.33
	TF5D	1	2			5 booths+ accessible booth	51.26
	TS		1			1 booth+urinal/2 booths	28.80
	TMS				1	1 booth+urinal/ 1 booth /1 booth	29.76
Teacher's House	SH	1	1			2 bedrooms, living room/dining, kitchen, bathroom, and toilet	88.36
Total Block Area by Site	E1 Abia						1,905.31
	E2 Motsekuoa						2,649.52
	E3 Mt. Royal						634.12
	E4 St Catherine's						582.61
Grand Total	Block Total						5,771.56
	Covered passages (in 5 target sites)						864.89
	Total						6,636.45

### 3) Cross Section Planning

- Proposed facilities will be one-storied structures to meet the site conditions and ensure a barrier-free access.
- School buildings will have shed roofs and wide openings in the walls to make the use of natural light for interior lighting, particularly in consideration to students with visual impairment. In addition, the eaves of the shed roofs extended toward the open passage will widen a covered passage, without disturbing natural light to enter in the rooms.
- School buildings and open passage of E1 and E2 will consist of an integrated platform with no level difference, or platforms with different levels depending on site conditions. Each level will be connected with a ramp of 1/15-1/20 inclination.

- The difference between the floor level of rooms and the open passage will be 20 mm with taper. A standard drainage slope along the open passage will be 1/100, and no more than 1/50.

#### 4) Structural Planning

##### a) Structural framework

- Typical type: Reinforced concrete columns/beam frames + independent footings, shed roofs with steel beams, concrete block curtain walls
- Dormitory: Reinforced concrete columns/beam frames + independent footings, gable roofs with wooden trusses, concrete block curtain walls
- Teacher's House: Brick masonry structure + continuous footings, gable roofs with wooden trusses (local standard design)

##### b) Structural standards

In Lesotho, there are no building standards that apply to structure, but in general, the South African National Standard (SANS) is applied. For the Project, the Standard for Structural Calculation of Reinforced Concrete Structures (Architectural Institute of Japan) will be applied to meet SANS Loading Code (seismic load and wind load). Materials specifications will conform to SANS.

- Soil bearing capacity: Based on locally subcontracted geotechnical survey results, a soil bearing capacity of 100 kPa at an excavation level of 1 m depth is applied for planning.
- Wind load: In accordance with SANS, a wind load will be calculated with a standard wind speed of 28 m/s and ground surface roughness category ( $Z_g$ ) = 250.
- Seismic force: Western Lesotho is located in Zone I of the SANS Seismic Hazard Map. The Project will elaborate on structural analysis of seismic lateral force, using a shear coefficient of  $C_o=0.1g$ .

##### c) Structural materials

Structural materials will follow local specifications and are planned as follows.

- Concrete: The design strength will be 21 MPa.
- Re-bars: Typical local products conform to SANS, and will be procured in the Project.
  - Deformed bars 450 MPa
- Steel materials: Locally marketed SANS products will be procured.
  - Shape steel Grade S355 (355MPa)
  - Bolts Grade 88 (800MPa)
- Concrete blocks: Local ready-made products will be procured.
- Bricks: FBS category (Compressive strength of 30MPa)

#### 5) Electrical installation

##### a) Power receiving and transforming

- An electric system for the proposed and existing facilities will be separated. A kiosk will be installed for the proposed facilities to receive electricity from adjacent local supply grid by low-voltage. Electric meters (prepayment) for the school facilities will be installed in new kiosk, separately from existing meters.
- Teacher’s House will be installed with an electric meter on a residential basis (prepayment).

b) Motive power trunk line

- Electricity is distributed from receiving boards to distribution panels (electric lighting distribution panel and motive power control panel) indicated below. Electrical conduits will be laid for trunk lines and power distribution lines. Hand holes will be placed where necessary, and cables will be installed within conduits.

Electric lighting trunk line: 3-phase, 4 lines 400/230V

Outlets for lights: single-phase, 3 lines 230V

Motive power for drainage and sanitation: 3-phase, 4 lines 400V

c) Lighting

- The average illuminance at desk height will be roughly 250 lx. For the sake of students with visual impairment, lighting equipment will be installed to have roughly 500 lx over the front row in a classroom. Illuminance level in passages and toilets will be 150 lx. To reduce unnecessary lighting, switching systems will be divided by group within rooms, as appropriate. Exterior lighting will be controllable with automatic switches. Fluorescent lights will be installed as the main source of light in various rooms, which is economical and locally available.
- Exit lights will be installed in Administration Block, Resource Centre, Dining Hall, and Dormitory.

d) Electrical outlets

- Electrical outlets will be common local products meeting South African standards, which will be installed at four points in classrooms and where appropriate.
- Dedicated outlets will be installed where computers and laboratory tools will be located. Science Laboratory and ICT Laboratory will be provided with a trench under the floor to accommodate multiple conduits and electrical lines for the sake of easy maintenance and securing flexibility for any layout modifications in future.
- Outlets for electric heaters will be installed in rooms in the Administration Block, teachers’ rooms including the Preparation Rooms, and accommodation rooms in the Dormitory. Outlets for air conditioners will be installed in ICT Laboratory and PC room in Resource Centre.

e) Communication equipment

- Landline telephone: This is out of the project scope and will be provided by Lesotho side.

- Internet system: This is out of the project scope and will be provided by Lesotho side.
- f) TV equipment
- Vacant conduits will be provided for television sets in teachers' house. The ends will be capped, and installation of television sets will be in the scope of the Lesotho side.
- g) School bell
- In E2 and E4 where the Administration Block is planned, bellling apparatus will be installed to notify a start and end of class. It will be operated in Administration Block, provided with two loudspeakers mounted on the exterior walls.
- 6) Air conditioning and ventilation systems
- a) Air conditioning and heating facilities
- These equipment will be provided by Lesotho side, if necessary. Only electrical outlets will be provided by the project.
- b) Ventilation facilities
- Wall-mounted ventilation fans will be provided in Kitchen and Teacher's Houses. Fume hoods will be equipped in Science Laboratory. Other areas will rely on natural ventilation enabled by architectural designs.
- 7) Water Supply, Drainage, and Plumbing Systems
- a) Water supply system
- Water supply systems for the new facilities will be provided separately from the existing ones in general. A gravity fed water supply system distributes water to the planned facilities via a new water reservoir tank and an elevated water tank. The water supply up to the new water reservoir tank will fall within the scope of the Lesotho side. From the provision of new water reservoir tank onward will fall within the scope of the Project. On the other hand, E4 will be directly connected with water mains as the municipal water system has presumably sufficient water pressure. The Lesotho side is responsible for connecting municipal water mains to a water meter, while distribution pipes in the premises will be in the scope of the Project. Water supply sources to be secured/provided by the Lesotho side are as proposed below.
- E1: Existing borehole will be used, and the existing pump will be replaced. Otherwise, the municipal water will be supplied (WASCO).
- E2: New borehole will be provided.
- E3: Existing borehole will be used, while replacing the existing pump. Otherwise, municipal water will be supplied.

E4 : Municipal water will be supplied. Water pipes will be laid from a point of connection to existing water meter to supply water in the planned facilities.

- Except for Toilet Block, rainwater collection tanks (JOJO Tank) will be placed outside the facilities to save water consumption.

b) Hot water supply system

- Electric hot water heaters will be installed in Dormitories and Teacher's Houses.

c) Sanitation system

- All toilet fixtures will be Western-style stools. For students, affixed stainless steel urinals and concrete sinks will be installed, and for teachers and school staff, ready-made ceramic will be used for both. All faucets will be a lever handle type to incorporate an inclusive design.

d) Drainage system

- Sanitary sewer: Except for E4, wastewater will be evaporated and solidified in a toilet unit system. E4 will be connected with existing drainage basin to discharge its wastewater into a municipal sewer under the front road.
- Wastewater: Seepage pits will be provided to absorb wastewater on the premises. Waste liquid generated in the Science Laboratory will be released to a chemical dilution tank, while grease traps will receive wastewater from the Kitchen and Teacher's House, both of which are connected with the seepage pits.
- Rainwater: Rainwater will be absorbed in seepage pits via drain ditches on the premises, and the overflow will be appropriately discharged off site.

8) Gas supply system

- Gas pipes will be connected to the Science Laboratory and Kitchen. Gas cylinders will be placed in a designated space outside. Gas connection trenches will be allocated in the buildings.

9) Fire Alarm and Fire Extinguishing System

There are no standards in Lesotho regarding the installation of fire alarm systems or fire extinguishing equipment. The Project intends to provide the said systems as below, referring to installations in similar facilities.

- Fire hydrants (hose length 30 m) will be installed in the facilities, where necessary. However, fire extinguishing pumps will not be included in the Project, as the fire hydrants will be connected directly to elevated water tanks or supplied municipal water.
- Dry-chemical fire extinguishers (9 kg) will be allocated in new facilities, where necessary, except for Toilet Block. A CO<sup>2</sup> extinguisher (5 kg) will be placed in new ICT Laboratory.
- Smoke detectors will be equipped in the Science Laboratory, Dining Hall, accommodation rooms in Dormitory. Heat detectors and fire blankets will be equipped in the Kitchen. These

automatic fire alarms will be battery-powered, free-standing equipment, not regulated by a fire alarm control panel. Smoke detectors in dormitory rooms will be equipped with warning sound and flash lamps.

- Push-button alarm bells and alarm lamps will be installed adjacent to fire hydrants in the facilities.

#### 10) Lightning Protection System

- Lightning protection system will be provided in Laboratory Block, Resource Centre, and Administration Block, where computer equipment will be installed.

#### 11) Construction Material Planning

The Project will select construction materials that are locally available, considering ease of maintenance and workability. The table below shows specifications intended by the Project, compared with those of a similar project and the existing facilities.

**Table 2-7 Comparison of Major Building Specifications**

Component	Previous project (Grant Aid for Community Empowerment)	The Project	Design Rationale
Exterior specifications			
Roof	Colored steel roof sheet (IBR) t=0.58mm	Same as left	Broadly applied in Lesotho, the material is suitable in terms of workability and maintainability. Sheathing mitigates noise of rain.
Exterior walls	Dressed natural stones	Concrete block + mortar + paint	Materials and work method applied in Lesotho
Windows	Steel-frame awning window	Aluminum frame louver window, wooden frame with fixed fittings	To design an inclusive setting, this type of window is suitable as it does not jut beyond the wall surface, while allowing good ventilation. An appropriate degree of airtightness is provided against coldness in winter.
Doors	Steel frame + wood door frame	Steel frame + steel flush door, security grill door	Suitable to prevent damage caused by wheelchairs and provide security for doors.
Open passage floors	No corridor	Trowel-finished concrete	To design an inclusive setting, particularly for wheelchair users, this finish resists growing difference in level, resulting from aging deterioration.
Interior specifications			
Floor	Linoleum floor, Trowel-finished mortar	Trowel-finished concrete	No problem is identified in terms of skill level in Lesotho.
Walls	Standard Mortar+paint	Same as left	Standard specification

	Toilets	Mortar+paint, partly tiled	Same as left	Reduce maintenance work by applying materials that are easy to clean
Ceiling	General	Plasterboard+ paint	Dressed plasterboard	Sound absorbing materials will be selected.

## (2) Furniture Planning

The Project will supply educational furniture essential to school operations in the target schools, which is selected with a view to standard components in local academic settings. E1 and E2 will be provided with height adjustable study desks for wheelchair users for the number of such students currently enrolled. Two desks of this kind are required per wheelchair user so that they are available in a classroom and the ICT Laboratory.

Table 2-8 Furniture Components

Block	Room	Desks for Students	Desks for Management Staffs	Desks for Teachers	PC Tables	Desks for Wheelchair	Reading Desk	Tables-L	Tables-M	Tables-S	Chairs for Students	Chair for Head Teacher	Chairs for Management Staffs	Chairs for Teachers	Chairs for Visitors	Stools	Kitchen Table-L	Kitchen Table-S	Sink	Cabinets-L	Cabinets-S	Book Shelf	Bunk Bed	Bed	Steel Locker
Classroom Block	Classroom	40		1							40			1											
Laboratory Block	Science Lab															41									
	Preparation Room													2											
	ICT Lab			1	40				1		40			1											
	Preparation Room													1								1			
Administration Block	Head Teacher's Room		1							1	1				6							2			
	Deputy Head Teacher's Room		1										1		2							3			
	Accountant's Room		1										1		2							3			
	Secretary's Room			1										1							2				
	Teacher's Room (E2)							1	3					32	4						4				
	Teacher's Room (E4)							1						35	4						2				
Resource Centre	PC Room				40						40														
	Reading Room						6				6												21		
	Discussion Room				4			1			14										3				
	Preparation Room				3			2						2								2			
	Office		1										1		2							3			
Kitchen and Dining Block	Kitchen														2		2	1	1						
	Dining Room							8	2		32														
Dormitory	Bed Room (standard)																						16	32	
	Bed Room (E4)																							8	8
	Sickbay																							2	
Others	E1 Abia					6*																			
	E2 Motsekuoa					20*																			

\* to be placed to the rooms as necessary

## (3) Equipment planning

IE-related equipment, general education equipment necessary for science experiments, etc., and other necessary equipment for the feeding kitchen and teacher's room will be provided. In E4, number of desktop PCs currently used and pad type PCs provided by the World Bank will be sufficient for the students with visual impairment currently enrolled. IE-related PCs for E4 will be out of the scope of the project.

Table 2-9 List of Equipment

No.	Code	Description	Q'ty	unit
E1 Abia				
1	AB-2	Mat	1	no.
2	AB-3	Walking frame set	1	set
3	AB-4	Balance ball	1	no.
4	AB-5	Parallel bars	1	no.
5	AB-6	Cushion for stretching set	1	set
6	AB-7	Electronic scale	10	no.
7	AB-8	Microscope	10	no.
8	AB-9	Skeleton model	2	no.
9	AB-10	Electric sewing machine	20	no.
10	AB-11	Electronic stove with oven	4	no.
11	AB-12	Refrigerator	1	no.
E2 Motsekuoa				
12	MO-2	Mat	1	no.
13	MO-3	Walking frame set	1	set
14	MO-4	Balance ball	1	no.
15	MO-5	Parallel bars	1	no.
16	MO-6	Cushion for stretching set	1	set
17	MO-8	Microscope	3	no.
18	MO-9	Ripple tank	1	no.
19	MO-10	Oscilloscope set	1	set
20	MO-11	Van Der Graaf generator	1	no.
21	MO-12	Electric sewing machine	20	no.
22	MO-13	Electronic stove with oven	1	no.
23	MO-14	Mat	1	no.
E3 Mt. Royal				
24	MR-1	Projector	2	no.
25	MR-2	Screen for projector	2	no.
26	MR-3	Copy Machine	1	no.
27	MR-5	Desktop PC	20	no.
28	MR-8	Microscope	6	no.
29	MR-9	Laptop PC	2	no.
E4 St. Catharine				
30	SC-5	One set of Embossed world map	1	no.
31	SC-9	Large print keyboard	17	no.
32	SC-10	Talking measuring scale	5	no.
33	SC-11	Talking calculator	10	no.
34	SC-12	Mountbatten machine	1	1
35	SC-13	Item identification device with voice	10	no.
36	SC-17	Engrave machine	1	no.
37	SC-18	Voice recorder	16	no.
38	SC-19	Large size printer	1	no.



## 2-2-3 Outline Design Drawings

### (1) Layout plans

E1 Abia

E2 Motsekuoa

E3 Mt. Royal

E4 St Catherine's

### (2) Floor plans, elevations, and sections

Classroom Block

Laboratory Block

Administration Block

Resource Centre

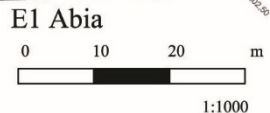
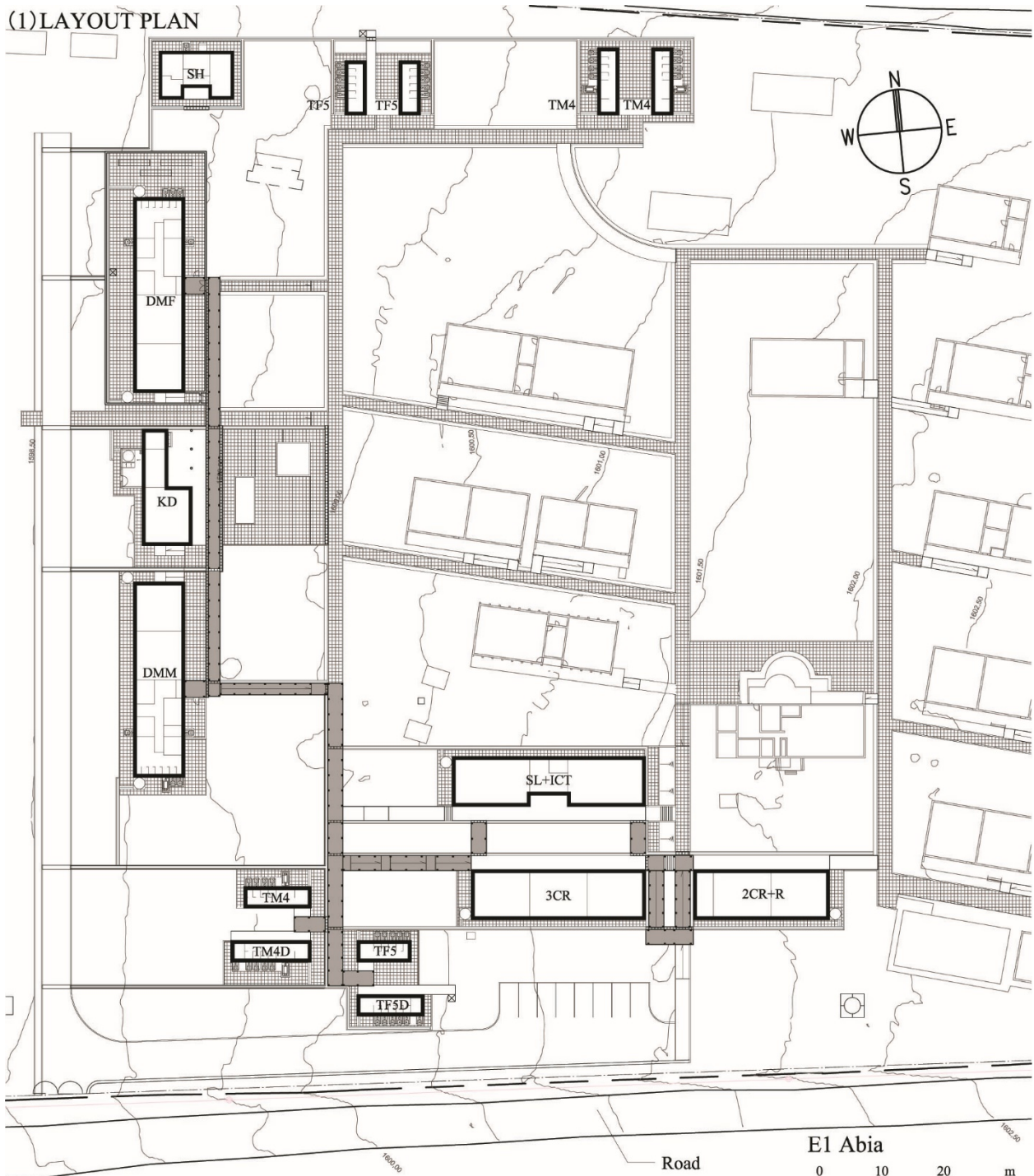
Kitchen and Dining Block

Dormitory

Toilet Block

Teacher's Houses

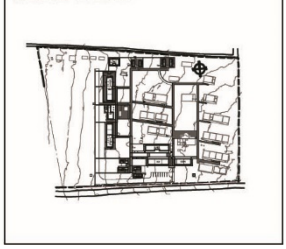
(1) LAYOUT PLAN

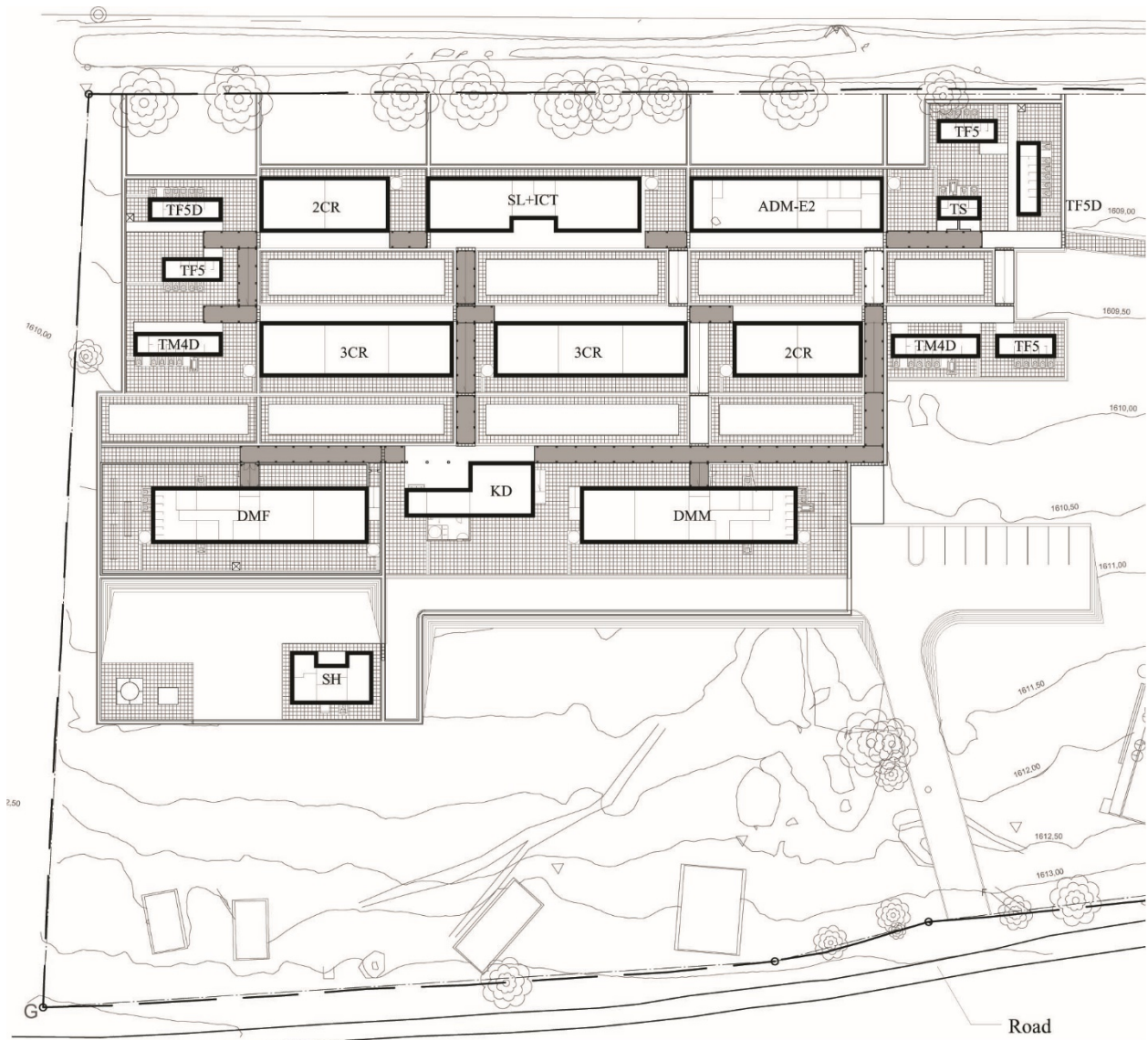


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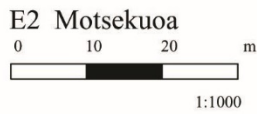
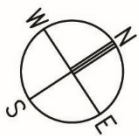
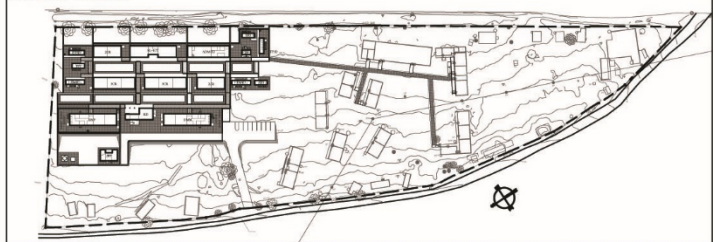
2CR+R	2-classroom and Resource Room Block	TF4	Toilet Block (Female)
3CR	3-classroom Block	TF4D	Toilet Block (Female)
SL+ICT	Science and ICT Labs Block	SH	Staff House Block
KD	Feeding Kitchen Block		Planned Building
DMM	Dormitory Block(Male)		Covered Passage
DMF	Dormitory Block(Female)		Boundary Line
TM4	Toilet Block (Male)		Boundary Fence
TM4D	Toilet Block (Male)		

SITE MAP







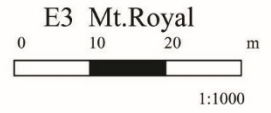
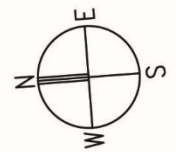
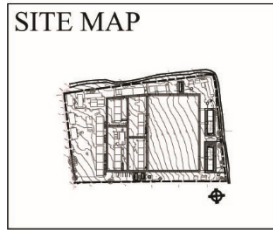
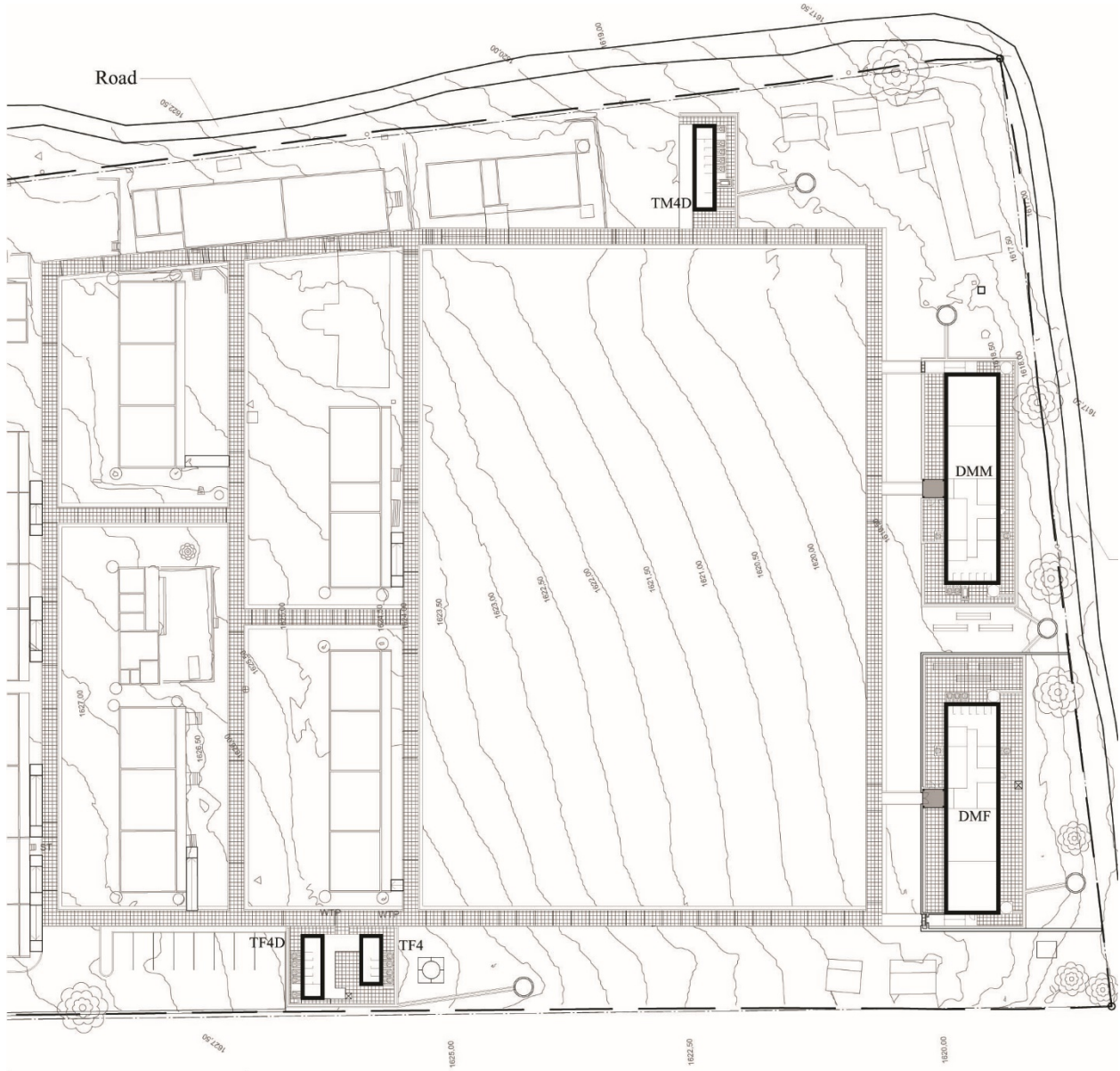


SITE MAP



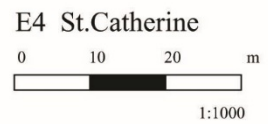
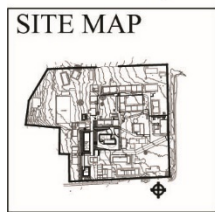
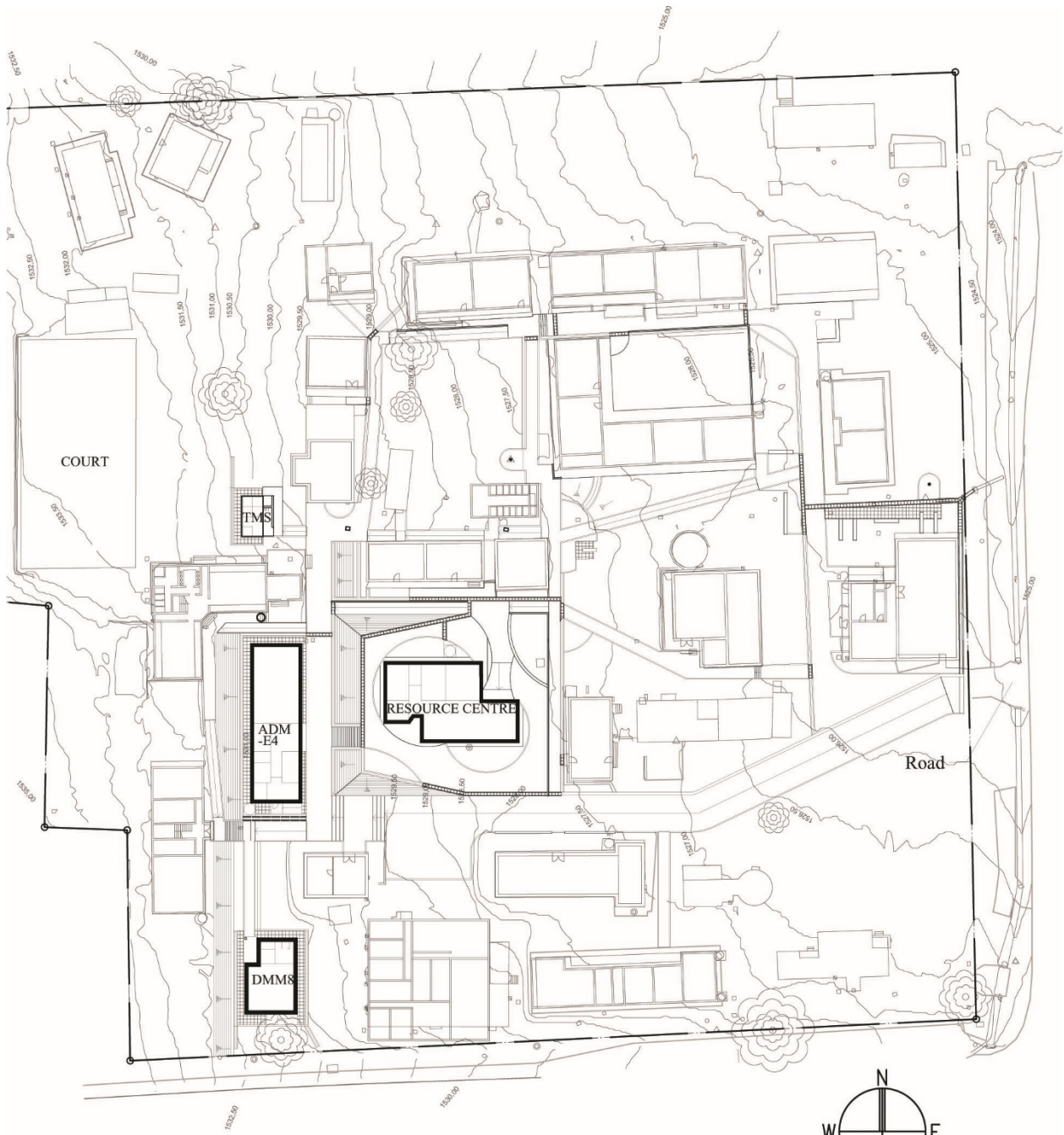
LEGEND

2CR	2-classroom Block	TF5	Toilet Block (Female)
3CR	3-classroom Block	TF5D	Toilet Block (Female)
SL+ICT	Science and ICT Labs Block	TS	Toilet Block (Staff)
KD	Feeding Kitchen Block	SH	Staff House Block
ADM-E2	Administration Block		Planned Building
DMM	Dormitory Block(Male)		Covered Passage
DMF	Dormitory Block(Female)		Boundary Line
TM4D	Toilet Block (Male)		Boundary Fence







**LEGEND**

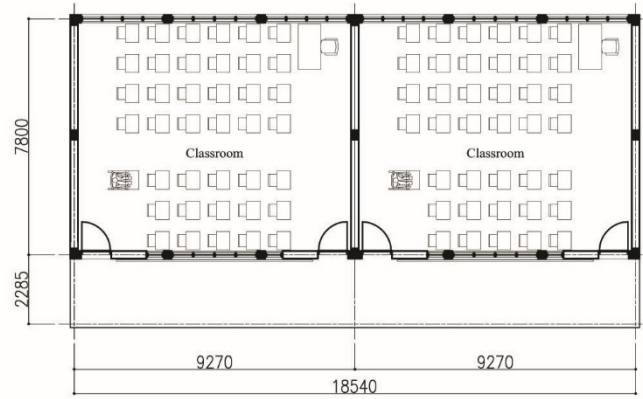
DMM	Dormitory Block(Male)		Planned Building
DMF	Dormitory Block(Female)		Covered Passage
TM4D	Toilet Block (Male)		Boundary Line
TF4	Toilet Block (Female)		Boundary Fence
TF4D	Toilet Block (Female)		



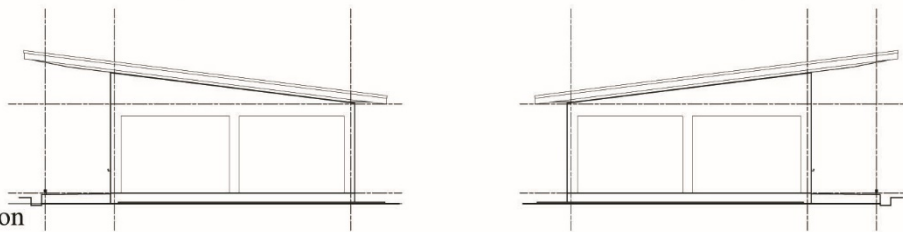
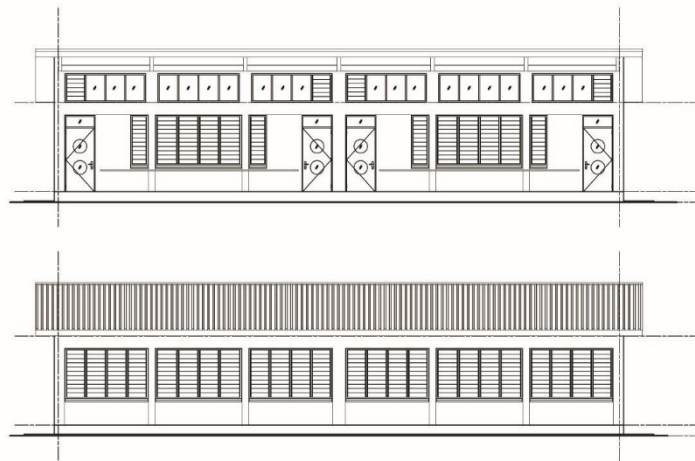
LEGEND

RESOURCE CENTRE	Resource Center Block		Planned Building
ADM-E4	Administration Block		Covered Passage
DMM8	Dormitory Block(Male)		Boundary Line
TMS	Toilet Block (Staff)		Boundary Fence

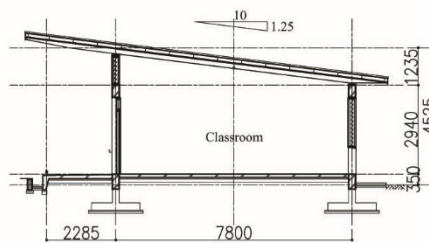
(2) Floor plans, elevations, and sections



Plan



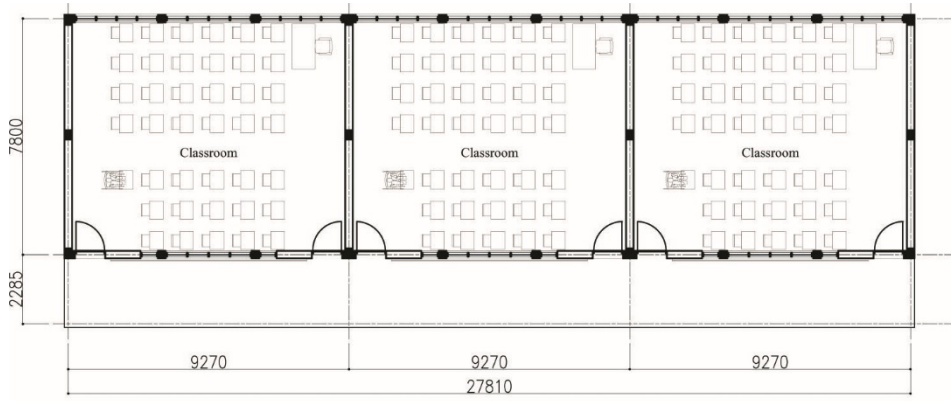
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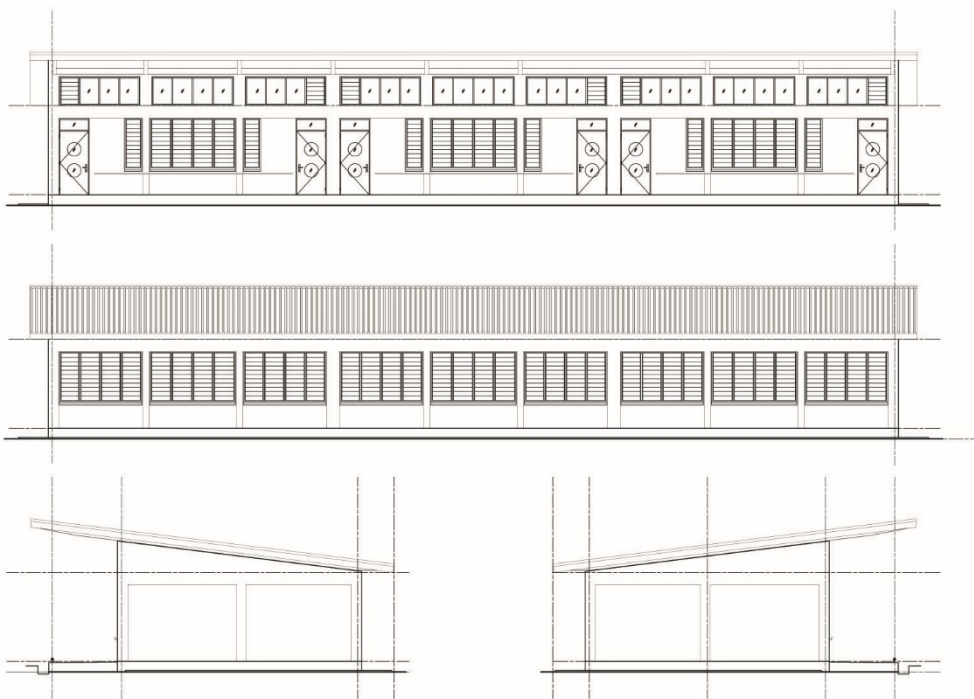
Section

Classroom Block 2CR

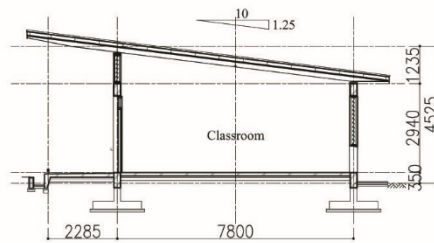




Plan



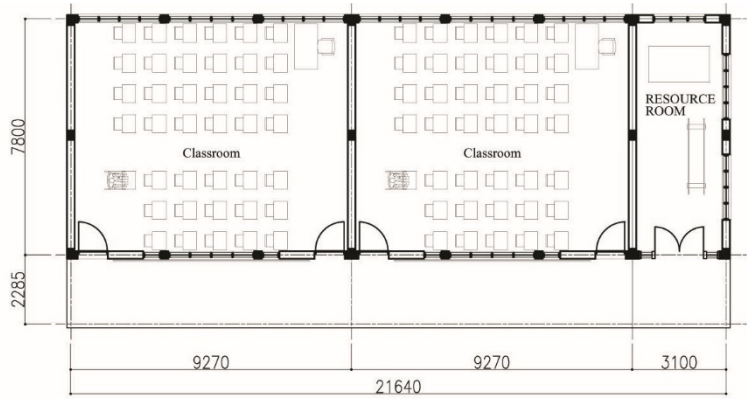
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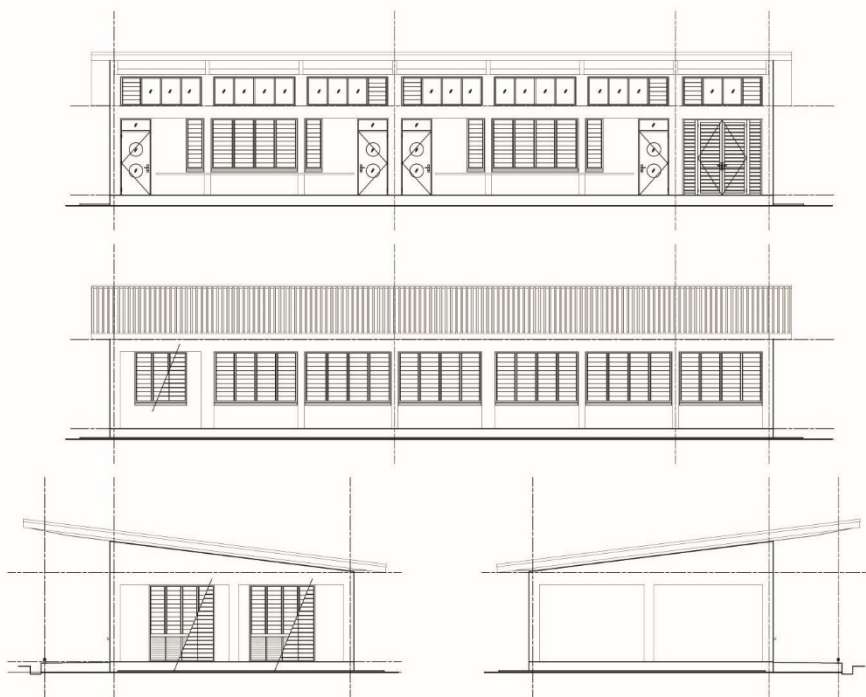
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Classroom Block 3CR

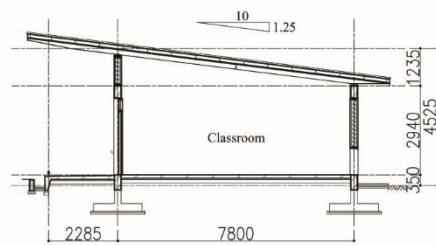




Plan



Elevation

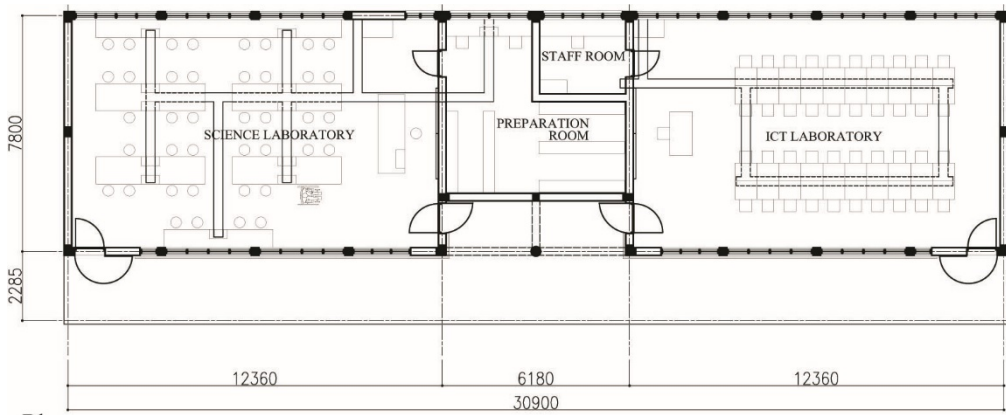


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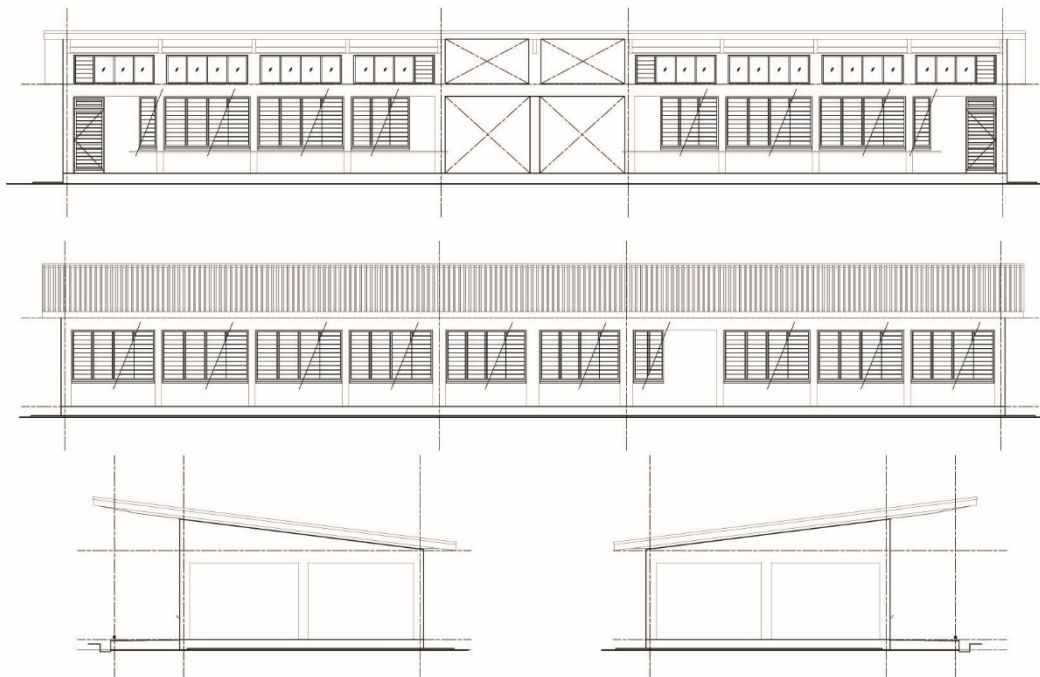
Classroom Block 2CR+R



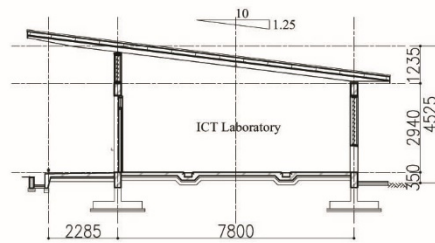




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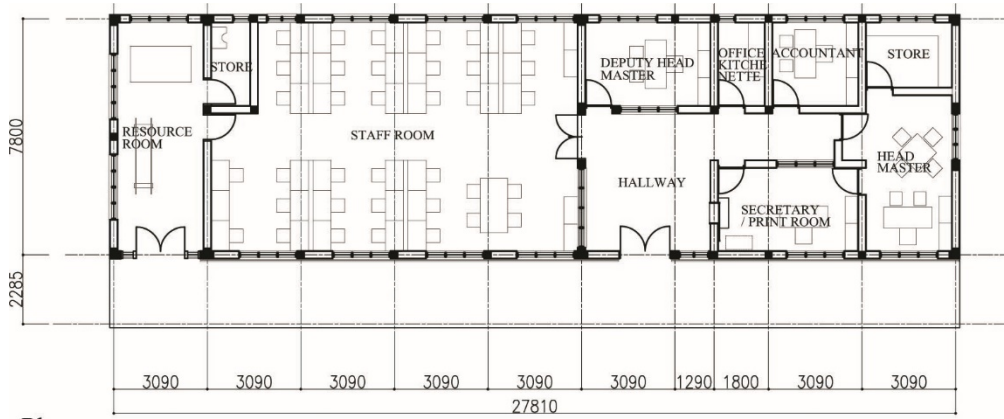
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Section

Science and ICT Labs Block SL+ICT

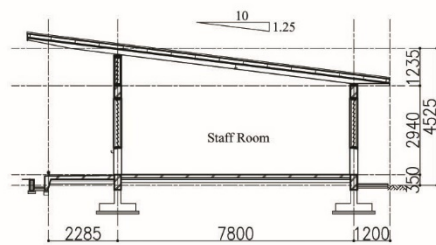




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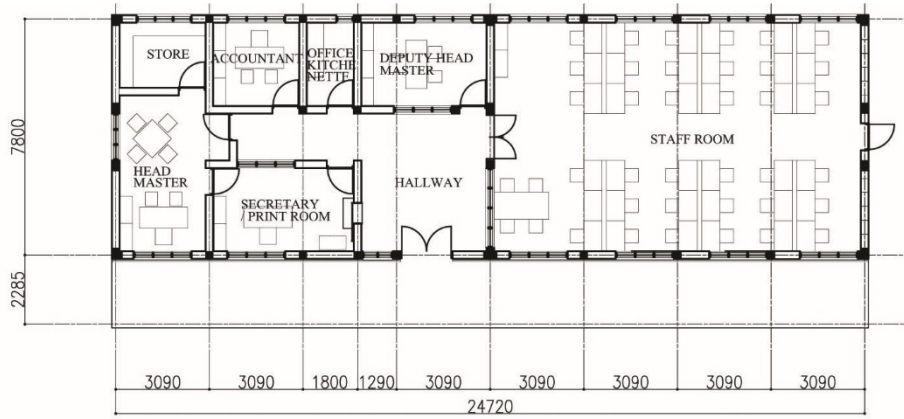
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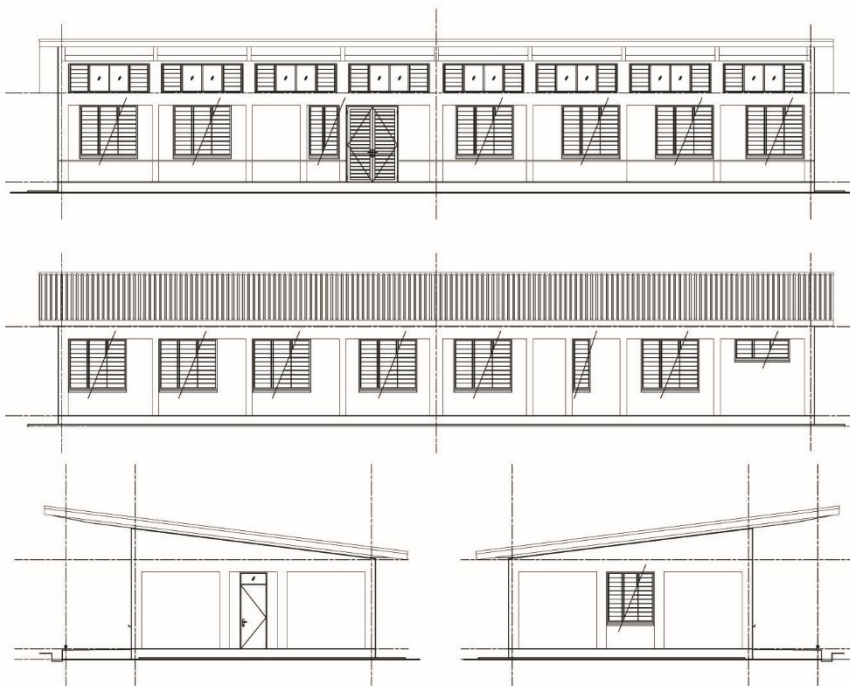
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Administration Block ADM-E2

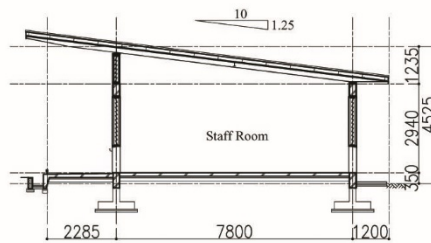




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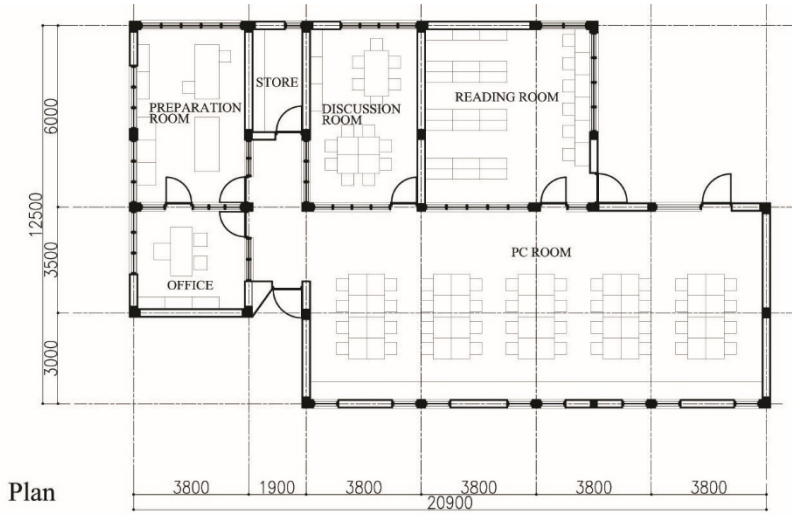
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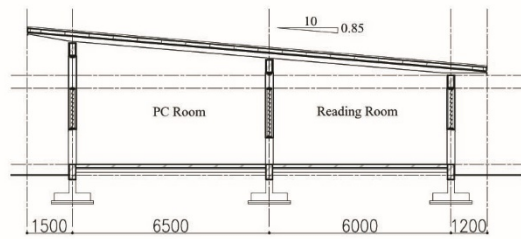
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Administration Block ADM-E4





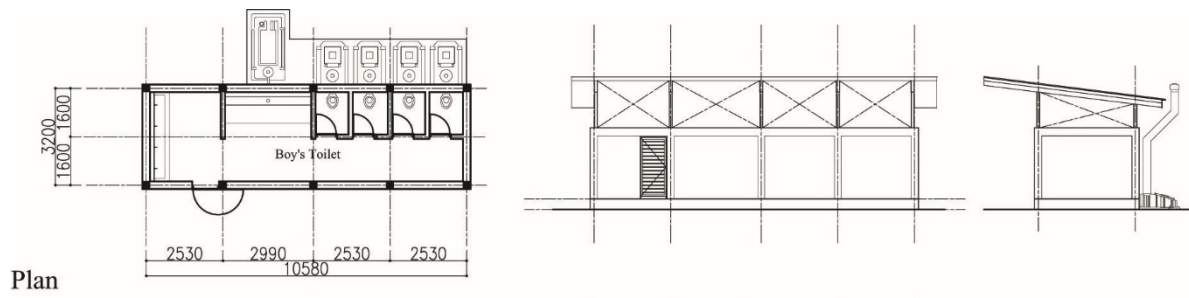
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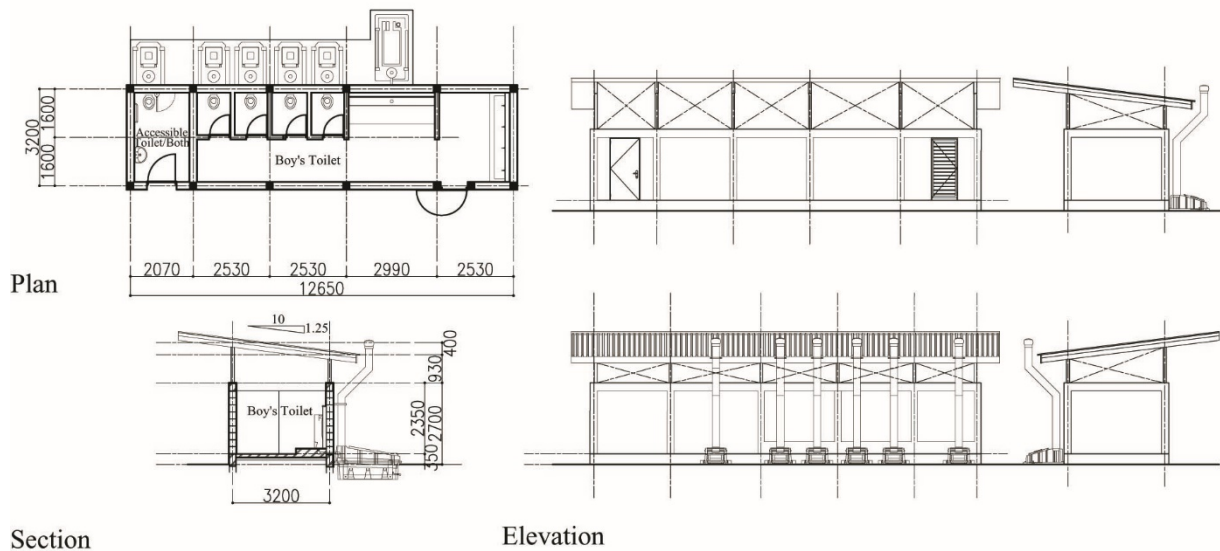
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Resource Center Block RC

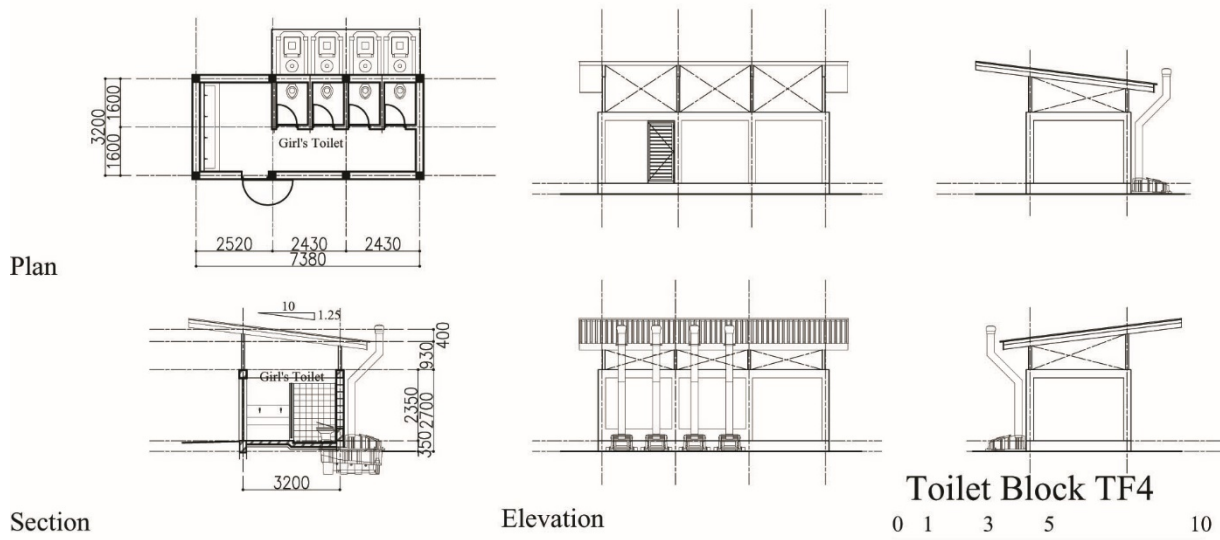




**Toilet Block TM4**

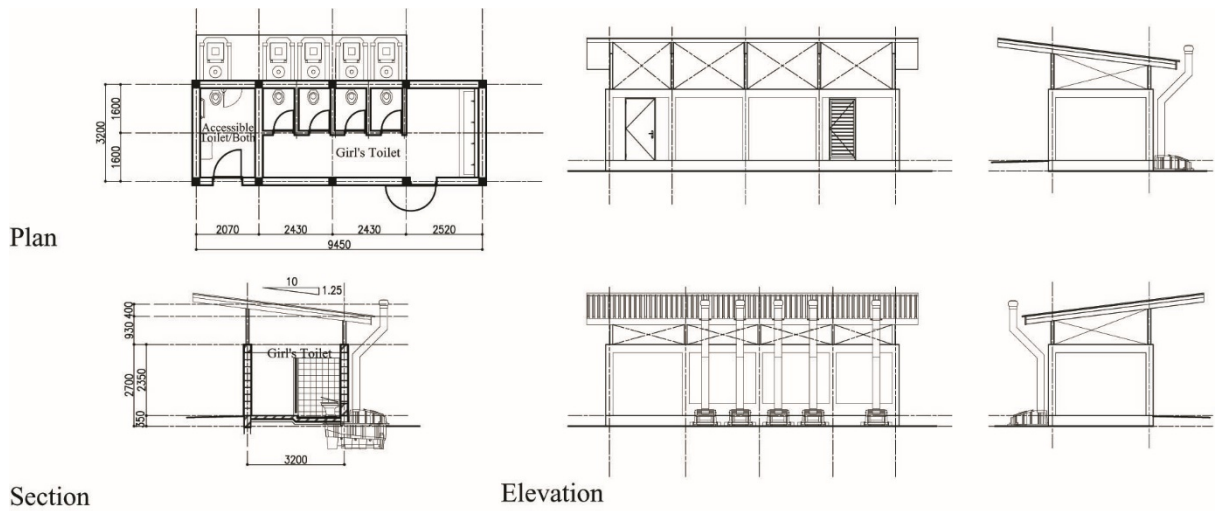


**Toilet Block TM4D**



**Toilet Block TF4**



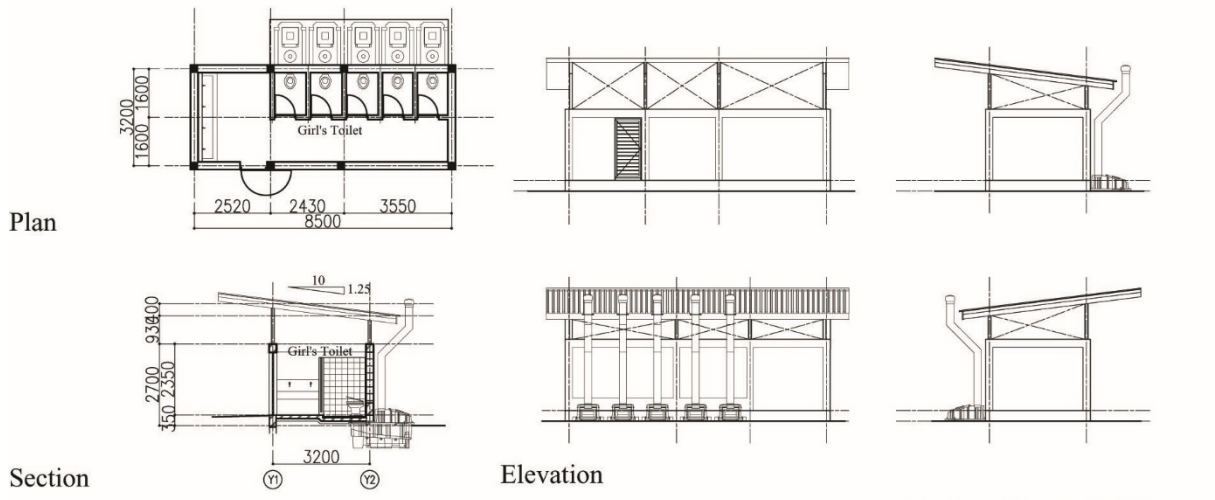


Plan

Section

Elevation

Toilet Block TF4D

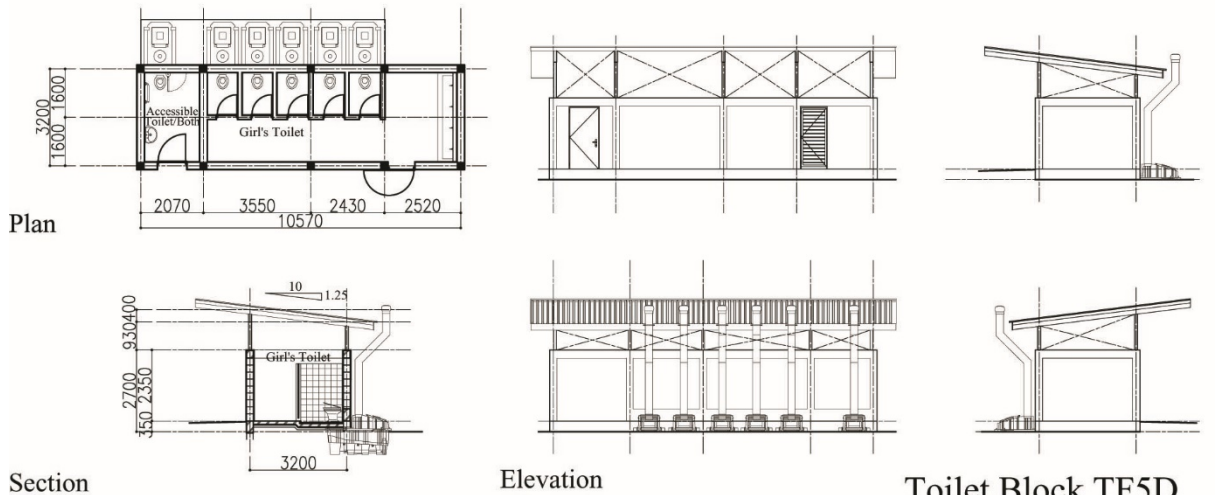


Plan

Section

Elevation

Toilet Block TF5



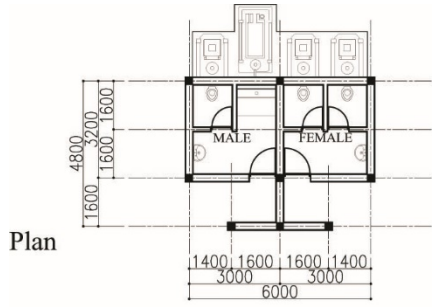
Plan

Section

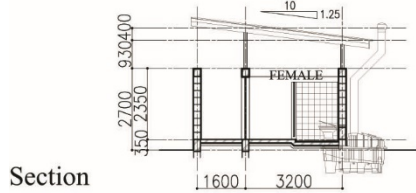
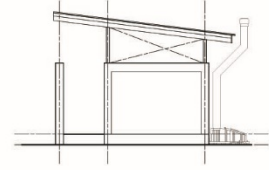
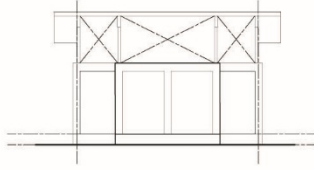
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Toilet Block TF5D

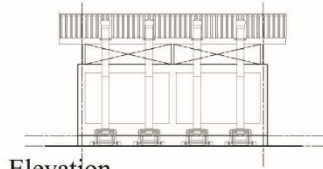




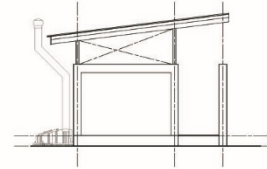
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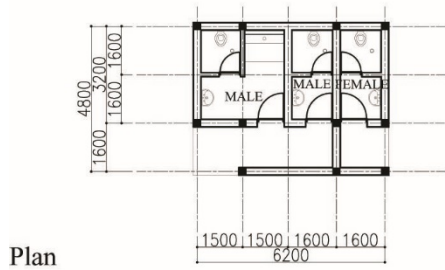
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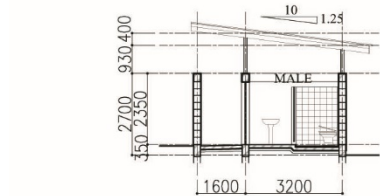
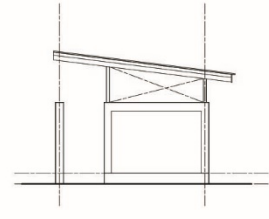
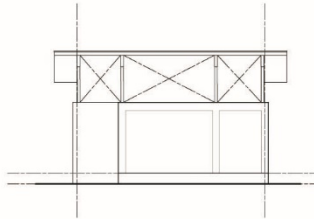
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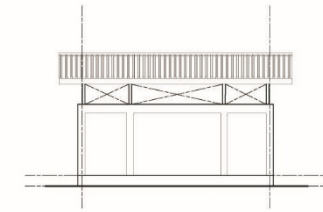
Toilet Block TS



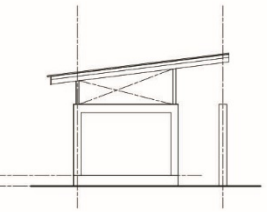
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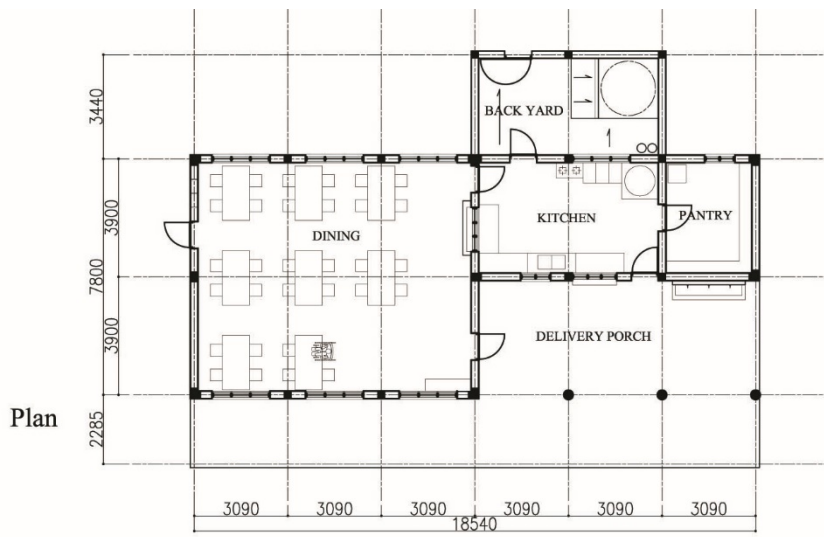


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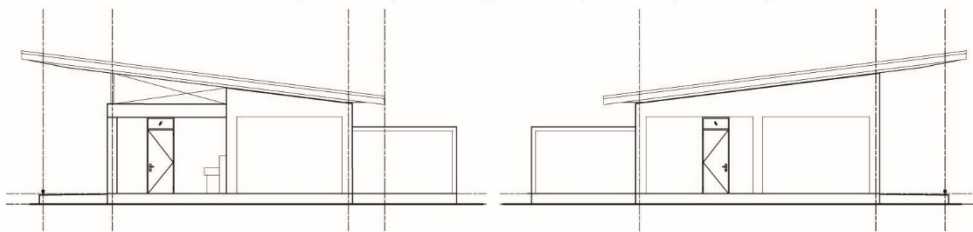


Toilet Block TMS

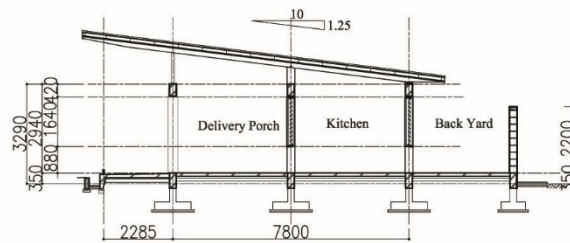




Plan



Elevation

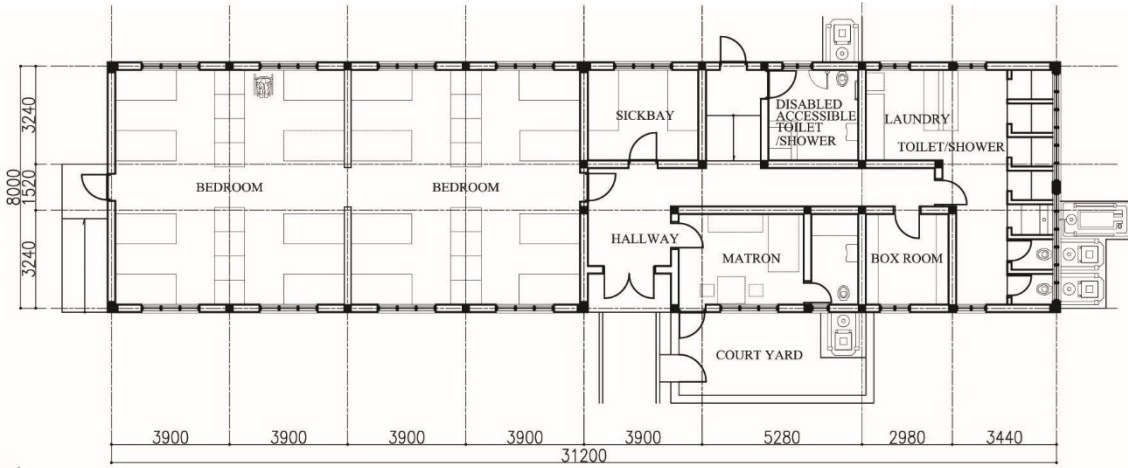


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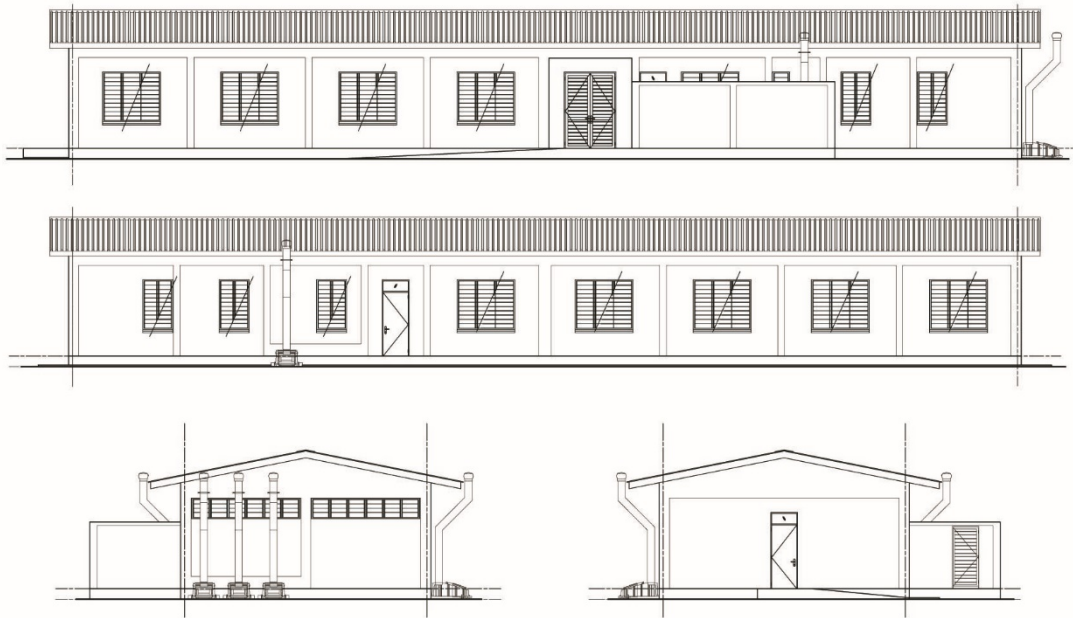
### Feeding Kitchen Block KD



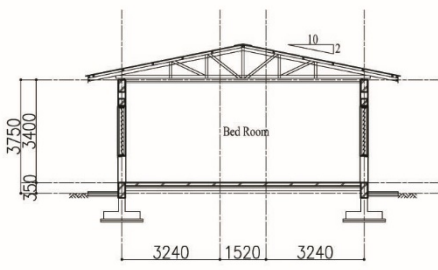




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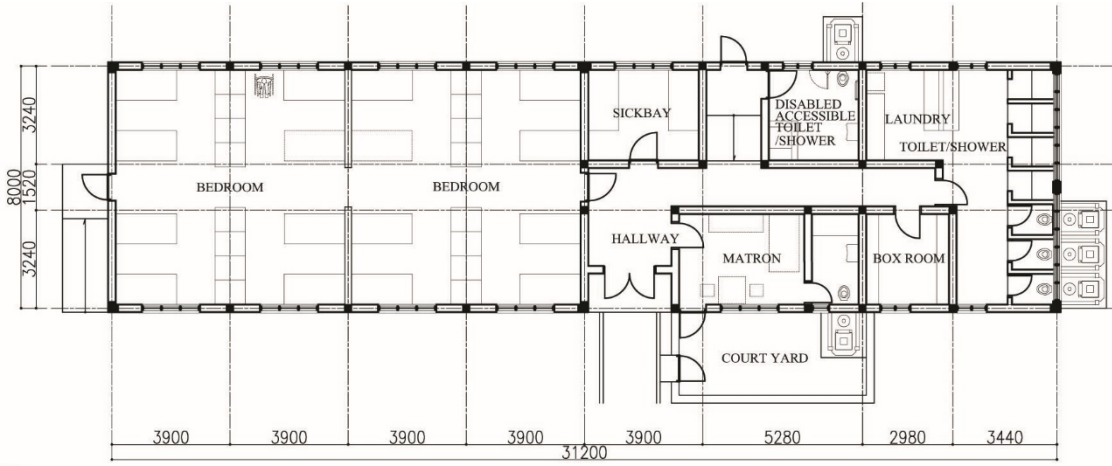
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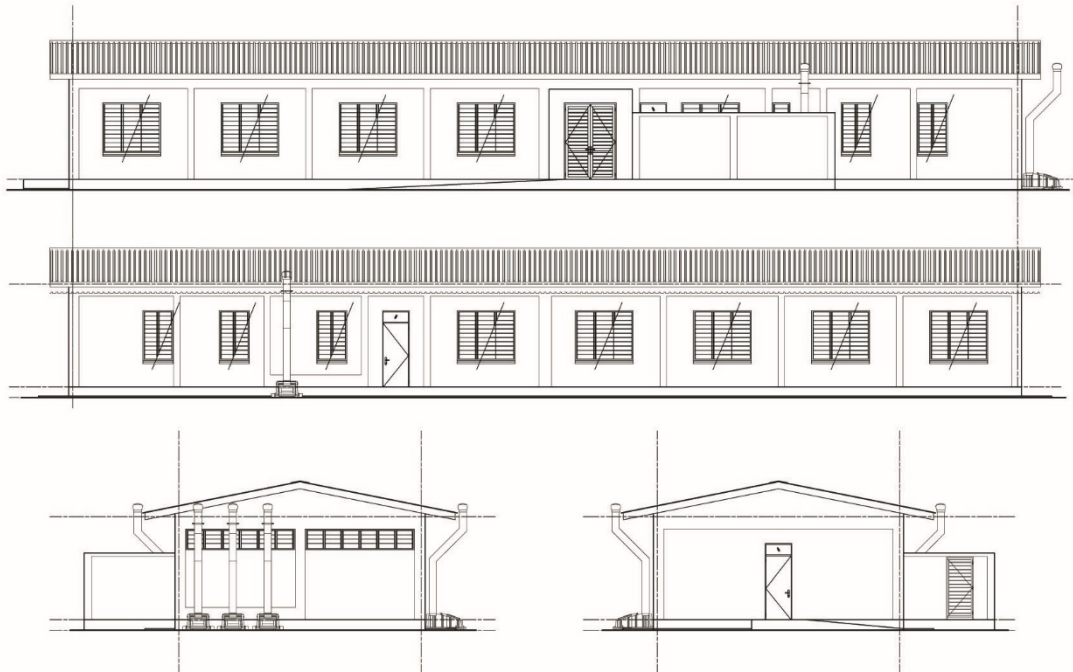
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Dormitory Block DMM

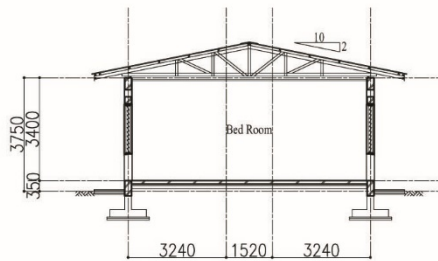




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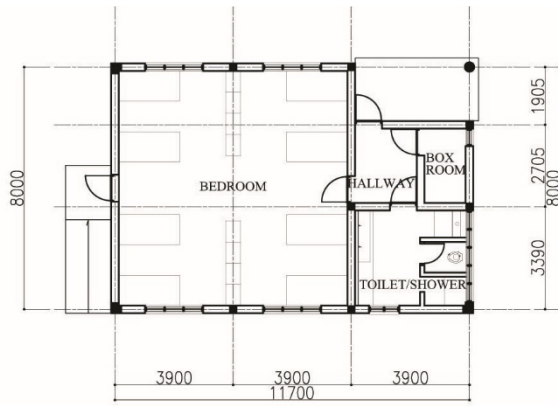
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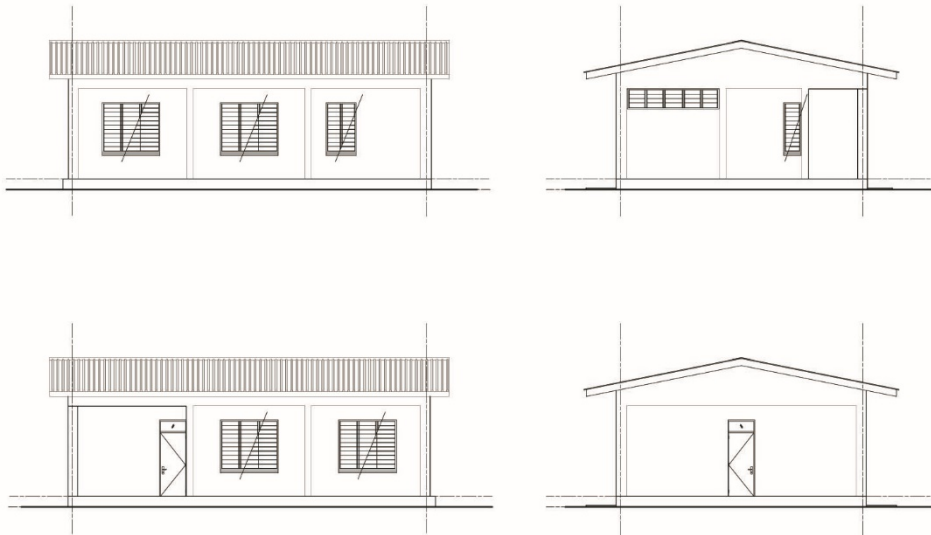
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Dormitory Block DMF

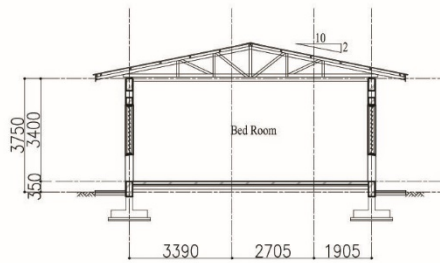




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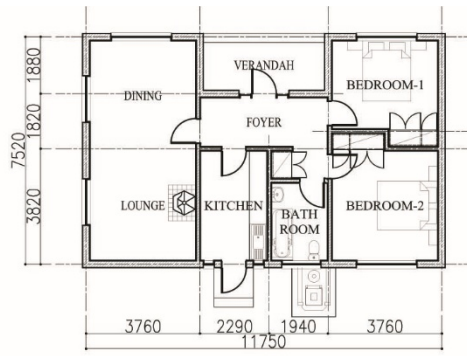
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Section

Dormitory Block DMM8

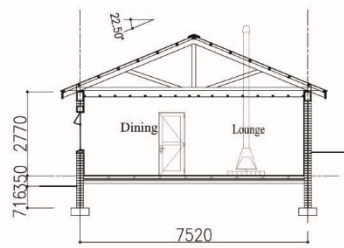




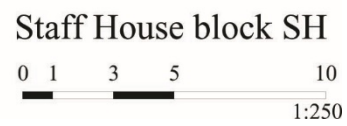
Plan



Elevation



Section



## 2-2-4 Implementation Plan

### 2-2-4-1 Implementation Policy

#### (1) Guiding Principles for the Project Implementation

Upon a cabinet approval of the Government of Japan, an Exchange of Notes (E/N) regarding project implementation will be concluded by the governments of both countries. In accordance with the E/N, a Grant Agreement (G/A) will be signed by the Government of Lesotho and JICA. The Project is then implemented pursuant to the Japanese grant aid scheme. Subsequently, the Government of Lesotho will sign a contract with a Japanese consultant company which will prepare a detailed design of the intended facilities and equipment. Upon completion of the detailed design drawings and tender documents, a public tender will be carried out in Lesotho. Successful tenderers and the Government of Lesotho will enter into contracts for facility construction and equipment procurement, which will be fulfilled as agreed therein. It should be noted that the Project will separate tenders for construction work and equipment procurement as prescribed for a Japanese grant aid project.

#### (2) Project Implementation Structure

##### 1) Implementation Structure of Lesotho

It is the Ministry of Education and Training (MoET) that is responsible for implementation of the Project. The implementing agency is Department of Secondary Education of the said Ministry, which will coordinate and operate the overall project, including taking necessary budget measures. Inclusive education is administered under Special Education Unit (SEU) of the said Department. Procurement Unit (PU) of MoET will be in charge of facility and equipment procurement, while technical work is pursued by Education Facilities Unit (EFU) of MoET. MoET will be a main body of undertaking various procedures related to contracting with a consultant for facility design and work supervision (hereinafter referred to as the “Consultant”), contractors for construction work (hereinafter referred to collectively as the “Contractor”), and suppliers for procurement of equipment and furniture (hereinafter referred to collectively as the “Supplier”). MoET will also implement the items borne by the Lesotho side, as well as acquire the necessary permits and agreement from relevant agencies. Furthermore, with support of the Consultant, MoET will make a request for JICA to pay invoices received from the Contractor and Supplier.

##### 2) Japan International Cooperation Agency (JICA)

Japan International Cooperation Agency (JICA) will conclude the G/A with Government of Lesotho and supervise implementation of the Project to ensure that it follows the scheme of Japanese Grant Aid. JICA will approve execution of the grant upon receiving the request for payment from the Lesotho implementing agency, and request payment to the Bank of Japan.

### 3) Consultant

Following the design and supervision contract concluded with the Lesotho implementing agency, the consultant will prepare the detail design for the facilities and equipment based on the content of this report, as well as supervise construction work and procurement. The Consultant will also prepare tender documents and assist selecting contractors and suppliers and concluding contracts for construction work and procurement of equipment. In order to deliver these services efficiently, the Consultant will develop a close and cooperative relationship with MoET. It will send supervising engineers in Lesotho when the facilities are being constructed, and equipment procured.

### 4) Contractor and Supplier

Under their respective contracts concluded with MoET, the Contractor and the Supplier will fulfill their works and services pursuant to tender documents, which should be completed within an agreed execution period.

### 5) Implementation Structure

The figure below shows a relationship among relevant actors involved in the implementation phase and a work flow to carry forward the Project.

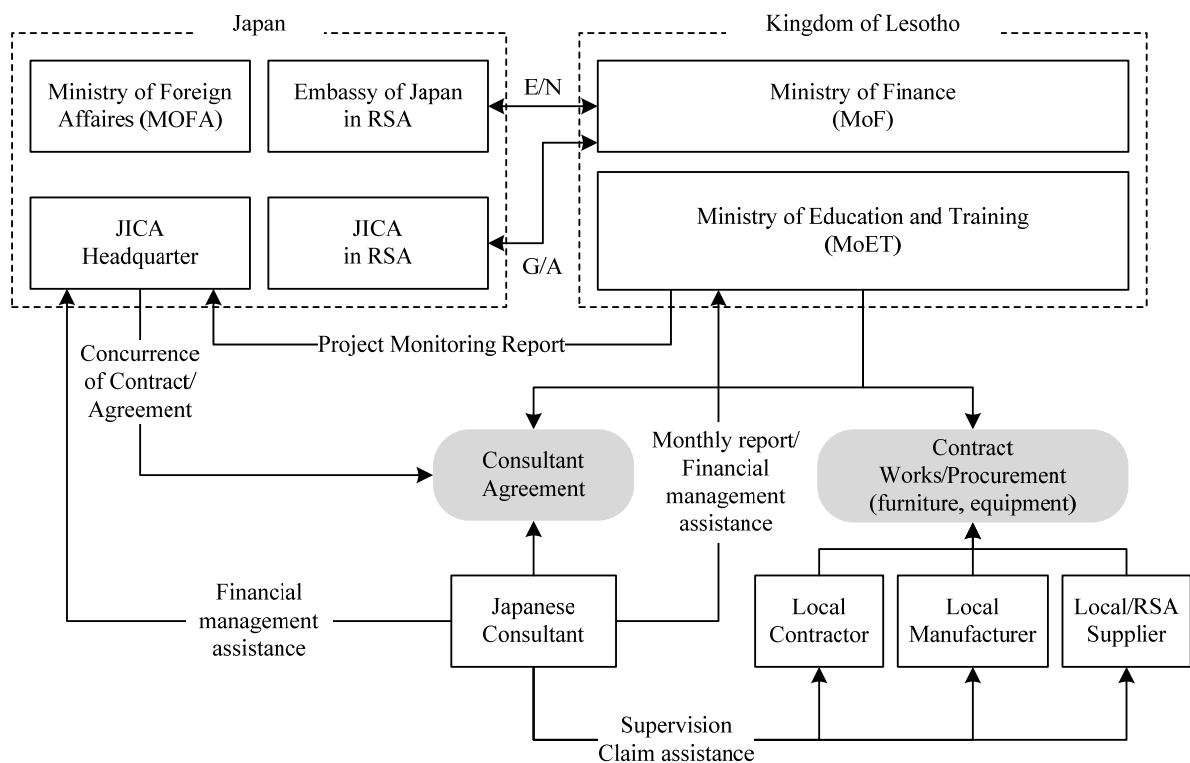


Figure 2-1 Diagram of Project Implementation Structure

## 2-2-4-2 Implementation Conditions

### (1) Tax Exemption Procedures

The Project will be exempted from taxation in accordance with the G/A. Lesotho Revenue Authority (hereinafter referred to as “LRA”) is in charge of the tax-exemption for the project. General procedures relating to tax exemption are as described below. It should be noted that Lesotho is a member of Southern African Customs Union (SACU), while equipment and materials required for the Project will be supplied from Lesotho and South Africa, products imported from South Africa are free of customs duties. In addition, income tax and VAT for South African supplier will be exempted based on the Double Tax Agreement between South Africa and Lesotho. Japanese consultant will obtain TIN code from LRA for smooze implementation of tax exemption.

- Income tax  
Japanese consultant and South African supplier will be exempted. Local contractor will be applied taxation.
- VAT (Main contract)  
Main contract between MoET and each party will be exempted.
- VAT (Purchase of goods)  
It will be exempted or refunded depends on items. It is available to purchase applicable items by ‘zero-rated’. Zero-rated certificate is to be requested to LRA in advance. Refunding will be implemented through monthly tax return for local contractors/suppliers. However, according to the hearings from local contractors, it sometimes take around 6 months for refunding.

### (2) Construction Contractors

Local construction contractors are registered by the Ministry of Public Works and Transportation according to a four-ranked category rated by maximum value per public works contract they are allowed to make.

Table 2-10 Contractors Registered in Lesotho

Category	Maximum value per public works contract (roughly converted in JPY)	Number of registered contractors
A	2,750,000 LSL or over (24.3 million JPY or above- no limit)	65
B	1,200,001~3,000,000 LSL (10.6 million JPY-26.6 million JPY)	225
C	200,001~1,200,000 LSL (1.8 million JPY-10.6 million JPY)	444
D	~200,000 LSL (less than 1.8 million JPY)	549

Note: Calculated at a rate of 1 loti=8.85 JPY (an average rate in the last three months starting on the last day of the preceding month when the project cost is calculated) Source: EFU 2015

65 contractors are registered in the top rank of Category-A. However, there is a notable disparity in corporate sizes, performances, and technical adequacy of those contractors. For executing work on the Project, construction contractors will be selected using appropriate and relevant criteria in

consideration with the size of the Project and the performance of the past projects implemented with a Japanese Grant Aid for Community Empowerment scheme.

### (3) Equipment Procurement

Appropriate delivery schedule for the equipment will be arranged to meet with the construction schedule. Details about required power supply outlets, necessary utilities, and exact locations of installations should be arranged with construction works and indicated in equipment specifications, where applicable.

#### 2-2-4-3 Scope of works

With implementation of the Project through Japanese grant aid, the scope of works to be borne by the Japanese side and the Lesotho side are listed as follows. Note that major obligations for the Lesotho side are shown in Table 2-16.

#### (1) Works to be undertaken by the Japanese Side

##### a) Facility construction

- Construction of facilities described in this Report
- Installation of electrical, air conditioning, water supply/drainage, and sanitation equipment ancillary to the above facilities
- Exterior facilities (land forming, on-site vehicle paths and parking areas, open passage, rainwater drainage and pits)

##### b) Furniture procurement

- Procurement of general furniture in the facilities
- Procurement of furniture for wheelchair users
- Procurement of kitchen fittings (cooking counters, etc.)

##### c) Equipment procurement

- Procurement and installation of pedagogical equipment
- Procurement and installation of IE equipment

#### (2) Works to be undertaken by the Lesotho Side

- Removal and relocation of the existing structures that may hinder facility construction, and cutting existing trees and roots
- Providing means of water supply (repair of existing borehole or construction of new one, community water supply, or drawing a municipal water main, etc.) and drawing water to new water reservoir tanks
- Drawing a new electric distribution line to the target sites
- Gas supply (installation of gas cylinders)
- Procurement of furniture, fixtures, fittings, and consumables that are not included in the scope



of the Japanese side

- Provision of the exterior facilities (e.g. perimeter fence) and planting trees that are not included in the scope of the Japanese side
- Acquisition of permits necessary for implementation of construction work

#### 2-2-4-4 Managing a Tender Process

##### (1) Lot Composition

A lot size to be contracted will be determined as below, considering such factors as geographic conditions in the target sites and capacities of local companies.

##### 1) Facility Construction

Most of the facility construction projects implemented by MoET is mostly on small scale such as extension of classrooms and rehabilitating existing facilities. In contrast, the Project is large scale, with approximately 3,090 m<sup>2</sup> of floor area per site for a total floor area of 6,600 m<sup>2</sup>. It is thus imperative that competent contractors be selected to mitigate potential operational risks and reliable execution of work. As mentioned above, however, those in Category A have significant differences in their corporate sizes, previous experiences, and technical adequacy. Therefore, relevant tender qualifications must be carefully set out. To make leading companies interested in joining the Project, among other Category-A contractors, construction work will be divided in two lots to offer a reasonable size of contract. Multiple lots will also disperse potential risks. Note that a tender for these two lots will be simultaneously carried out in a batch.

Table 2-11 Proposed Construction Work Lot Composition

Batch	Lot	Site	Site Floor Area	Lot Floor Area	Batch Floor Area
1	1	E1 Abia	2,317.80 m <sup>2</sup>	2,966.82m <sup>2</sup>	6,636.45 m <sup>2</sup>
		E3 Mt. Royal	649.02 m <sup>2</sup>		
		E5 Masenate	153.60 m <sup>2</sup>		
	2	E2 Motsekuoa	3,087.02 m <sup>2</sup>	3,669.63 m <sup>2</sup>	
		E4 St Catherine's	582.61 m <sup>2</sup>		

##### 2) Furniture Procurement

Taking the capacity of furniture companies into consideration for furniture procurement, four sites will be handled as one lot in order to preserve uniformity of quality at each site and for price competitiveness due to scale merit (E5 Masenate is facility construction only). Since the number of companies in Lesotho with their own plants for fabricating furniture is limited, and from the standpoint of ensuring competitiveness, agents who procure furniture from South African factories will also be included.

##### 3) Equipment Procurement

The Survey Team confirmed that no general trading company exists in Lesotho which is capable of tendering for supply of the equipment planned by the Project. Therefore, to ensure the

competitiveness, a tender will be divided in five lots so that equipment is purchased in multiple groups of related items, such as devices for inclusive education, PC tools, etc.

## (2) Tendering in Lesotho

Procurement in Lesotho must conform to requirements stipulated in Procurement Laws and Regulations (2007). MoET-administered projects have typically undergone public open tender, and yet, never sought for prequalification (PQ). Due to the small size of these projects, it normally takes six weeks from tender notice to opening of tender. A notice is posted every day in newspapers during these six weeks. Those who wish to join the tender can purchase a copy of tender documents for 300 LSL. Tender documents are prepared by PU and EFU. A pre-bid meeting is held after two weeks from the tender notice, where the clients give briefings, followed by an oral question-and-answer session. No written questions and answers are presented. Tenderers submit a tender in a designated box within six weeks from the notice, which will be opened in public after the closing time. A Procurement Manager, who is a head of PU, appoints members who evaluate the tenders. Generally, the members are two procurement officers (PU), two quantify surveyors (EFU), and a financial officer (Finance of Administration/MoET) (appointed in odd numbers). An engineer is not normally involved in the evaluation. The Procurement Manager reviews and approves the evaluation results, which are sent to a Tender Panel. The Tender Panel is a permanent unit, consisting of Deputy Permanent Secretary, Regional Inspector (South Region), Director of Human resources, Secretary General of UNESCO, and General Administration Officer. PU Manager serves as a secretary.

Under an international competitive bidding to acquire goods, domestic suppliers are granted a margin of preference, according to the ratio of equity held locally, when compared to their foreign counterparts. When the local equity ratio exceeds 51%, a 15% margin of preference in the evaluated price of the tender will be given.

## (3) Tender Plan for the Project

Tendering for the Project will be implemented in accordance with JICA Procurement Guidelines for Japanese Grants (facility/equipment procurement system for Japanese consultant and local contractors), while scheduling the tender process in consideration of MoET's typical procedures and requirements.

### 1) Facility Construction

The Project will undertake a public tender with participation restriction for qualified bidders, limited to eligible contractors registered as Category-A by the Ministry of Public Works and Transportation, following tendering methods commonly used by MoET. It should be noted, however, that the prequalification (PQ) will be implemented because contractors in this Category have significant differences in their corporate sizes and technical adequacy. Prequalified tenderers will be given tender drawings and then price competitive tender will be carried out. PQ evaluation criteria will include, in addition to the technical evaluation normally implemented in Lesotho, sales revenue from

the past five years, as well as bid capacity (highest revenue minus quantity of currently held construction work at the time of bidding) will be evaluated. Specific criteria will be decided in a close consultation with PT and EFU in a detailed design phase. Furthermore, contractors who passed document screening will undergo an on-site evaluation of their performance in similar projects to select contractors capable of executing the work intended by the Project. The Consultant will join the Tender Evaluation Team to take part in the tender evaluation together with PU and EFU. Given the magnitude of the work to be conducted for the Project, it is projected that tendering will entail the period indicated below, from posting a tender notice through awarding contracts.

Table 2-12 Timetable Required for Project Tendering

Steps	Required period	Remarks
Invitation for PQ - application deadline	2 weeks	Subject to a common practice in Lesotho
PQ documents screening	1 week	
On-site assessment	2 weeks	
Preparation of PQ evaluation report	1 week	
Approval by Tender Panel	1 week	
PQ results notification, period of appeal	1 week	
Handover of drawings to PQ qualifiers – opening of bids	6 weeks	Period necessary for accurate pricing, depending on the proposed facility size and BoQ
Preparation of tendering evaluation report	2 weeks	
Approval by the Tender Panel	1 week	
Notification of result, appeals	1 week	
Submission of required documents such as work contract and performance bond	2 weeks	
Total	20 weeks	

## 2) Furniture Procurement

Based on MoET’s past procurement of educational furniture, domestic open tendering with participation restriction for qualified bidders will be implemented. Since the furniture for all sites will be procured together, eligibility requirements will be set after careful screening for fabrication/procurement capacity, as well as technical capacity, placing additional importance on the content and size of past furniture procurement experience for similar projects. Based on the possibility that quantities for the furniture order may decrease depending on bidding results for facility construction, tendering for acquiring furniture will be carried in the second batch, once those results are obtained.

## 3) Equipment Procurement

Based on MoET’s equipment procurement in the past, public open tendering will be implemented. However, since there are no manufacturer agents in Lesotho for a portion of the target equipment such as IE-related equipment, or else the number of agents is limited, there is risk that fair tendering may not be ensured. Tendering requirements, such as including participants from South Africa or

other SACU member countries, will be studied. A tender for acquiring equipment will be carried out in the third batch, separately from that for facilities and furniture.

#### 2-2-4-5 Work and Procurement Supervision Plan

##### (1) Basic Policy for Supervision of Construction Work and Procurement

Fully understanding the Japanese grant aid scheme and the proposal made in the outline design, the Consultant will deliver specified services in a stepwise manner from a detailed design, tender, supervision of construction work and procurement, and handover of the completed facilities. In supervising construction work and procurement of equipment, the Consultant will keep a close contact with the government agencies of both countries to make necessary reports. It will also provide timely and relevant advice to the construction and procurement personnel so that they complete the facilities and supply the equipment on time, meeting the quality prescribed in the contract documents.

##### (2) Tendering Support

The consultant will provide support for tendering, which will be conducted with the Lesotho implementing agency as the main actor. Since procurement for the Project will follow JICA guidelines, it may differ from the procurement content and procedures normally implemented in Lesotho. Therefore, relevant agencies must increase their understanding of these guidelines and make adjustments as necessary for the smooth implementation of tendering. Additionally, the Consultant will be involved in a tender evaluation as a member of Tender Evaluation Team, working together with PU and EFU.

##### (3) Work Supervision Structure and Operational Content

In order to appropriately implement overall progress management and work supervision for the Project, as well as provide financial management support for the Lesotho implementing agency, the consultant will dispatch a Japanese architectural engineer (hereinafter referred to as the “Resident Engineer”) to Lesotho for the duration of the work execution and procurement period. Local engineering staff will also be allocated as necessary, and the following operations will be conducted.

- Prepare standard forms to control construction supervision: The Resident Engineers must ensure uniformity across work supervision activities carried out by different local supervising engineers (hereinafter referred to as the “Site Engineers”) on the different sites. To assure the quality of their work, they will prepare a checklist highlighting key points of work supervision and templates to indicate test and inspection results and submit periodic report.
- Approval of work plan, etc.: The Resident Engineers must review and approve, without delay, work plans, schedules, and samples submitted by the Contractor. Should a question arise as to the contracts, a prompt explanation will be given to the Contractor.

- On-site construction supervision: Site Engineers will be stationed at their respective sites to maintain quality of the work being executed in accordance with the above-mentioned work supervision template, manage a timely work delivery, and ensure safety. In addition, a Chief Engineer will visit all target sites regularly for monitoring of on-going construction supervision. If any problems or delays are identified, appropriate measures should be taken, such as ordering or instructing the Contractor to take corrective actions.
- Round tour: The Resident Engineers will have an office in a major city where they will be stationed, and visit all target sites regularly. Site-based progress must be monitored to check to what extent the Project is being carried out as a whole. The quality of construction work must be also maintained to meet the standard applicable to the respective sites.
- Task specific work supervision: Subject to site-based progress of the construction work, the Japanese Engineers who are specialized in such technical fields as structure, and mechanical or electric installations, will be sent to supervise specific tasks being carried out. They will give advice to the Site Engineers and join testing and commissioning.
- Quality control testing: Testing will be performed to check materials that may significantly affect the quality of construction work. A compression test of concrete will be conducted in a laboratory located in the Consultant's office, as it requires frequent testing.
- Organizing meetings: Regular meetings will be held with the Contractor to monitor the progress and the work schedule. Regular meetings will also be held with the implementing agency and relevant agencies in Lesotho to report the status of the construction. Furthermore, a construction progress and quality control meeting will be held, when necessary, attended by the implementing agency, JICA, the Contractor and the Consultant. The meeting will be an occasion to mutually understand problems identified during the construction work and discuss on resolutions.
- Payment support: Invoices received from the Contractor will be checked, and certificates issued. The implementing agency will be also assisted in making payment requests for JICA.
- Report preparation: In addition to monthly reports regarding work progress, other necessary reports will be provided and submitted to the implementing agency and JICA.
- Final inspection: A final inspection will be carried out upon completion of the construction work; the results will be reported to the relevant agencies.
- Defect inspection: When a defect warranty term is over, an inspection against defects, supervision of defects correction work, and a verification inspection will be implemented. The results will be reported to the relevant agencies.

The Consultant will make the following arrangements to implement their supervision works described above.

- Construction supervision base: A construction supervision office will be located in Maseru city, that is accessible to the target sites and the implementing agency with which the Consultant can contact and easily coordinate with. The office will be a place where locally employed engineers will be based.
- Site supervision team: one site engineer will be allocated per site. Specialized equipment engineers (one electrical, one mechanical) will make rounds to the target sites to monitor progress of construction work and ensure quality. A quantity surveyor will be assigned to assess the amount of work done per month.
- Backup system of the headquarter in Japan: Corporate consultants will establish a system for an operations manager to support the Resident Engineers by appointing the project staff, including the project manager and engineers specialized in technical fields. When appropriate, the Consultant will send a relevant engineer temporarily to join key testing and inspections on site in the initial, interim, and final phase of the construction work.

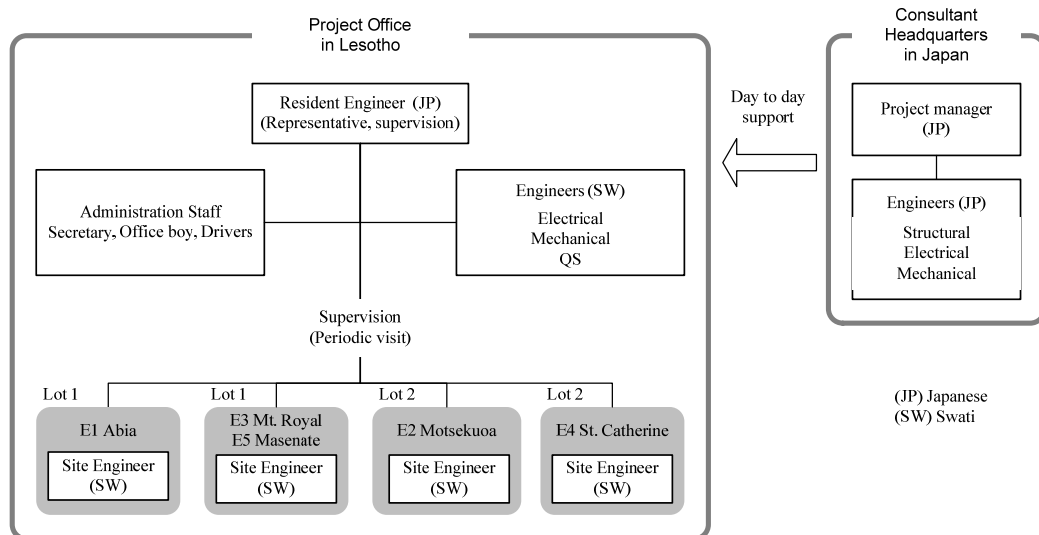


Figure 2-2 Diagram of Construction Supervision Structure

#### (4) Procurement Supervision Structure and Operational Content

The Consultant will be present at acceptance and handover of the equipment from the Supplier to the Lesotho side, upon completion of installation followed by a training of commissioning and operations. The acceptance of the installed equipment involves cross-checking with components indicated in the contract, the model names, countries (place) of origin, and manufacturers. External appearance should be also checked, including if ODA labels are placed on the items.

A procurement supervision engineer will be sent on site who will engage in supervising a phase from equipment installation to the acceptance and handover.

#### 2-2-4-6 Quality Control Plan

Major facilities for the Project are one-storied reinforced concrete structures with steel roof beam. In regard to quality control, focus will be placed on the structural frame (reinforcing bar, steel beam, concrete construction work), which has a large impact on basic performance items such as durability, as well as on the building equipment, which is essential for the building to function. Supervision will be conducted as described in the table below. Materials specifications and testing methods will refer to SANS.

Table 2-13 Quality Control Items

Item	Method
Ground	<ul style="list-style-type: none"> <li>• After foundation excavation, visually check the bottom of bedding, and confirm test results.</li> <li>• Confirmation will be made through load tests at all 4 sites.</li> </ul>
Building locations	<ul style="list-style-type: none"> <li>• Using a surveying instrument, set a benchmark and demarcate a designated location of each structure in the presence of relevant officials.</li> </ul>
Re-bar	<ul style="list-style-type: none"> <li>• Check the material quality with mill sheets provided by the Supplier and on a product basis. Conduct a tension test at a certified laboratory once for different bar diameters.</li> </ul>
Steel beam	<ul style="list-style-type: none"> <li>• To assure the quality of the material, select carefully a steel beam processing plant. Fabrication drawing checks, fabrication/processing, rustproofing, and product inspection must be conducted in a consistent manner.</li> <li>• Conduct shop inspections twice, including a test of custom-made steel frame components against the full size drawings and a product test.</li> </ul>
Bar arrangement inspection	<ul style="list-style-type: none"> <li>• Preceding the pouring of concrete, conduct a bar arrangement inspection in the presence of the Contractor to check the quantity, position, accuracy, length of joints and anchorages, and placement of spacers.</li> </ul>
Cement	<ul style="list-style-type: none"> <li>• Check the material quality with a test report obtained from a manufacturer.</li> <li>• When stored on the job site, instruct appropriate storage conditions and number of bags in pile to prevent the hardening caused by humidity.</li> </ul>
Aggregate	<ul style="list-style-type: none"> <li>• Conduct a test once in a certified laboratory on the mass, particle size distribution, and absorption.</li> <li>• Check visually the maximum particle size, silt content, and water content for every delivery made.</li> </ul>
Concrete	<ul style="list-style-type: none"> <li>• Test mixing-water quality in a certified laboratory.</li> <li>• Volume mixing will be in accordance with a standard mix proportion. Check the specified 28-day strength with a trial mixture.</li> <li>• Determine water content based on a slum test, and control it below the maximum allowable range prescribed in the specifications.</li> <li>• Conduct a compressive strength test approximately four times per structure, and check the quality standard strength.</li> </ul>
Brick	<ul style="list-style-type: none"> <li>• Check the specified strength in a compressive strength test.</li> <li>• The maximum height of the stack will be less than 1.2 meters. Store bricks covered with a tarpaulin.</li> </ul>

## 2-2-4-7 Construction Materials and Equipment Procurement Plan

### (1) Facilities

Construction materials used for the Project meet typical specifications and standards in Lesotho, which are generally applied in local facility construction. Locally produced materials are mainly secondary products like cement, aggregate, and concrete block. Most of the other materials (steel, lumber, finishing materials, and facility/electric devices) are imported from South Africa. Nonetheless, thanks to geographic accessibility and short travel time to South Africa as well as benefits of a SACU membership, South African goods are readily available just as procured in Lesotho. In many cases, contractors purchase materials directly from South Africa. Major suppliers in Lesotho are South African affiliated companies. Key construction materials and fittings are listed below.

Table 2-14 Source Countries for Key Construction Materials

Item	Source of supply country		Third country	Description	
	Product of Lesotho	Imported product			
Construction material	Scaffolding		○	○	Various contractors own scaffolding materials made in South Africa.
	Sand	○			River sand or crushed sand are available in proximity to the target sites, and yet good quality materials are limited.
	Aggregate	○			Available at a quarry in Morija
	Cement	○			Normal Portland cement (CEM-II 32.5, 42.5) is available.
	Ready-mixed concrete	○			Multiple plants exist in Maseru city and Masowe area. Major contractors operate their own small plants. A supplier will be selected by comparing time required for delivery to the target sites and completion of pouring. Conformity with SANS will be also checked.
	Fired brick	○			Available at a domestic major producer
	Lumber		○	○	Domestic lumber suppliers are few. It is more cost-effective to import directly from South Africa to meet large-scale construction work.
	Form plywood		○	○	Imported products are available in Lesotho. It is more cost-effective to import directly from South Africa to meet the needs of large-scale construction work.
	Re-bar		○		Deformed bars (SABS-compliant product) are available.
	Steel frame		○		Materials for steel frames are imported. Several processing plants exist. Major contractors have their own processing plants.
	Iron sheet roofing material		○		Products imported from South Africa are marketed locally.
Steel fittings		○		Imported steel and aluminum products are marketed locally. However, there are no large-scale plants producing steel fittings. Major contractors produce them on their own. Product quality must be carefully checked when approving samples.	



	Wooden fittings		○	○	South African products are widely marketed. There are no factories specializing in wooden fittings. These will be imported from South African factories.
	Cement products	○			Good-quality secondary concrete products are available, including concrete blocks, curbstones, and flat tiles.
	Porcelain tile		○		Products imported from South Africa are marketed locally.
	Paint		○		Agents of South African paint manufacturers exist in Lesotho, mixing and selling their products.
	Hardware		○		Imported finish hardware is widely marketed in Lesotho, which are manufactured in Europe and South Africa.
	Board		○		Plasterboards and rock wool sound-absorbing boards made in South Africa are imported and marketed.
	Furniture, fixtures		○		Several domestic furniture manufacturers exist.
Facility and equipment materials	Sanitary ware, faucets		○	○	Imported products made in South Africa and other countries are marketed. For a large-scale project, contractors often procure items directly from South Africa.
	Piping materials, pumps		○	○	
	Electrical wires, cables		○	○	
	Light fixtures, outlets, switches		○	○	
	Panel			○	Panels made in South Africa will be procured.

## (2) Equipment

Most of the equipment can be procured in Lesotho. However, a portion of the IE-related equipment, etc. will likely be procured from South Africa. At the time of handover to the Lesotho side, the Consultant will help MoET's mechanical staff familiarized with operational procedures and maintenance of all equipment components procured for the Project (including daily check-ups, cleaning, adjustments, and minor repairs).

### 2-2-4-8 Soft Components

#### (1) Background and Objective

Historically in Lesotho, key actors of inclusive education and SNE have been church-based schools, and the government's initiative remains subtle. The Project's target schools have made their efforts toward inclusive education with a support of several aid projects, accepting children with severe disabilities. Given these backgrounds, teachers in the target schools are not trained in a professional manner, with few exceptions, and lack knowledge of inclusive education and SNE. In addition, School Boards in charge of institutional management lack familiarity and know-how of administration required for inclusive schools. Specific actions have not been taken to develop

relevant learning environments. In light of the above circumstances, the Project plans to include a non-physical component (hereinafter referred to as the “soft component”) to develop skills of inclusive education and teaching children with special needs. This will ultimately maximize benefits to be attained by the Project, and help sustain a positive impact.

## (2) Goal and Output

Goal: Inclusive education settings are improved in the target schools.

Output -1: IE-related knowledge and the skills of teachers in target schools are enhanced.

Output-2: Principal management policies of the target schools are defined in order to function as IE schools.

## (3) Activity plan

Key strategies for the intended activities are described below.

- The chief participants of training sessions are teachers and school administrators (members of School Boards) in the target schools. Note that MoET officials are encouraged to take part in the training sessions, where possible, so that their leadership and a partnership among stakeholders are fostered.
- The trainings are all carried out on a school-by-school basis. This is because the target schools cater for different areas of special needs, where their problems, necessary skills and supplied equipment vary. It is also in order to tailor the training for an appropriate number of participants, to address settings and circumstances unique to each school. Moreover, the lodging cost of the participants will be saved.
- To maintain consistency with relevant national policies, training materials include an IE manual in Lesotho, and an IE policy which is being developed, where possible.

Soft components involve three-staged implementation, namely, “1. Initial training,” “2. Mentoring and support,” and “3. Follow-up training.” Activities are summarized in the table below.

Table 2-15 Key Activities

Activity	Target	Description	Duration (in each target school)
Initial training	Teachers and school administrators (Members of School Boards))	As an introductory part of the training, participants understand a general concept of IE and discuss a principal inclusive school policy. Discussed details are recorded in relevant formats such as the “Inclusive School Development Plan” and “Inclusive School Brochure.”	2 days
	Teachers	The training is provided to address more specific challenges faced by teachers. The training components deal with particular problems in the school.	3 days
Mentoring and support	Teachers and school administrators	Application of knowledge gained in the training to school management or lessons may possibly unveil new issues and questions. Therefore, the teachers and school administrators who received the initial training are provided with	1 day

		mentoring and support.	
Follow-up training	Teachers	This consists of three parts, covering a review, skill upgrading, and future planning. Skill upgrading is intended to foster abilities to practice inclusion in regard to issues revealed in the initial training and mentoring. By these stages, relevant skills including expertise and mechanical adjustment, are gained for proper handling of the facility components and equipment provided by the Project	2 days
	School administrators	This consists of three parts: covering a review, skill upgrading, and future planning. The training is on essential knowledge and skills to play a leadership role in the inclusive school management.	1 day

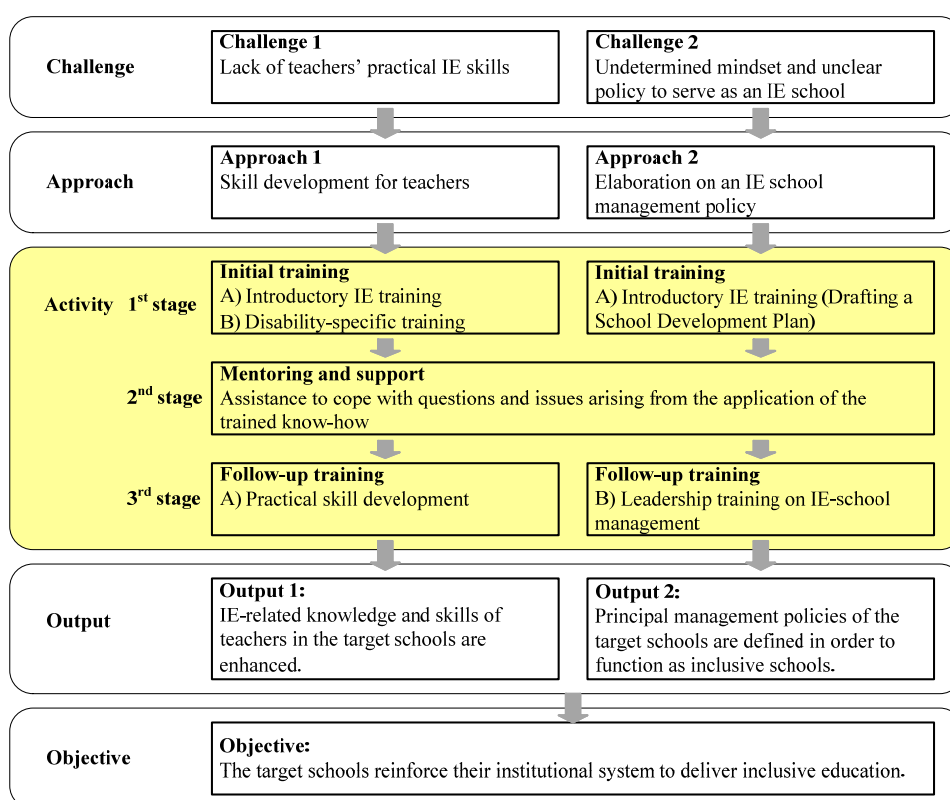


Figure 2-3 Staged Implementation of Soft Components

#### 2-2-4-9 Implementation Schedule

When the Project is implemented with a Japanese grant aid, the following steps will be taken after the E/N and G/A are respectively signed between Japan and Lesotho.

- Detailed design, preparation of tendering documents, and approval (approximately six and half months)

The consultant will conclude a design and supervision contract with the Lesotho implementing agency and provide detail design drawings and tendering documents in accordance with the outline design proposed herein. Based on the content of the detail design, a detailed estimation of the works will be conducted and confirmed by JICA. Meetings will be held with the Lesotho implementing agency at the time of the consultant agreement, beginning of

estimations, and the completion of design work. Upon approval of the final output, the Consultant will complete a detailed design work, which will entail roughly 6.5 months.

- **Tender (approximately five months)**

After approval of the tender documents, the implementing agency will carry out a tender, supported by the Consultant. It will require roughly five months from public notice of PQ to concluding a contract.

- **Construction Work execution and Procurement (approximately 18 months)**

After signing the work contracts and obtaining verification from JICA, contractors will begin construction work and equipment procurement. It is projected that approximately 18 months will be required for construction work and procurement/installation of equipment, considering the facility sizes proposed by the Project and labor conditions in the local construction industry. This schedule assumes timely supply of materials, smooth processing and review of various applications, and execution of undertakings on the Lesotho side.

The above-mentioned implementation schedule is outlined in the figure below. The project implementation is expected to take 30 months which covers from the conclusion of G/A to the completion of construction work.

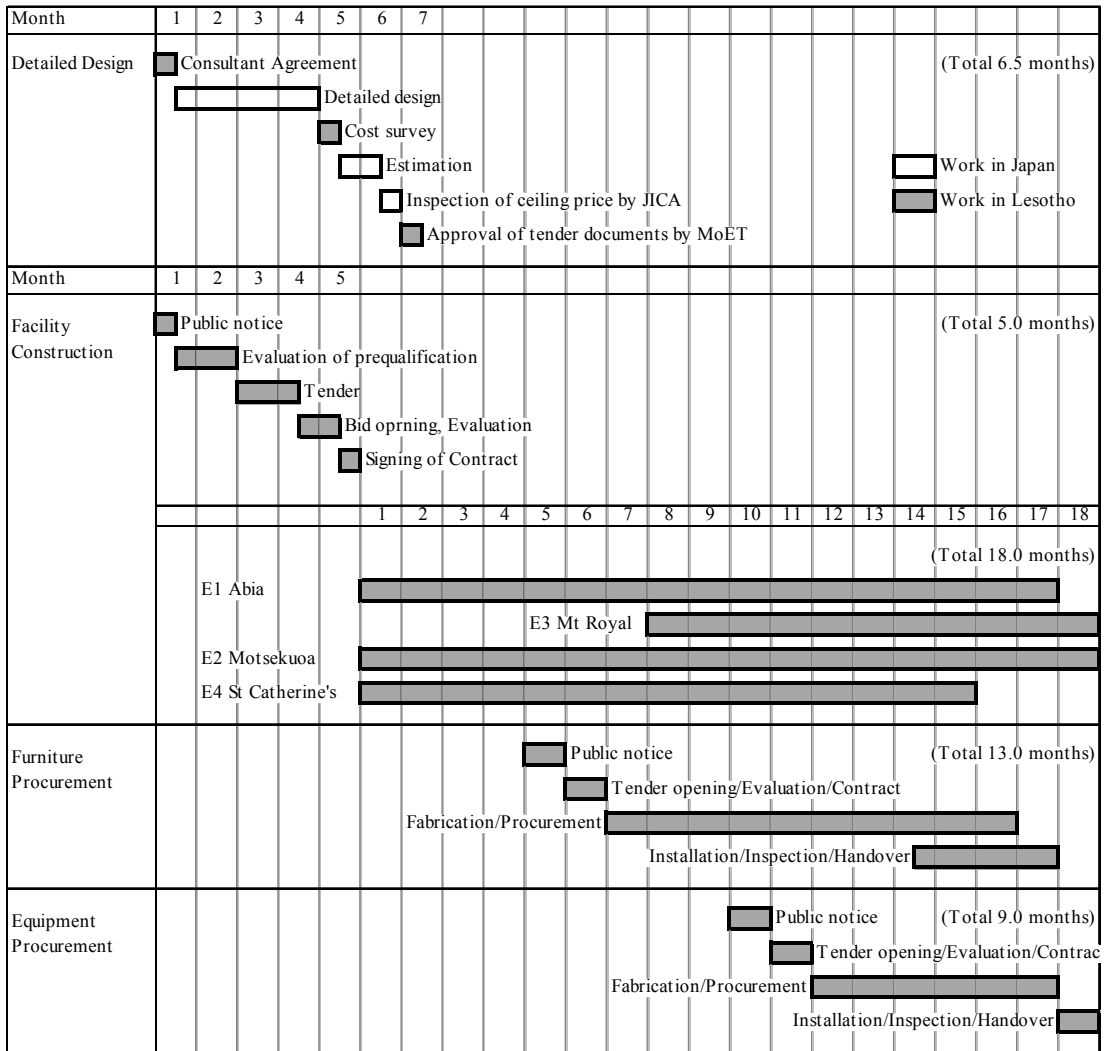


Figure 2-4 Project Implementation Schedule

## 2-3 Summary of Responsibilities of the Recipient Country

The items borne by the Lesotho side for implementation of the Project are shown below.

Table 2-16 Items Borne by the Lesotho Side

	Responsibility	Timing or Deadline
1	Application of counterpart project budget for FY 2017	2016-2017
Detailed design and tender		
1	Consultant agreement	Soon after the G/A is signed (September 2018)
2	Bank arrangement (B/A)	
3	Issuance of authorization to pay (A/P) for Consultant agreement	Two weeks after a consulting service contract is signed
4	Payment of bank transfer fees	For each payment invoice
5	Approval of tendering documents	October 2017
6	Application of counterpart project budget for FY 2018	March 2019
7	Approval of prequalified tenderers	May 2019
8	Acquisition of construction permits	March 2019
9	Removal of existing trees and roots on site	Before a construction work contract is signed (July 2019)
10	Construction/procurement contracts	July 2019
During construction work		
1	Issuance of authorization to pay (A/P) for construction/procurement contracts	Two weeks after the construction work contract is signed (August 2019)
2	Payment of bank transfer fees	For each payment invoice
3	Support for Japanese and third-country nationals to obtain entry visas and permissions to stay and work for the Project in Lesotho	Soon after the construction work/procurement contracts are signed (August 2019)
4	Customs clearance and tax exemption for products imported from third countries for the Project (excluding SACU members)	Whenever requested by the Contractor/Supplier
5	Exemption of value added tax for services and products procured in Lesotho for the Project	Whenever requested by the Contractor/Supplier
6	Providing a source of water supply and connecting the service pipes with water receiving tanks	Before a completion inspection is undertaken (October 2020)
7	Connecting new electric distribution lines to the target sites and contracting with the utility	Before a completion inspection is undertaken (October 2020)
8	Procurement of gas cylinders and connection where required	Before a completion inspection is undertaken (October 2020)
After handover		
1	Procurement of furniture, office supplies, and furnishings, etc. not included in the Project	Soon after the completed facilities are handed over
2	Installation/Rehabilitation of perimeter fence and tree planting on the site	

Including tax exemption, MoET, which is responsible for implementing the Project, will coordinate all undertakings to be executed by the Lesotho side while working together with relevant government agencies.

## 2-4 Project Operation and Maintenance Plan

### (1) Operation and Maintenance Structure

Secondary school administration is under jurisdiction of Department of Secondary Education of MoET. The target schools are supervised by ministry school inspectors, secondary education regional inspectors, and regional inspectors of SEU. Each school is operated at some managerial discretion where teachers and school staff are assigned under the Principal. Key issues related to the school management and maintenance are decided by a School Board which consists of the Principal, members representing local communities, representative of parents, and a chief of teachers.

### (2) Operation and Maintenance Budget

Secondary schools in Lesotho receive no budget from the government. They collect tuition fees from students, and pay a portion for the government levy (25 LSL per student). The remaining amount is the budget for the schools. The schools manage it in an autonomous way upon approval of their School Boards, and audit accounts annually. Annual School Statistics Report includes an accounting report of the previous school year, which is submitted to the government. Tuition fees in public secondary schools have a ceiling set under the government's guidelines, varying according to the type of schools. Maximum tuition fees collected by secondary schools are shown in the table below. Those public schools such as church-based schools and community schools charge tuition fees 300 LSL higher than regular government schools. In the past, government-funded secondary schools had received grants of 10,000 LSL per annum to support their operations, financed by aid agencies. Such grants are no longer obtained. Although application-based grants are available for all public secondary schools, few are awarded in practice.

Table 2-17 Maximum Tuition Fees for Secondary School

Type of school	Maximum tuition fees (LSL/(JPY))	
Regular government schools	1,115.00	(9,868)
Technical government schools	1,215.00	(10,753)
Other regular public schools	1,415.00	(12,523)
Other technical public schools	1,515.00	(13,408)
Regular boarding government schools	2,863.00	(25,338)
Technical boarding government schools	2,963.00	(26,223)
Other boarding public schools	3,163.00	(27,993)
Other boarding technical schools	3,263.00	(28,878)
Combined schools	1,000.00	(8,850)
Combined boarding schools	2,563.00	(22,683)

Source: Document provided by MoET Inspectorate

Note: 1LSL=8.85 JPY

Financial conditions of the target schools vary, depending on their sizes, facilities, and management policy. The table below shows their budget accounts Maintenance of the schools is appropriated with

0.4% to 4% of the total expenditures. The figures indicate that upkeep of the facilities and equipment is also disbursed. In E2 and E3, however, donations account for a large portion of their total revenues, revealing that they are in a financially difficult situation.

**Table 2-18 Budget Breakdown of the Target Schools**

Item	E1/Abia		E2/Motsekuoa		E3/Mt.Royal		E4/St Catherine's	
	Amount	%	Amount	%	Amount	%	Amount	%
<b>Revenue</b>								
Tuition fees	903,934 (8,000)	48%	410,375 (3,632)	22%	535,399 (4,738)	47%	2,023,834 (17,911)	99.8%
Other	325,483 (2,881)	17%	890,945 (7,885)	49%	100,108 (886)	9%	3,082 (27)	0.2%
Donations/Bank Transfer*	665,465 (5,889)	35%	523,140 (4,630)	29%	495,984 (4,389)	44%	-	
<b>Total</b>	<b>1,894,882 (16,770)</b>	<b>100%</b>	<b>1,824,460 (16,147)</b>	<b>100%</b>	<b>1,131,491 (10,013)</b>	<b>100%</b>	<b>2,026,916 (17,938)</b>	<b>100%</b>
<b>Expenditure</b>								
Personnel expenses	241,806 (2,140)	14%	200,136 (1,771)	11%	251,042 (2,222)	23%	273,780 (2,423)	14%
Cost of school lunch	177,935 (1,575)	10%	192,577 (1,704)	11%	124,337 (1,100)	11%	512,149 (4,533)	26%
Repair and maintenance	53,675 (475)	3%	8,220 (73)	0.4%	16,874 (149)	2%	87,493 (774)	4%
Other costs	634,255 (5,613)	37%	1,315,530 (11,642)	72%	607,712 (5,378)	56%	1091476 (9,660)	56%
Facility and equipment upkeep	593,302 (5,251)	35%	113,954 (1,008)	6%	87,478 (774)	8%	-	
<b>Total</b>	<b>1,700,973 (15,054)</b>	<b>100%</b>	<b>1,830,417 (16,198)</b>	<b>100%</b>	<b>1,087,443 (9,623)</b>	<b>100%</b>	<b>1,964,898 (17,390)</b>	<b>100%</b>

Source: Financial Statements of the target schools (2013 in E2, and 2014 in other target sites)

Note-1: A source of this item in E1, E3 is indicated 'Bank Transfer' 'Opening Bank' and details are unknown. Item in E2 is indicated as 'Donation'

Note-2: ( ) below shows thousand JPY (1LSL=8.85 JPY)

### (3) Teacher Allocation Plan

Based on the number of students currently enrolled in the target schools, the Project plans to construct new classrooms with a 40-people capacity that are in shortage otherwise. As a result of the project implementation, additional allocation of five teachers is required for E1. This is deemed feasible, given the small number of posts to be filled.

**Table 2-19 Number of New Classes**

Site	Number of classrooms					Number of classes	
	Present	To be reconstructed	No. of classrooms planned	No. of classrooms to be operated	No. of additional classrooms	Present	No. of additional classes
	a	b	c	d=a-b+c	d-a		
E1 Abia	17	0	5	22	5	17	<b>5</b>



E2 Motsekuoa	13	6	10	17	4	17	<b>0</b>
E3 Mt. Royal	14	0	0	14	0	9	<b>0</b>
E4 St Catherine's	14	0	0	14	0	15	<b>0</b>

#### (4) Maintenance Plan

Directed by the Principal, teachers, school staff, and students pursue the daily maintenance of school facilities. No special skills are required for the maintenance of new facilities. However, in order to keep them in good conditions in the long run, it is necessary to clean and check them on a daily basis and make appropriate repairs where they are worn, damaged, or deteriorated due to aging. Therefore, a minimum necessary budget should be allocated for such maintenance work.

- Regular cleaning: Students will regularly clean school buildings with an instruction of teachers. Cleaning staff will clean administrative areas.
- Routine repairs: With periodic checkups and proper daily management, the new facilities will require no repairs for several years after completion. After that, they will need some periodic repairs, such as repainting (at a 10-year interval), and checkups and adjustments of fittings (once per year).
- Maintenance of the building services: A regular maintenance mechanism must be created to conduct daily checkups, minor repairs, and part replacement.
- Maintenance of external facilities and trees: Drain ditches and basins must be checked and cleaned on a regular basis. It is also desirable to plant trees, as appropriate, to prevent the ground from rainwater erosion and to preserve the environment in the premises.
- Maintenance of equipment: Equipment must be maintained and checked as instructed in operational manuals. Where necessary, consumables and spare parts should be supplemented. Relevant teaching staff and school sections must make an inventory of the equipment and keep a record of maintenance on a scheduled basis.

## 2-5 Estimated Costs for the Project

### 2-5-1 Estimated Project Costs

#### (1) Expenses Borne by the Japanese Side

Not to be disclosed until contracts with contractors and suppliers are verified.

#### (2) Expenses Borne by the Lesotho Side

Table 2-20 Expenses Borne by Lesotho Side

Item	Estimated costs (1,000 LSL)	(1,000 JPY)
Fees on B/A, payment transfer	58	511
Public notice for tender	56	496
Site preparation - Clearance of land - Replacement of existing fence (1site) - Removal of existing fence (1site) - Removal of existing trees with roots (1site) - Removal of existing deteriorated structures (3sites)	1,349	11,938
Providing a source of water supply and connecting the service pipes with water receiving tanks	351	3,106
Drawing in of electricity power supply	477	4,221
Procurement and connection of propane gas tanks	8	71
Allowance of participants for Soft Components training	6	53
Total	2,305	20,396

#### (3) Terms of Calculation

- Estimated as of: November 2016
- Currency exchange rate: 1USD=103.34JPY, 1LSL=8.85JPY, 1ZAR=8.85JPY  
(LSL: Lesotho loti)
- Construction period: As shown in the construction schedule
- Other: The Project will be implemented with a Japanese grant aid scheme.

## 2-5-2 Operation and Maintenance Costs

Costs required for operations and maintenance of the Project's facilities are estimated as below.

### (1) Operation costs

#### 1) Personnel expenses

When the Project is implemented, E1 will require five new teachers. MoET will entail the additional personal expenses estimated below.

Table 2-21 MoET's Additional Personnel Expenses per Annum

	Prospective position	No. of teachers	Total (LSL)
Teacher	53 point	5	451,920 (3,999)

Note-1: Calculated pursuant to base salaries by occupation (Ministry of the Public Service, 2015)

Note-2: ( ) below shows thousand JPY (1LSL=8.85 JPY)

E1 and E2 will need to employ two matrons each to manage new boarding facilities.

Table 2-22 Additional Personnel Expenses per Annum in the Target Schools

	E1	E2	E3	E4	Total (person)	Estimated salary (LSL)	Total (LSL)
Matron	2	2	-	-	4	54,000 (478)	216,000 (1,912)

Note-1: Estimated salary of matron=Teacher's salary×60%

Note-2: ( ) below shows thousand JPY (1LSL=8.85 JPY)

### 2) Operating Costs for Facilities

Additional costs required for running the facilities are estimated on the following conditions.

#### 【Water charges】

Except for E4, the target schools will use boreholes to supply their water at their own costs, which will require no additional water charges. New toilets constructed in E4 for male students and teachers/school staff will not consume more water than now, because the number of the users will remain the same. No additional water charges will be incurred.

#### 【Electricity charges】

Power consumption is as estimated below according to the expected operating condition on each facility.

- Electricity charges: Electricity charges are estimated to meet the essential school facility operations. Heating systems are not included.
- Dormitories: Costs shall be offset with boarding fee and thus not included in the estimation herein.
- Teacher's House: Costs will be paid by residents, as a rule, and thus not included in the estimation herein.

- School facilities are operated for 35 weeks per academic year, delivering 45 periods per week which last 40 minutes per slot. The number of days in operation is 175 per academic year, assuming that the schools are open five days per week.
- Electricity usage time per day is set 4 hours for classroom block, laboratory block, Kitchen and dining hall, 2 hours for administration block and Resource centre, 2 hours for toilet blocks and 1 hour for water pump.

In addition to the above conditions, the annual electrical load and the electricity charges are estimated as below considering with the demand factor.

Table 2-23 Annual Electricity Charges

Site	Block		Electricity usage time/day	Operational days/year	Electricity usage time/year	Electrical load/hour	Electrical load/year	Electricity charges/year
			(Hrs) [a]	(Days) [b]	(Hrs) [c]=[a]x[b]	(kWh) [d]	(kWh) [e]=[c]*[d]	(LSL) [e]x1.5461LSL
E1 Abia	Classroom	3CR	4	175	700	3.15	2,205	3,409
		2CR+R	4	175	700	2.40	1,680	2,597
	Laboratory	SL+ICT	4	175	700	6.64	4,648	7,186
	Kitchen and Dining	KD	4	175	700	13.22	9,254	14,308
	Toilet	8 blocks	2	175	350	6.00	2,100	3,247
	Water pump		1	175	175	0.44	77	119
	Total						19,964	30,866 (273)
E2 Motsekuoa	Classroom	2CRx2bloes	4	175	700	4.20	2,940	4,546
		3CRx2bloes	4	175	700	6.30	4,410	6,818
	Laboratory	SL+ICT	4	175	700	6.64	4,648	7,186
	Administration	ADM-E2	8	175	1,400	6.85	9,590	14,827
	Kitchen and Dining	KD	4	175	700	13.22	9,254	14,308
	Toilet	8 blocks	2	175	350	9.00	3,150	4,870
	Water pump		1	175	175	0.44	77	119
	Total						34,069	52,674 (466)
E3 Mt. Royal	Toilet	3 blocks	2	175	350	2.00	700	1,082
	Water pump	Pump	1	175	175	0.44	77	119
	Total						777	1,201 (11)
E4 St. Catherine	Administration	ADM-E4	8	175	1,400	5.49	7,686	11,883
	Resource Centre	RC	8	175	1,400	3.55	4,970	7,684
	Water pump		2	175	350	1.00	350	541
	Total						13,006	20,108 (178)

Note-1: Electricity rate: 1.5461LSL/kWh at Oct. 2016

Note-2: ( ) below shows thousand JPY (1LSL=8.85 JPY)

### 【Fuel charges】

Estimating the consumption of liquid propane gas used in the science laboratory, charges are calculated as follows. Meanwhile the gas stove in the kitchen is equipped for emergency use in the event of power failure and thus not included in the estimation herein.

Table 2-24 Annual Liquid Propane Gas Usage Estimate

Device	Device output [a]	No. of device [b]	Demand factor [c]	Annual operational time [d]	Annual consumption amount [e]=[a]*[b]*[c]*[d]	No. of necessary LPG tanks (48kg tanks) [e]/(48*0.458)
Burners	1,000Kcal	18	10%	525	945,000Kcal (39.4m3)	
Draft chamber	1,500Kcal	1	1%	525	7,875Kcal (0.3m3)	
Total amount used					39.7m3	1.8 tanks
Gas charges	1,200(LSL) x 2 tanks = 2,400 (21)					

Note: Gas charges ( ) shows thousand JPY (1LSL=8.85 JPY)

### 【Communication charges】

The Lesotho side will provide telephones and other relevant means of communication. The costs are not estimated herein.

### (2) Maintenance Costs

- As long as maintenance work is pursued properly and regularly, new facilities will not require large-scale renovations for approximately 30 years after completion. Essential maintenance work includes day-to-day checkups and cleaning as well as general repainting and partial repairs of facility components and equipment, and replacement of parts. Annual maintenance costs in the target schools are as estimated below, based on the actual costs incurred for a similar facility of identical size. However the maintenance costs of dormitories and staff houses shall be offset with boarding fee and rent respectively thus not included in the estimation herein.

Table 2-25 Annual Maintenance Costs

Site	Building facilities Construction costs (facilities) x0.2%	Building utilities Construction costs (utilities) x0.7%	Furniture Furniture costs x1.0%	Equipment Equipment costs x1.0%	Total (LSL)
E1 Abia	44,409 (393)	14,934 (132)	8,353 (74)	1,727 (15)	69,423 (614)
E2 Motsekuoa	57,633 (510)	19,106 (169)	11,775 (104)	1,061 (9)	89,575 (792)
E3 Mt. Royal	12,977 (115)	5,684 (50)	4,566 (40)	6,298 (56)	29,525 (261)
E4 St. Catherine	13,671 (121)	6,489 (57)	3,513 (31)	1,670 (15)	25,343 (224)

Note: ( ) below shows thousand JPY (1LSL=8.85 JPY)

### (3) Total Operation and Maintenance Costs

The table below shows prospective budgets available in the target schools and additional expenditures necessary for their facility operations accompanying the implementation of the project,

excluding the costs of consumables. Excluding those on consumables, operation and maintenance costs will be kept 2.2% to 7.9% of the revenues in the respective target schools, and therefore will not cause a problem in running and maintaining the facilities.

Table 2-26 Proportion of Estimated Maintenance Costs to the Ordinary Budget

(thousand LSL)

	Maintenance costs (estimate)				Revenue (R)	E/R
	Electricity	Gas	Maintenance costs	Total (E)		
E1 Abia	30,866 (273)	2,400 (21)	69,423 (614)	102,689 (908)	1,894,882 (16,770)	5.4%
E2 Motsekuoa	52,674 (466)	2,400 (21)	89,575 (793)	144,649 (1,280)	1,824,460 (16,146)	7.9%
E3 Mt. Royal	1,201 (11)	0 (0)	29,525 (261)	30,726 (272)	1,131,491 (10,014)	2.7%
E4 St. Catherine	20,108 (178)	0 (0)	25,343 (224)	45,451 (402)	2,026,916 (17,938)	2.2%
Total	104,849 (928)	4,800 (42)	213,866 (1,892)	323,515 (2,862)	6,877,749 (60,868)	

Note-1: See Table -128 for the revenues indicated.

Note-2: ( ) below shows thousand JPY (1LSL=8.85 JPY)

## **Chapter 3 Project Evaluation**

## Chapter 3 Project Evaluation

### 3-1 Preconditions for Project Implementation

As preconditions for Project Implementation, the items to be undertaken by the Lesotho side are as follows.

#### (1) Implementation of Items Borne by the Lesotho Side

For implementation of the Project, the items borne by the Lesotho side such as removal of existing structures, removal of trees and roots blocking facility construction, securing a means of water supply, and drawing in electricity to the site, etc., must be reliably implemented before the start of construction work or by the completion of construction.

#### (2) Implementation of Tax Exemption Measures

The Project will be funded by a Japanese grant aid. Pursuant to the E/N and G/A, it must be exempted from customs duties and internal taxes and other fiscal levies, including VAT, which may be imposed on the purchase of necessary goods and services. Working together with LRA, MoET must provide tax exemption on a timely basis during implementation of the Project.

### 3-2 Input of the Recipient Country to Achieve the Overall Project Plan

To bring about and sustain the effects of Project, the items to be undertaken by the Lesotho side are as follows.

#### (1) Development of relevant policy and mechanism to promote inclusive education

The existing policy in Lesotho articulates mainstreaming inclusive education at all educational levels. Nonetheless, specific strategies and action plans are not yet developed. In the absence of relevant guidelines and curriculum, the target schools have been dedicated to include children with disabilities in school, at their own efforts. To mainstream inclusive education in the future, it is essential that these schools be guided under a concrete strategy regarding how it functions as a model institution of good practice. By the time the Project is completed, a relevant policy and implementation measures should be developed to facilitate the four target schools to become an explicit role model.

#### (2) Appropriate allocation and training of teachers and school staff

The target schools accept specific disabilities, and teachers and school staff must be equipped with relevant expertise and know how accordingly. Knowledgeable and skilled school personnel should be allocated on a long-term basis to facilitate inclusive education. At the same time, training of teachers and school staff should be provided and repeated to practice inclusive education more broadly.



### (3) Provision of Teaching Materials and Supplies for Laboratory Exercises and Practicals

Students with disabilities must be provided with educational materials in accessible formats, as required. It is desirable that the inclusive schools create a platform to develop and share disability-specific teaching materials.

### (4) Proper Operations and Maintenance

Budgets should be appropriated to operate and maintain the target schools. The facilities and equipment must be properly operated and maintained.

## 3-3 External conditions

### (1) No Changes in Education Policy in Lesotho

Government of Lesotho envisions promotion of inclusive education to achieve equity in education by ensuring that all children are enrolled in schools, including children with special needs. The Project underpins such overarching policy and action plans of Lesotho, which should be committed on a long term so that the benefits will prevail in a sustainable manner.

### (2) Stable Economy and Security Conditions

For the Project to be implemented smoothly, public security of Lesotho must be maintained. It is also essential that economic situations and prices be stabilized at least on the same level as present for the sake of a timely completion of the intended facility construction and equipment procurement.

## 3-4 Project Evaluation

### 3-4-1 Relevance

#### (1) Target Beneficiaries of the Project

The Project is intended to directly benefit students enrolled in the target schools, including those with disabilities, and their teachers and school staff. Ultimately, it will broadly benefit people in the local communities and across the country when the target schools function as model institutions of inclusive education and contribute to mainstreaming inclusive secondary education.

#### (2) Consistency with an Overall Strategy

Government of Lesotho has set out a policy underlying “mainstreaming inclusive education at all levels” in its National Strategic Development Plan 2012-2016. Furthermore, the Education Sector Plan 2016-2026 calls for shifting the country’s 30% of primary and post primary schools (25% of primary and 5% of post primary) to inclusive schools. The Project directly assists inclusion in

education through developing learning environments in the target secondary schools required for a model school dedicated to such goal. Therefore, it is consistent with the overall strategy of Lesotho.

### (3) Consistency with Japanese Aid Policy

In its Country Assistance Policy for Lesotho, Japan articulates support efforts for human resource development and improvement of social infrastructure that underpin the ultimate goal of poverty reduction in the country. The Project is intended to nurture core human resources through which it develops educational infrastructure at the secondary level.

## 3-4-2 Effectiveness

### (1) Quantitative Effect

Table 3-1 Expected Quantitative Effect

Indicator	Baseline (2015)	Target (2021)
Number of schools provided with essential learning environment appropriate for students with disabilities	0	4
Number of enrolled students provided with learning environment appropriate for students with disabilities	0	2,453

### (2) Qualitative Effect

- Educational and boarding environments with less barriers are provided for students with disabilities, which will enhance the quality of and motivation for their learning.
- Science and ICT laboratories provided for students, which will enhance the quality of and motivation for their learning.
- Implementation of the ‘Soft-components’ will improve the quality of inclusive education in the target schools.
- The target schools will serve as model of inclusive secondary schools under a relevant strategy of Lesotho and contribute to the promotion of inclusive education.

In light of the above, the Project is highly relevant, and considered effective.

# Appendices

1. Member List of the Survey Team
2. Study Schedule
3. List of Parties Concerned in the Recipient Country
4. Minutes of Discussions (M/D)
  - 4-1 Field Survey I
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5. References
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## 1. Member List of the Survey Team

### 1-1 Field Survey I (November 3 to December 11, 2015)

Mr. Kazuro SHIBUYA	Leader	Deputy Director, Basic Education Division, Basic Education Group, Human Development Department, JICA
Mr. Jin HIROSAWA	Project Planning	Deputy Director, Grant Aid Project Management Division 2, Financial Cooperation Implementation Department, JICA
Mr. Hiroyuki IGUCHI	Chief Consultant/ Facility Planning	Matsuda Consultants International Co., Ltd.
Mr. Naoto NISHIYA	Construction Planning/ Cost Estimation	Matsuda Consultants International Co., Ltd.
Mr. Gurung Devi Jang	Architectural Design	Matsuda Consultants International Co., Ltd.
Ms. Akiko HANAYA	Education Planning	INTEM Consulting, Inc.
Mr. Seiichi OUCHI	Equipment Planning	INTEM Consulting, Inc.
Mr. Tsuyoshi SASAKA	Environmental and Social Considerations	IC Net Limited
Mr. Kazuomi OKAMURA	Architectural Design	Atelier d'Architecture et d'Urbanisme Co., Ltd.
Mr. Amos Muchanga	Consultant Coordinator	Matsuda Consultants International Co., Ltd.

### 1-2 Supplementary Field Survey I (January 25 to February 6, 2016)

Ms. Akiko HANAYA	Education Planning	INTEM Consulting, Inc.
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### 1-3 Field Survey I-2 (July 28 to August 13, 2016)

Mr. Takao MARUYAMA	Leader	Deputy Director, Basic Education Division, Basic Education Group, Human Development Department, JICA
Mr. Hiroyuki IGUCHI	Chief Consultant/ Facility Planning	Matsuda Consultants International Co., Ltd.
Mr. Mitsuhiro SHIMADA	Architectural Design	Matsuda Consultants International Co., Ltd.
Mr. Hiroyuki HARA	Equipment Planning	INTEM Consulting, Inc.

### 1-4 Field Survey I-3 (November 5 to November 20, 2016)

Mr. Yoshihiro WATABE	Construction Planning/ Cost Estimation	Matsuda Consultants International Co., Ltd.
Mr. Hiroyuki HARA	Equipment Planning	INTEM Consulting, Inc.

### 1-5 Field Survey II-2 (August 30 to September 8, 2017)

Mr. Takao MARUYAMA	Leader	Deputy Director, Basic Education Division, Basic Education Group, Human Development Department, JICA
Mr. Hiroyuki IGUCHI	Chief Consultant/ Facility Planning	Matsuda Consultants International Co., Ltd.
Mr. Mitsuhiro SHIMADA	Architectural Design	Matsuda Consultants International Co., Ltd.

## 2. Study Schedule

### 2-1 Field Survey I

Date (in 2015)	JICA				Consultants					
	Leader	Project Planning	Chief Consultant (CC) Facility Planning	Education Planning II	Architectural Design II	Architectural Design III	Construction Planning/ Cost Estimation II	Equipment Planning	Environmental and Social Considerations	Consultant Coordinator
	Mr. SHIBUYA	Mr. HIROSAWA	Mr. IGUCHI	Ms. HANAYA	Mr. OKAMURA	Mr. DEVI	Mr. NISHIYA	Mr. OUCHI	Mr. SASAKA	Mr. AMOS
1	2-Nov	M		Tokyo>HKG		Tokyo>HKG				
2	3-Nov	T		>JNB Courtesy Call to JICA in SA, Visit to IE Model School						>JNB
3	4-Nov	W		Visit to Department of Basic Education in SA						Confirmation to Subcontractor
4	5-Nov	T		>Maseru - Courtesy Call to MoET (Adjustment of survey schedule) - Discussions with SEU						Discussions with Subcontractor
5	6-Nov	F		Site survey on E1: Abia and E4: St. Catharine and Opinion exchange meeting						>Maseru
6	7-Nov	S		Discussions with Subcontractor	Classification of Documents					Discussions with Subcontractor
7	8-Nov	S	NRT>HKG	Internal Meeting of Mission			NRT>HKG			Internal Meeting of Mission
8	9-Nov	M	>JNB, Courtesy Call to JICA in SA >Maseru	SEU, Visit to Special Needs School for Hearing Impaired The Kananelo Centre for the Deaf			>JNB>Maseru			Survey on Construction Company
9	10-Nov	T	- Discussions with MoET (explanation of ICR) - Visit to Requested Site	Site survey on E2: Mtsckuoa			Same as left	Discussions about equipment of E2	Site survey on E2, N1	Ditto
10	11-Nov	W	- M/D - Visit to Requested Site (E2)	MoET E1, E4	EFU E1, E4		Same as left	Discussions about equipment of E1, E4 with MoET	DoE survey Site survey on E1, E4	Ditto
11	12-Nov	T	- M/D - Signing on M/D in MoET	MoET, LNFOD >Hlotse	>Hlotse N5: Nkoeng		Construction Cost Survey	SSU >Hlotse	>Hlotse Site survey on N6, N5	Ditto
12	13-Nov	F	- Visit to Site of Previous project - Visit to Requested Site (E3)	E3: Mt Royal Special Needs School - St Paul	N6: Matobe		E3: Mt Royal - Survey on Tax Exemptions	Discussions about equipment of E3	Ditto (E3)	Ditto
13	14-Nov	S	Visit to Site of Previous project (Masenate High school) Maseru>JNB	Same as left >Maseru	Hlotse		Same as left Survey on Construction plan	Discussions about equipment of E5	Same as left Classification of Documents	>JNB
14	15-Nov	S		Internal Meeting of Mission, Classification of Documents N6: Matobe			Internal Meeting of Mission, Classification of Documents			
15	16-Nov	M		Survey on situation of education and other donors	N4: Matsolong N7: Linakeng		Survey on Suppliers	- Discussions about equipment of E2 - Survey on Suppliers, SEU	Site survey on N7, N4	
16	17-Nov	T		Survey on situation of education	E2: Mtsckuoa >Maseru	HND>SIN >JNB	- Visit to N2 - Survey on Suppliers	- Discussions about equipment of E4 - Survey on Suppliers	N2, Berea Prefectural Office >Maseru	
17	18-Nov	W		Ditto	Classification of Site Data	>Maseru	Survey on Consultants and Suppliers	- Discussions about equipment of E1 - Survey on Suppliers, SSU	DoE survey with MoET	
18	19-Nov	T		N8: Mohale's Hoek	E2: Mtsckuoa		Survey on Construction Company and Consultants	SEU, E1 >JNB	Site Survey on N8, N8' (Alternative)	
19	20-Nov	F	>JNB Report to JICA in SA and Embassy of Japan	Survey on situation of education and NGO	E1: Abia, E4: St. Catherine's		- Survey on Furniture and Transportation - Discussion with EFU	Survey on Suppliers	- Survey about EIA - Aggregation of records of survey	
20	21-Nov	S	JNB>	>Maseru	Classification of Documents			Ditto	Summary of records of survey, Internal Meeting of Mission	
21	22-Nov	S	DXB>HND	Internal Meeting of Mission			Analysis of result by survey, Review of the project plan			JNB>
22	23-Nov	M		Supplementary Survey	Survey on situation of education	Survey on Construction Company	Survey on Construction Company	>HKG >Tokyo		
23	24-Nov	T		Ditto	Ditto	Ditto	Ditto			
24	25-Nov	W		Review of the project plan	Ditto	N8: Mohale's Hoek N1: Ha Sebaki, E2: Mtsckuoa				
25	26-Nov	T		Making of the project plan	Ditto	Survey on Construction Company	Survey on Construction Company			
26	27-Nov	F		Final Discussion, T/N	Ditto	Ditto	Ditto			
27	28-Nov	S		Internal Meeting of Mission						
28	29-Nov	S		Classification of Documents						
29	30-Nov	M		Final Discussion, T/N	Survey on Construction Company	Survey on Construction Company				
30	1-Dec	T		>JNB						
31	2-Dec	W			>CPT	>HKG >Tokyo	>SIN >Tokyo			
32	3-Dec	T						>JNB Survey on Suppliers		
33	4-Dec	F						Ditto		
34	5-Dec	S						Ditto		
35	6-Dec	S						JNB>		
36	7-Dec	M						>HKG>Tokyo		
37	8-Dec	T								
38	9-Dec	W								
39	10-Dec	T								
40	11-Dec	F		>JNB Report to JICA in SA HKG>Tokyo						

## 2-2 Supplementary Field Survey I

Date (in 2016)	Consultants		
	Education Planning II		
	Ms. HANAYA		
1	25-Jan	M	CPT>Maseru Meeting with the inspector who was a responsible person in charge of SEU, MoET
2	26-Jan	T	- Meeting with the inspector of SEU (*Another staff was convened in after the next day because the inspector was hospitalized by sudden illness.) - Preparation for the workshop (Presenter request, Making the list), Confirmation of attendees (Making the list)
3	27-Jan	W	- Discussion with SEU - Courtesy Call to Secondary Education Department, MoET - Preparation for the workshop (Meeting with the presenters, Making a draft of the program)
4	28-Jan	T	- Preparation for the workshop (Preview of the venue, Meeting with the venue manager about the setting, Meeting with SEU)
5	29-Jan	F	- Preparation for the workshop (Formulating the program with SEU, Preparation for the equipment)
6	30-Jan	S	- Preparation for the workshop (The final meeting with the venue manager)
7	31-Jan	S	- Meeting with SEU and the resource person from the South Africa
8	1-Feb	M	- Holding the workshop, Meeting with SEU
9	2-Feb	T	- Holding the workshop, Discussion with target schools for the project about soft-component
10	3-Feb	W	- Holding the workshop, Meeting with the inspector of SEU
11	4-Feb	T	- Meeting with SEU (Following up the workshop, Discussion about soft-component)
12	5-Feb	F	- The final meeting with the inspector, SEU - Meeting with the principal of St. Catherine - Classification of Documents
13	6-Feb	S	Maseru>CPT

## 2-3 Field Survey I-2

Date (in 2016)	Consultants			
	JICA		Consultants	
	Leader	Chief Consultant(CC) Facility Planning	Architectural Design I	Equipment Planning II
	Mr. MARUYAMA	Mr. IGUCHI	Mr. SHIMADA	Mr. HARA
1	28-Jul	T	JNB>Maseru	
2	29-Jul	F	Discussion with MoET (LST), Discussion with MoDP Discussion with DOE	
3	30-Jul	S	- Preparation for M/D - Visit to the Site	
4	31-Jul	S	Preparation for Discussion Supplementary Survey on the existing school	>Nelspr
5	1-Aug	M	M/D, Discussion with MoF Discussion with the existing school (E4/St.Catherine)	Survey on Building Materials in the South Africa
6	2-Aug	T	- Courtesy call to the minister and the principal secretary, MoET - Discussion with the existing school (E1/Atia)	Ditto
7	3-Aug	W	- Signing on M/D Discussion with the existing school (E2/Motsekuoa)	Ditto >JNB
8	4-Aug	T	Maseru>JNB Discussion with the existing school (E3/Mt.Royal, E5/Masenate)	- Survey on Suppliers in the South Africa (Survey on Procurement and Estimation) Ditto
9	5-Aug	F	- Discussion with FU, Discussion with EFU - Discussion with the existing school (E4/St.Catherine)	Ditto
10	6-Aug	S	- Discussion with MoET - Survey on Construction Company	JNB>Maseru JNB>
11	7-Aug	S	Supplementary Survey on the existing school	>SIN>HND
12	8-Aug	M	- Interview with Banks - Survey on Eidding information	- Discussion with Power Company - Survey on Construction Company
13	9-Aug	T	- Discussion with MoF about tax exemption - Discussion with FU	- Survey on Construction Company
14	10-Aug	W	- Technical Notes - Discussion with MoET about tax exemption	Ditto
15	11-Aug	T	Discussion with Environmental Consultant	Ditto
16	12-Aug	F	- Discussion with EFU - Discussion with Fire Department	Ditto - Discussion with Water Company
17	13-Aug	S	Maseru>JNB	
18	14-Aug	S	>SIN	
19	15-Aug	M	>HND	

## 2-4 Field Survey I-3

Date (in 2016)			Consultants	
			Construction Planning/ Cost Estimation III	Equipment Planning II
			Mr. WATABE	Mr. HARA
1	5-Nov	S	Maputo>Maseru	>NRT>HKG>JNB
2	6-Nov	S	Preparation for the survey	>Maseru
3	7-Nov	M	- Courtesy call to MoET - Survey on Construction Company	- Courtesy call to MoET - Survey on Suppliers
4	8-Nov	T	- Survey on Construction Company - Collecting estimates for Design supervision	Survey on Suppliers
5	9-Nov	W	Ditto	Ditto
6	10-Nov	T	- Visit and Request estimates to Construction Company - Visit and Request estimates to Furniture Company	Ditto
7	11-Nov	F	Ditto	Ditto
8	12-Nov	S	Supplementary Survey	>Maseru>JNB
9	13-Nov	S	Classification of Documents	
10	14-Nov	M	- Survey on the school (Motsekuoa) - Visit to Construction site	Survey on Suppliers
11	15-Nov	T	- Visit and Request estimates to Construction Company - Visit and Request estimates to Furniture Company	Ditto
12	16-Nov	W	Survey on the schools (Mt. Royal, Masenate, and St. Catherines)	Ditto
13	17-Nov	T	- Meeting with MoET - Visit to Furniture Factory	Ditto
14	18-Nov	F	- Meeting with MoET, Survey on the school (Abia) - Survey of Unit Price etc. for Construction Materials	Ditto
15	19-Nov	S	Classification of Documents	Ditto JNB>
16	20-Nov	S	Maseru>Maputo	>HKG>Tokyo

## 2-5 Field Survey II-2

Date (in 2017)			JICA	Consultants	
			Leader	Chief Consultant(CC) Facility Planning	Architectural Design I
			Mr. MARUYAMA	Mr. IGUCHI	Mr. SHIMADA
1	29-Aug	T		HND>SIN	
2	30-Aug	W	>JNB>Maseru, Courtesy call to the principal secretary, MoET		
			Courtesy call to the principal secretary, Ministry of Social Development	- Discussion with MoET (Explanation of Draft report) - Discussion with EFU and PU (Explanation of Bidding)	
3	31-Aug	T	- Discussion with MoET (M/D) - Courtesy call to the principal secretary, MoF		
4	1-Sep	F	- Signing on M/D - Report of Overview	- Supplementary Survey - Survey on Construction Company	
5	2-Sep	S	Maseru>	Explanation of Draft report (E2, E4)	
6	3-Sep	S		Classification of Documents	
7	4-Sep	M		- Explanation of Draft report (E3, E5) - Discussion with LRA and MoET about tax exemption	
8	5-Sep	T		- Explanation of Draft report (E1) - Discussion with EFU (Explanation of Bidding)	
9	6-Sep	W		- Supplementary Survey - Survey on Construction Company	
10	7-Sep	T		Ditto	
11	8-Sep	F		Maseru>JNB	
12	9-Sep	S		SIN>HND	



### 3. List of Parties Concerned in the Recipient Country

#### **Ministry of Education and Training**

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Mapaseka Kolotsane	Principal Secretary
Ratsiu Majara	CEO, Secondary
Mapuseletso Sakoane	Inspector, Special Education Unit
Moeti Lephoto	Director, Planning
Rapholo Maleshoane	Chief Statistician, Planning
Teboho Moahloli	Assistant Economic Planner
Teboho Moneri	Regional Inspector
Mpho Sekhosana Nyanye	Senior Curriculum Specialist (Scientific & Technological)
Retsepile Mosenene	Acting Director, Finance
Mabafokeng Sekaleli	Financial Controller
Nathaniel Motaba	Director, Education Facilities Unit (EFU)
Liteboho Khoali	Inspector of Works, EFU
Leemisa Mokone	Quantity Surveyor, EFU
Mohale Monaheng	Manager, School Supply Unit (SSU)
Mathontso Mokose	Administration officer, SSU
Bakoena Mapetla	Service Account, SSU
Edithma Kobashouse	Science Technician, SSU

#### **Leribe District Education Office**

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Sekmotseng Adam Mocapo	Senior Education Officer (SEO)
Mamokobobo Tsmase	District resource Teacher
Malerato Thotolo	Inspector, Biology & Chemistry

#### **Mafeteng District Education Office**

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Charlotte Nkhereanye	Management Adviser
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#### **Botha Bothe District Education Office**

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Mosalemane	SEO
Mosiuoa Moshoeshoe	Education Officer

#### **Berea District Education Office**

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Alphonse Moeketsi	District Resource Teacher
Sekhoane Kimane	Itinerant Teacher

#### **Mohale's Hoek District Education Office**

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Margaret Lerotholi	SEO, Acting
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Mampoi Theko	Assistant Inspector, SNE
Tsepo Mokhethi	Management Advisor

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**Mohale's Hoek District Office**

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Mantsiuao Masothoane	District Administrator
Palos Leteetee	Member of Parliament
Neo Johana	Admin Manager

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**Ministry of Social Development**

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Limpho Lipholo	Principal Rehabilitation Officer
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**Lesotho Revenue Authority (LRA)**

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Motale Kuleile	Technical Services
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**University of Lesotho**

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Paseka Mosia	Senior Lecturer
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**Lesotho College of Education**

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Nophatheka Phela	Lecturer, Dep. of Special Education
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**Abia High School**

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Mamohapi Rakhoba	Principal
Mamohapi Ra Thokoa	Deputy Principal
C.S. Sebolai	Chairperson, School Board (SB)
P. Lillane	Vice Chair, SB
Scott Khosi	Teachers Rep, SB
R. Seleso	Chief, SB
M. Lieta	Parents Rep, SB

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**Motsekuoa High School**

---

Simon Matsela	Principal
Sylvia Mseru	Deputy Principal
Lebomang Nkopa	Head of English Dep.
Retselisitsoe Mokone	Head of Science Dep.
Malenare Mofelehetsi	Head of Practical Subject
Matanki Makatla	Head of Social Science

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**Mt. Royal High School**

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Maryanna Mohleleng	Principal
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Matsele Amicia Leoma	Deputy Principal
Mamachema Chemy	Head of English and Sesotho Dep.
Matokelo Sekoto	Head of Social Science Dep.
Mamosa Tente	Head of Math and Science Dep.
Regina Sekatle	Interpreter of Sign Language
Tustimah Rakoto	Interpreter of Sign Language
Mapulane Makatse	Interpreter of Sign Language
KaiLer Leleka	Interpreter of Sign Language
King Mpotla Selialia	Chief, SB
Mapolane Pachka	Chairperson, SB
Mamosa Tente	Teachers' Rep, SB
Makoe Lebusa	Parents' Rep, SB

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### **St Catherine High School**

Mamtsheku Tshabalala	Principal
Sello Nape	VIP Support Staff

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### **Masenate High School**

Liteboho Masoebe	Principal
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### **Lesotho National Federation of Organisations of the Disabled**

Nkhasi Sefuthi	Executive Director
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### **UNCIEF**

Geert Poorteman	Chief Education
Lati Lerotholi	Education officer
Alain Mingat	Consultant

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### **Lesotho Save the Children**

Mofselisi Shale	Programme Manager
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### **St Paul School for the Deaf**

Retselisitsoe Khanyane	Social Worker
Mamotjoka Morai	Teacher
KantsaneMasilo	Teacher
Mapalesa Selialia	Board Member
Nathanael Molapo	Board Member
Makhabane Malataliana	Board Member
Leepa Mosehle	Farm Manager

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**Morapeli Centre for Disable**

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Jonas Makhakhe	Staff
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**St Angela Home for the Disabled Children**

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Augustine Thokoa Snim	Director
Tumisang Mofaung	Finance Officer

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**Catholic Schools Secretariat**

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Molise Lekunutu	Deputy Educational Secretary
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**Dep. of Basic Education in South Africa**

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Marie Shoeman	Chief Education Specialist, Inclusive Education
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**Laerskool Kempton Park Full Service School in South Africa**

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Andre Page	Principal
Deidre Opperman	Head, Inclusive Education

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**Japan International Cooperation Agency in South Africa**

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Hiroyuki Kinomoto	Chief Representative
Keiji Ishigame	Senior Representative
Hiroshi Mochizuki	Representative
Eva Nderymaki	Senior Programme Officer
Daisuke Sagiya	Disability Mainstreaming Advisor

4. Minutes of Discussions (M/D)

4-1 Field Survey I

**Minutes of Discussions  
on the Preparatory Survey for the Project for  
the Upgrading and the Construction of Secondary Schools aimed at  
promoting Inclusive Education in Lesotho**

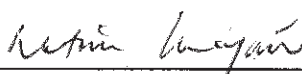
In response to the request from the Government of the Kingdom of Lesotho (hereinafter referred to as "Lesotho"), the Government of Japan decided to conduct a Preparatory Survey for the Project for the Upgrading and the Construction of Secondary Schools aimed at promoting Inclusive Education (hereinafter referred to as "the Project"), and entrusted the Preparatory Survey to Japan International Cooperation Agency (hereinafter referred to as "JICA").

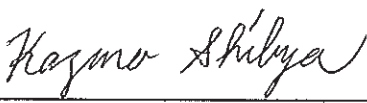
JICA sent the Preparatory Survey Team for the Outline Design (hereinafter referred to as "the Team") to Lesotho, headed by Kazuro Shibuya, Deputy Director, Basic Education Group, Human Development Department, and is scheduled to stay in the country from November 9 to November 13, 2015.

The Team held a series of discussions with the officials concerned of the Government of Lesotho and conducted a field survey in the Project area. In the course of the discussions, both sides have confirmed the main items described in the attached sheets. The Team will proceed to further works and prepare the Preparatory Survey Report.

Maseru, Lesotho  
November 12, 2015

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\_\_\_\_\_  
Mapaseka Kolotsane  
Principal Secretary  
Ministry of Education and Training  
Kingdom of Lesotho

  
\_\_\_\_\_  
Kazuro Shibuya  
Leader  
Preparatory Survey Team  
Japan International Cooperation  
Agency  
Japan

## ATTACHEMENT

### 1. Objective of the Project

The objective of the Project is to improve equitable access to secondary education through upgrading and constructing secondary schools accessible to children with disabilities, thereby contributing to materializing the policy of the government of Lesotho that promotes inclusive education.

### 2. Title of the Preparatory Survey

Both sides confirmed the title of the Preparatory Survey as “the Preparatory Survey for the Project for the Upgrading and the Construction of Secondary Schools aimed at promoting Inclusive Education”.

### 3. Project Sites and their selection criteria

According to the official request letter by Lesotho to the government of Japan, eight new sites and four existing sites were proposed. During the meetings with the Team, it was agreed that Mabuleng at Mokhotlong district and Letlapeng at Mohale’s Hoek district are excluded from the proposed sites due to their remote locations. In addition, it was proposed by Lesotho side that Ha Monyake at Leribe district should be replaced with Linakeng Ha Mothuntsane at Butha-Buthe district because there is a secondary school nearby Ha Monyake.

Both sides agreed with the selection criteria and selection priority listed in the Annex 1. Lesotho side agreed that priority of the Project sites should be given to five existing schools, including Masenate High school, which was requested as target schools additionally by Lesotho side. This reflects that the government has initiatives to support these as resource schools to others for the sake of promoting inclusive education in Lesotho.

The Team realized that inclusive education in existing schools has been carried out in a sustained manner through long-term dedicated works, strong commitment, cordial support and collaboration among various

school level stakeholders (nearby feeder primary schools, “home” for children with disabilities operated by churches or NGOs, organizations of people with disabilities, universities/colleges that train teachers for children with disabilities, school board members, and principals/teachers). For new school sites, Lesotho side will ensure that such elements can be available for the sake of sustainability. The Lesotho side understood that the Project sites will be decided based on the overall result of the survey and within the budget limitation of the Government of Japan.

4. Executing Agency

Both sides confirmed the executing agency is the Ministry of Education and Training (hereinafter referred to as “MOET”). The executing agency shall coordinate with all the relevant agencies to ensure smooth implementation of the Project and ensure that the Undertakings are taken by relevant agencies properly and on time. The organization charts are shown in Annex 3.

5. Items requested by the Government of Lesotho

5-1. As a result of discussions, both sides confirmed that the items requested by the Government of Lesotho are in the Annex 2. Both sides agreed that priorities will be given to components that benefit children with disabilities. Lesotho side emphasized the importance of accessibility between buildings and within school compound at existing schools. Lesotho side made additional request to have boarding facilities at some existing schools. For new schools it was agreed that Lesotho side will decide the priorities of sites and the necessity of boarding facilities referring to their catchment areas and education statistics for children with disabilities, while the Team will check the relevance of the sites according to selection criteria and selection priority during site survey. Based on the past Project experience, the Team shared views with Lesotho side that boarding facilities would face difficulty without elaborate planning regarding operational and financial management.

5-2. JICA will assess the appropriateness of the above requested items through the survey and will report findings to the Government of Japan.

The final components of the Project would be decided by the Government of Japan.

## 6. Japanese Grant Scheme

6-1. The Lesotho side understands the Japanese Grant Scheme and its procedures as described in Annex 4, 5 and 6, and necessary measures to be taken by the Government of Lesotho.

6-2. The Lesotho side assured to take the necessary measures, as described in Annex 7, for smooth implementation of the Project, as a condition for the Japanese Grant to be implemented. The Team stressed the importance of the following items and the Lesotho side agreed to take full responsibility to complete the following works by the set deadlines.

- (1) Land certificate /Construction permission for the sites
- (2) Water and electricity supply to the sites
- (3) Access road for construction work at new school sites
- (4) Environmental Impact Assessment (EIA) according to the Lesotho government's guideline
- (5) Tax exemption on construction works and procurement

The detailed contents of the Annex 7 will be worked out during the survey and shall be agreed no later than by the Explanation of the Draft Preparatory Survey Report. The contents of Annex 7 will be used to determine the following:

- (1) The scope of the Project
- (2) The timing of the Project implementation.
- (3) Timing and possibility of budget allocation.

Contents of Annex 7 will be updated as the Preparatory Survey progresses, and will finally be the Attachment to the Grant Agreement.

## 7. Schedule of the Survey

7-1. The Team will proceed with further survey in Lesotho until November 27, 2015.

7-2. JICA will prepare a Draft Preparatory Survey Report in English and dispatch a mission to Lesotho in order to explain its contents around



the middle of June 2016.

7-3. If the contents of the Draft Preparatory Survey Report is accepted in principle and the Undertakings are fully agreed by the Lesotho side, JICA will complete the final report in English and send it to Lesotho around the end of October 2016.

7-4. The above schedule is tentative and subject to change.

## 8. Other Relevant Issues

### 8-1. Consultation with related stakeholders

MOET should conduct more intensive consultation and sensitization with Project target schools/sites, their district education offices, community council members, organizations of people with disabilities, and churches or NGOs that support and operates “home” for children with disabilities. This process is necessary for elaborating detailed plan of the Project. Special Needs Education Unit staff, who are stationed at district education offices for the target sites, can support this consultation.

### 8-2. Teacher training for inclusive education

Both pre-service and in-service training for teachers who teach children with disabilities are crucial. Linkage between Project target schools/sites and tertiary institutions such as Lesotho College of Education and National University of Lesotho should be strengthened in terms of casual communication, research, and teaching practice. The Team observed that even at existing schools teachers sometimes get lost in terms of how to teach children with disabilities effectively. Necessary advice and support should be given in a form of technical advice by experts or knowledge sharing by peer experienced teachers.

### 8-3. Allocation of trained and dedicated teachers to Project target schools/sites

Teachers who have skills and experiences in inclusive education should be assigned to Project target schools/sites in order to promote inclusive education at these schools and nearby areas.

### 8-4. Knowledge utilization/sharing for inclusive education

Knowledge and experience of existing schools as front runners in inclusive

education should be shared and utilized more effectively with other schools. The Team heard in one existing school that local stakeholders related to inclusive education rarely visit the school while it receives overseas visitors such as from Swaziland. Occasional school visits and exchange of views/ideas on how to implement inclusive education in their schools can be one of possible modalities.

#### 8-5. Partnership with schools/organizations in neighboring countries

As stated above, partnership with schools/organizations related to inclusive education in neighboring countries should be fostered in a sustained manner. This will enable Lesotho to keep up with recent trends and practices of inclusive education and also share the practice of Lesotho with the international community.

Annex 1 Priorities of Project Sites (geographical mapping attached)

Annex 2 Priorities of Project Components

Annex 3 Organization Chart

Annex 4 Japanese Grant

Annex 5 Flow Chart of Japanese Grant Procedures

Annex 6 Financial Flow of Japanese Grant

Annex 7 Major Undertakings to be taken by Each Government

Annex 8 Project Monitoring Report (template)

## ANNEX 1 Priority of Requested Sites

### 1. Requested Sites and Selection Priority

Ref. No.	Site	District
<b>Priority-A</b>		
E1	Abia	Maseru
E2	Motsekuoa	Mafeteng
E3	Mt. Royal	Leribe
E4	St.Cathrine	Maseru
E5	Masenate	Leribe
<b>Priority-B</b>		
N1	Ha Sebaki	Mafeteng
N2	Mosalemane	Berea
N4	Matsolong/Matsoaing	Butha-Buthe
N5	Nkoeng	Leribe
N6	Matobe	
N7	Linakeng Ha Mothuntsane	Butha-Buthe

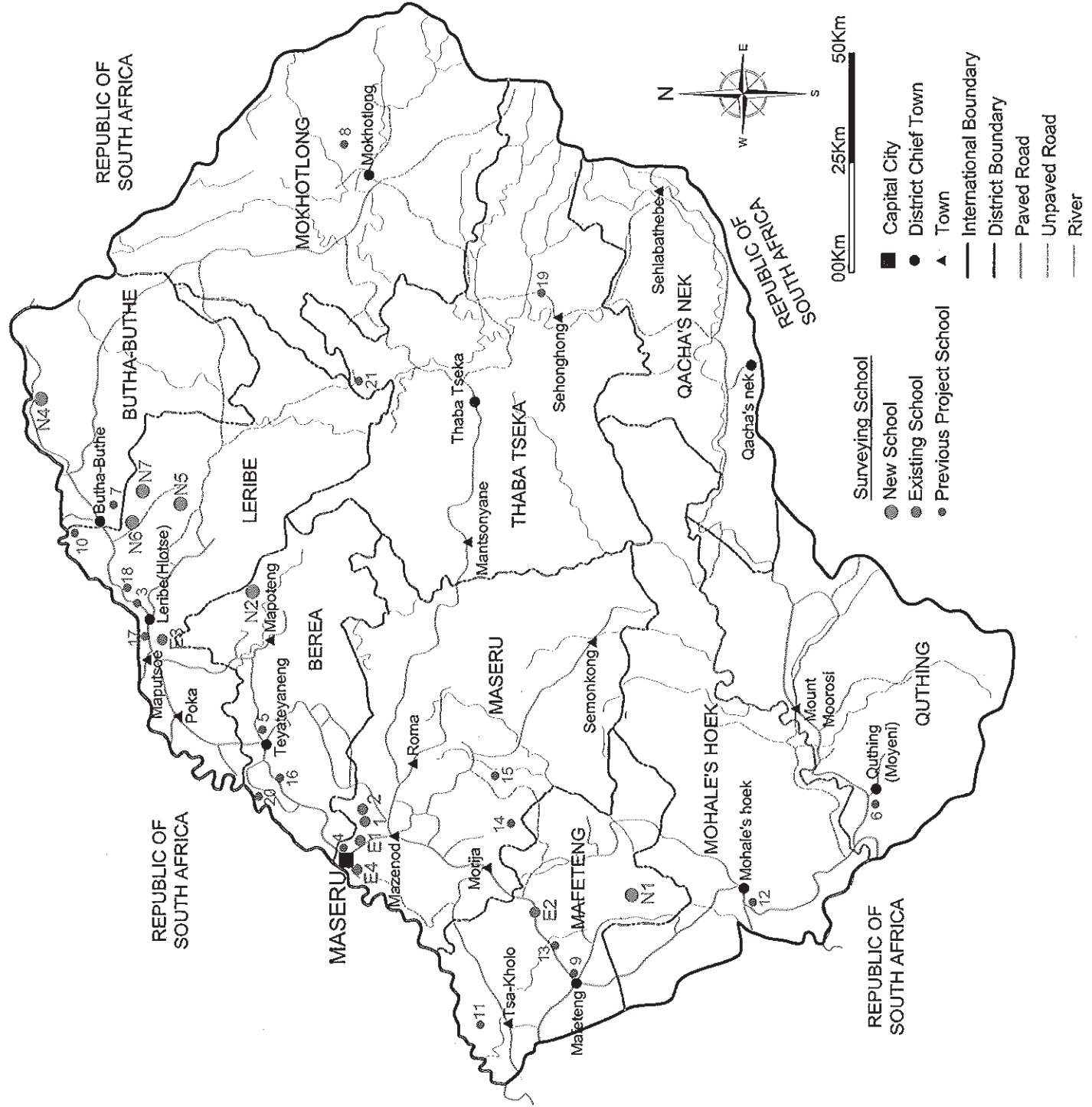
Note that the codes mentioned in the above list (ex. N1) do not mean the priority order.

### 2. Selection Criteria and Priority

Selection Criteria (indispensable)
<ul style="list-style-type: none"> <li>- Commitment /arrangement regarding inclusive education</li> <li>- Sufficient enrollment demand for school</li> <li>- Sufficient land space for construction or extension</li> <li>- No risk of massive natural hazard and security</li> <li>- No hindrance for construction in terms of physical access to the site, working space, etc.</li> <li>- Land soil has enough bearing strength for construction</li> <li>- No environmental impact or need for resettlement of population</li> <li>- Verifiable of the land ownership/land-use right by the document</li> <li>- No duplication with any construction/improvement projects by other donors or Government</li> <li>- Allocation of sufficient number of teachers and government budget for the school operation</li> </ul>
Selection Priority
<ul style="list-style-type: none"> <li>- Distance from nearest health post/clinic</li> <li>- Land shape (No steep incline for barrier-free)</li> <li>- Accessibility for construction</li> </ul>

### Lesotho/Requested Sites

No	Site	District
New School Sites (6 sites)		
N1	Ha Sebaki	Mafeteng
N2	Mosalemane	Berea
N4	Matsolong / Matsoaing	Botha-Bothe
N5	Nkoeng	Leribe
N6	Matobe	Leribe
N7	Linakeng Ha Mothuntsane	Botha-Bothe
Existing School Sites (5 schools)		
E5	Masenate	Leribe
E1	Abia	Maseru
E2	Motsekua	Mafeteng
E3	Mt Royal	Leribe
E4	St. Catherine	Maseru
Resource Centre		
1	Bernadette's Resource Centre	
2	The Kananelo Centre for the Deaf	
Previous Project School		
2008		
3	Pitso Ground	Leribe
4	Masoe	Maseru
5	Opposite QA's Office	Berea
6	Moyeni Plateau	Quthing
7	Belo	Butha-Buthe
8	Sheep Stud	Mokhotlong
9	Matholeng	Mafeteng
2011		
10	Ha Belo	Butha-Buthe
11	Khoro	Mafeteng
12	Ha Sechele	Mohale's Hoek
13	Nithakeng	Mafeteng
14	Sehlabeng	Maseru
15	Rabolejisi	Maseru
16	Lekofoaneng S.S.	Berea
17	Linareng S.S.	Leribe
18	St. Margaret S.S.	Leribe
19	St. Theresa H.S.	Thaba-Tseka
20	Fusi S.S.	Berea
21	Laghetto H.S.	Leribe



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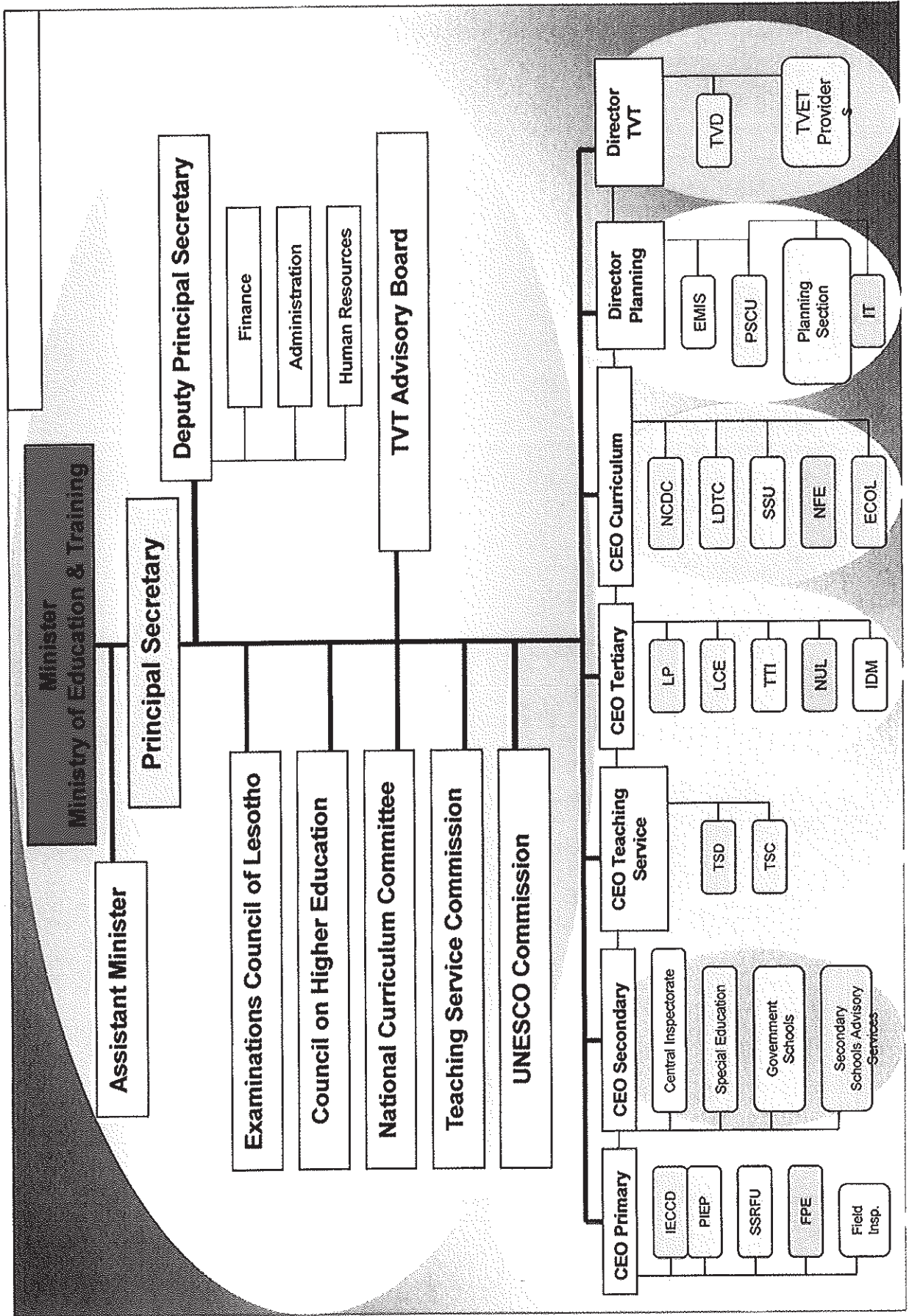
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ANNEX 2 Priorities of the Project Components

Description	New site	Existing site
<b>Facility</b>		
Classrooms	A	B
Science Laboratory	A	B
Multi-purpose room for ICT or Workshop etc.	B	B
Administration Office	A	B
Teacher/Staff House	B	B
Boarding facilities	B	B
Dining Hall	B	B
Kitchen	B	B
Toilets	A	B
Improvement of accessibility in the premises	-	A
<b>Equipment</b>		
Education Furniture	A	A
Pedagogical Equipment	B	B
Equipment for children with disabilities	A	A

Legend: A= Priority-A B= Priority-B (to be examined through the Study)

# Annex 3. CURRENT MOET FUNCTIONAL AND ORGANIZATIONAL STRUCTURE



**JAPANESE GRANT**

The Japanese Grant (hereinafter referred to as the "Grant") is non-reimbursable fund provided to a recipient country to procure the facilities, equipment and services (engineering services and transportation of the products, etc.) for its economic and social development in accordance with the relevant laws and regulations of Japan. The Grant is not supplied through the donation of materials as such.

Based on a JICA law which was entered into effect on October 1, 2008 and the decision of the GOJ, JICA has become the executing agency of the Japanese Grant for Projects for construction of facilities, purchase of equipment, etc.

**1. Grant Procedures**

The Grant is supplied through following procedures :

- Preparatory Survey
  - The Survey conducted by JICA
- Appraisal & Approval
  - Appraisal by the GOJ and JICA, and Approval by the Japanese Cabinet
- Authority for Determining Implementation
  - The Notes exchanged between the GOJ and a recipient country
- Grant Agreement (hereinafter referred to as "the G/A")
  - Agreement concluded between JICA and a recipient country
- Implementation
  - Implementation of the Project on the basis of the G/A

**2. Preparatory Survey****(1) Contents of the Survey**

The aim of the preparatory Survey is to provide a basic document necessary for the appraisal of the Project made by the GOJ and JICA. The contents of the Survey are as follows:

- Confirmation of the background, objectives, and benefits of the Project and also institutional capacity of relevant agencies of the recipient country necessary for the implementation of the Project.
- Evaluation of the appropriateness of the Project to be implemented under the Grant Scheme from a technical, financial, social and economic point of view.

- Confirmation of items agreed between both parties concerning the basic concept of the Project.
- Preparation of an outline design of the Project.
- Estimation of costs of the Project.

The contents of the original request by the recipient country are not necessarily approved in their initial form as the contents of the Grant project. The Outline Design of the Project is confirmed based on the guidelines of the Japanese Grant scheme.

JICA requests the Government of the recipient country to take whatever measures necessary to achieve its self-reliance in the implementation of the Project. Such measures must be guaranteed even though they may fall outside of the jurisdiction of the organization of the recipient country which actually implements the Project. Therefore, the implementation of the Project is confirmed by all relevant organizations of the recipient country based on the Minutes of Discussions.

## (2) Selection of Consultants

For smooth implementation of the Survey, JICA employs (a) consulting firm(s). JICA selects (a) firm(s) based on proposals submitted by interested firms.

## (3) Result of the Survey

JICA reviews the Report on the results of the Survey and recommends the GOJ to appraise the implementation of the Project after confirming the appropriateness of the Project.

## 3. Japanese Grant Scheme

### (1) The E/N and the G/A

After the Project is approved by the Cabinet of Japan, the Exchange of Notes (hereinafter referred to as "the E/N") will be signed between the GOJ and the Government of the recipient country to make a pledge for assistance, which is followed by the conclusion of the G/A between JICA and the Government of the recipient country to define the necessary articles, in accordance with the E/N, to implement the Project, such as payment conditions, responsibilities of the Government of the recipient country, and procurement conditions.

### (2) Selection of Consultants

In order to maintain technical consistency, the consulting firm(s) which conducted the Survey will be recommended by JICA to the recipient country to continue to work on the Project's



implementation after the E/N and G/A.

(3) Eligible source country

Under the Grant, in principle, Japanese products and services including transport or those of the recipient country are to be purchased. The Grant may be used for the purchase of the products or services of a third country, if necessary, taking into account the quality, competitiveness and economic rationality of products and services necessary for achieving the objective of the Project. However, the prime contractors, namely, constructing and procurement firms, and the prime consulting firm are limited to "Japanese nationals", in principle.

(4) Necessity of "Verification"

The Government of the recipient country or its designated authority will conclude contracts denominated in Japanese yen with Japanese nationals, in principle. Those contracts shall be verified by JICA. This "Verification" is deemed necessary to fulfill accountability to Japanese taxpayers.

(5) Major undertakings to be taken by the Government of the Recipient Country

In the implementation of the Grant Project, the recipient country is required to undertake such necessary measures as Annex. The Japanese Government requests the Government of the recipient country to exempt all customs duties, internal taxes and other fiscal levies such as VAT, commercial tax, income tax, corporate tax, resident tax, fuel tax, but not limited, which may be imposed in the recipient country with respect to the supply of the products and services under the verified contract, since the Grant fund comes from the Japanese taxpayers.

(6) "Proper Use"

The Government of the recipient country is required to maintain and use properly and effectively the facilities constructed and the equipment purchased under the Grant, to assign staff necessary for this operation and maintenance and to bear all the expenses other than those covered by the Grant.

(7) "Export and Re-export"

The products purchased under the Grant should not be exported or re-exported from the recipient country.

(8) Banking Arrangements (B/A)

a) The Government of the recipient country or its designated authority should open an

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account under the name of the Government of the recipient country in a bank in Japan (hereinafter referred to as "the Bank"), in principle. JICA will execute the Grant by making payments in Japanese yen to cover the obligations incurred by the Government of the recipient country or its designated authority under the Verified Contracts.

b) The payments will be made when payment requests are presented by the Bank to JICA under an Authorization to Pay (A/P) issued by the Government of the recipient country or its designated authority.

#### (9) Authorization to Pay (A/P)

The Government of the recipient country should bear an advising commission of an Authorization to Pay and payment commissions paid to the Bank.

#### (10) Environmental and Social Considerations

The Government of the recipient country must carefully consider environmental and social impacts by the Project and must comply with the environmental regulations of the recipient country and JICA Guidelines for Environmental and Social Consideration (April, 2010) .

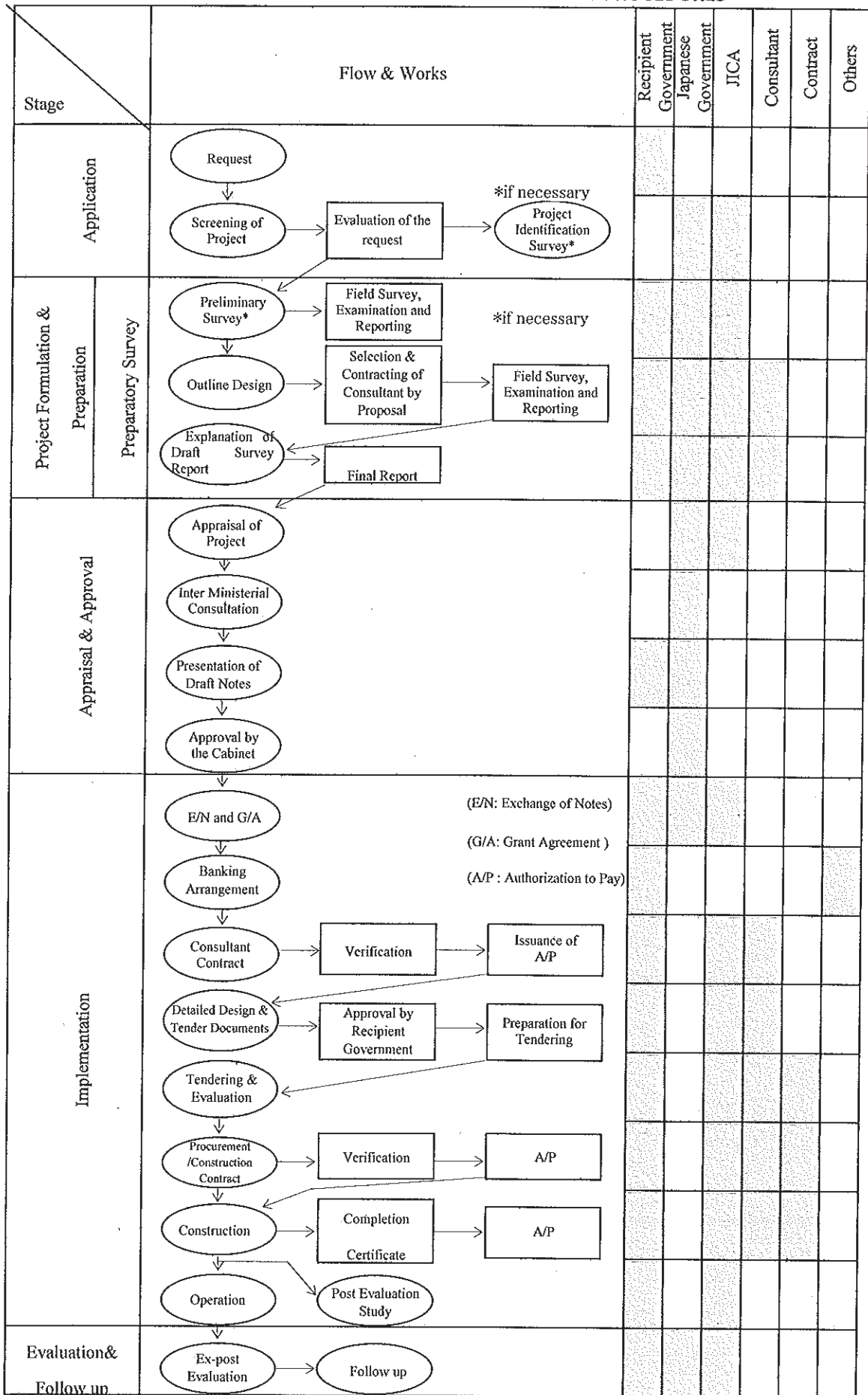
#### (11) Monitoring

The Government of the recipient country must take their initiative to carefully monitor the progress of the Project in order to ensure its smooth implementation as part of their responsibility in the G/A, and must regularly report to JICA about its status by using the Project Monitoring Report (PMR).

#### (12) Safety Measures

The Government of the recipient country must ensure that the safety is highly observed during the implementation of the Project.

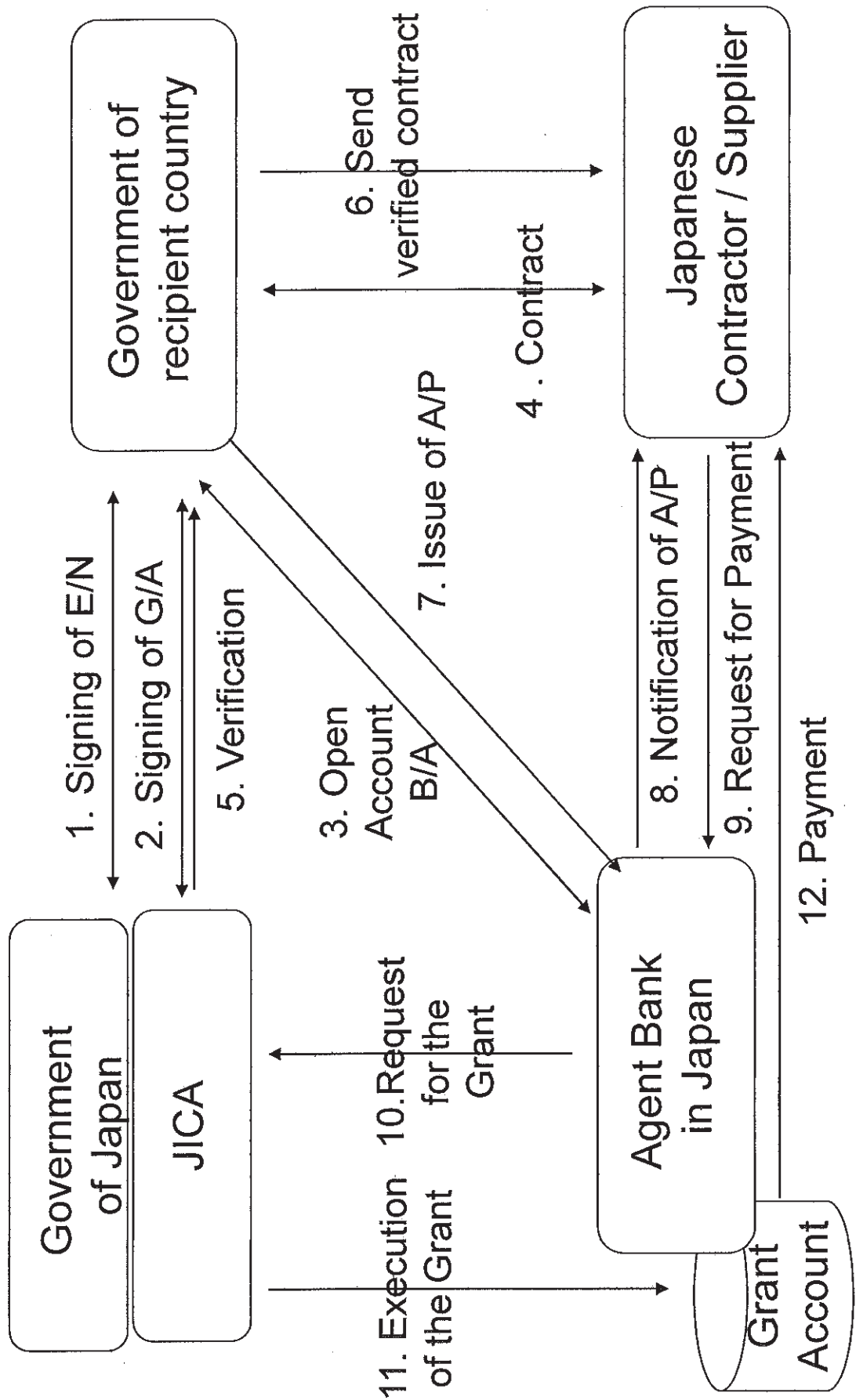
**ANNEX 5 FLOW CHART OF JAPANESE GRANT PROCEDURES**



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Annex 6. Financial Flow of Grant Aid (A/P Type)



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## ANNEX 7

## Major Undertakings to be taken by Recipient Government

## 1. Before the Tender

NO	Items	Deadline	In charge	Cost	Ref.
1	To open Bank Account (Banking Arrangement (B/A))	within 1 month after G/A			
2	To approve IEE/EIA (if necessary)	within 1 month after G/A	MoET		
3	To secure the lots of land necessary for the implementation of the Project				
4	To obtain the building permits	before notice of the tender document			
5	To clear the sites including demolition of any obstacles for the implementation of the Project	before notice of the tender document			

## 2. During the Project Implementation

NO	Items	Deadline	In charge	Cost	Ref.
1	To bear the following commissions to a bank of Japan for the banking services based upon the B/A				
	1) Advising commission of A/P	within 1 month after the signing of the contract			
	2) Payment commission for A/P	every payment			
2	To ensure prompt unloading and customs clearance at the place of disembarkation in recipient country				
	1) Tax exemption and customs clearance of the products at the place of disembarkation	during the Project			
	2) Internal transportation from the place of disembarkation to the project site	during the Project			
3	To accord Japanese nationals and/or physical persons of third countries whose services may be required in connection with the supply of the products and the services under the verified contract such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work	during the Project			
4	To ensure that customs duties, internal taxes and other fiscal levies which may be imposed in the country of the Recipient with respect to the purchase of the Products and/or the Services be exempted/be borne by its designated authority without using the Grant; Such customs duties, internal taxes and other fiscal levies mentioned above include VAT, commercial tax, income tax and corporate tax of Japanese nationals, resident	during the Project			

	tax, fuel tax, but not limited, which may be imposed in the recipient country with respect to the supply of the products and services under the verified contract				
5	To bear all the expenses, other than those to be borne by the Grant Aid, necessary for construction of the facilities as well as for the transportation and installation of the equipment	during the Project			
6	To construct access roads		MoET		
	1) Outside the site (if necessary)	3 months before completion of the construction			
7	To provide facilities for the distribution of electricity, water supply, drainage and other incidental facilities		MoET		
	2) Electricity The distributing line to the site	before start of the construction			
	3) Water Supply The city water distribution main to the site (if available)	6 months before completion of the construction			
	4) Drainage The city drainage main ( for storm, sewer and others ) to the site (if available)	6 months before completion of the construction			
	5) Furniture and Equipment General furniture	1 month before completion of the construction			
8	To implement EMP and EMoP (if necessary)	during the construction	MoET		
	To submit results of environmental monitoring to JICA, by using the monitoring form, on a quarterly basis as a part of Project Monitoring Report	during the construction			
	To implement RAP (livelihood restoration program, if needed)	for a period based on livelihood restoration program			
	To implement social monitoring, and to submit the monitoring results to JICA, by using the monitoring form, on a quarterly basis as a part of Project Monitoring Report - Period of the monitoring may be extended if affected persons' livelihoods are not sufficiently restored. Extension of the monitoring will be decided based on agreement between M0ET and JICA.	- until the end of livelihood restoration program (In case that livelihood restoration program is provided) - for two years after land acquisition and resettlement complete (In case that livelihood restoration program is not provided)			

3. After the Project

NO	Items	Deadline	In charge	Cost	Ref.
1	To maintain and use properly and effectively the facilities constructed and equipment provided under the Grant Aid 1) Allocation of maintenance cost 2) Operation and maintenance structure 3) Routine check/Periodic inspection	After completion of the construction	MoET		
2	To implement EMP and EmoP (if necessary)	for a period based on EMP and EMoP	MoET		
	To submit results of environmental monitoring to JICA, by using the monitoring form, semiannually - The period of environmental monitoring may be extended if any significant negative impacts on the environment are found. The extension of environmental monitoring will be decided based on the agreement between MOET and JICA.	for three years after the Project			

(B/A: Banking Arrangement, A/P: Authorization to pay, N/A: Not Applicable)

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Major Undertakings to be Covered by the Japanese Grant

N o	Items	Deadline	Cost Estimated (Million Japanese Yen)*	
1	To construct facilities and procure equipment (Detail shall be described at the time of Field Survey II)			
2	To implement detailed design, tender support and construction supervision (Consultant)			
3	Contingencies			
	Total			

\*; The cost estimates are provisional. This is subject to the approval of the Government of Japan.

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**Project Monitoring Report**  
on  
**Project Name**  
**Grant Agreement No. XXXXXXXX**  
20XX, Month

**Organization Information**

<b>Authority (Signer of the G/A)</b>	Person in Charge _____ _____ (Division) _____ Contacts Address: _____ Phone/FAX: _____ Email: _____
<b>Executing Agency</b>	Person in Charge _____ _____ (Division) _____ Contacts Address: _____ Phone/FAX: _____ Email: _____
<b>Line Agency</b>	Person in Charge _____ _____ (Division) _____ Contacts Address: _____ Phone/FAX: _____ Email: _____

**Outline of Grant Agreement:**

<b>Source of Finance</b>	Government of Japan: Not exceeding JPY _____ mil. Government of (_____): _____
<b>Project Title</b>	
<b>E/N</b>	Signed date: Duration:
<b>G/A</b>	Signed date: Duration:

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**1: Project Description**

**1-1 Project Objective**

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**1-2 Necessity and Priority of the Project**

- Consistency with development policy, sector plan, national/regional development plans and demand of target group and the recipient country.

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**1-3 Effectiveness and the indicators**

- Effectiveness by the project

Quantitative Effect (Operation and Effect indicators)		
Indicators	Original (Yr )	Target (Yr )
Qualitative Effect		

**2: Project Implementation**

**2-1 Project Scope**

Table 2-1-1a: Comparison of Original and Actual Location

Location	Original: (M/D) Attachment(s):Map	Actual: (PMR) Attachment(s):Map

Table 2-1-1b: Comparison of Original and Actual Scope

Items	Original	Actual
(M/D)	(M/D)	(PMR)  Please state not only the most updated schedule but also other past revisions chronologically.

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'Soft component' shall be included in 'Items'.		All change of design shall be recorded regardless of its degree.
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2-1-2 Reason(s) for the modification if there have been any.

(PMR)

2-2 Implementation Schedule

2-2-1 Implementation Schedule

Table 2-2-1: Comparison of Original and Actual Schedule

Items	Original		Actual
	DOD	G/A	
<p>[M/D]</p> <p>'Soft component' shall be stated in the column of 'Items'.</p> <p>Project Completion Date*</p>	(M/D)		<p>(PMR)</p> <p>As of (Date of Revision)</p> <p>Please state not only the most updated schedule but also other past revisions chronologically.</p>

\*Project Completion was defined as \_\_\_\_\_ at the time of G/A.

2-2-2 Reasons for any changes of the schedule, and their effects on the project.

2-3 Undertakings by each Government

2-3-1 Major Undertakings  
 See Attachment 2.

2-3-2 Activities  
 See Attachment 3.

2-3-3 Report on RD  
 See Attachment 4.

2-4 Project Cost

2-4-1 Project Cost

Table 2-4-1a Comparison of Original and Actual Cost by the Government of Japan  
 (Confidential until the Tender)

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Items			Cost (Million Yen)	
	Original	Actual	Original	Actual
Construction Facilities (or Equipment)	'Soft component' shall be included in 'Items'.			Please state not only the most updated schedule but also other past revisions chronologically.
Consulting Services	- Detailed design - Procurement Management - Construction Supervision			
Total				

Note: 1) Date of estimation:  
 2) Exchange rate: 1 US Dollar = Yen

Table 2-4-1b Comparison of Original and Actual Cost by the Government of XX

Items			Cost (Million USD)	
	Original	Actual	Original	Actual
				Please state not only the most updated schedule but also other past revisions chronologically.
Total				

Note: 1) Date of estimation:  
 2) Exchange rate: 1 US Dollar = (local currency)

2-4-2 Reason(s) for the wide gap between the original and actual, if there have been any, the remedies you have taken, and their results.

(PMR)

2-5 Organizations for Implementation

2-5-1 Executing Agency:

- Organization's role, financial position, capacity, cost recovery etc,
- Organization Chart including the unit in charge of the implementation and number of employees.

Original: (M/D)

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Actual, if changed: (PMR)

**2-6 Environmental and Social Impacts**

- The results of environmental monitoring as attached in Attachment 5 in accordance with Schedule 4 of the Grant Agreement.
- The results of social monitoring as attached in Attachment 5 in accordance with Schedule 4 of the Grant Agreement.
- Information on the disclosed results of environmental and social monitoring to local stakeholders, whenever applicable.

**3: Operation and Maintenance (O&M)**

**3-1 O&M and Management**

- Organization chart of O&M
- Operational and maintenance system (structure and the number, qualification and skill of staff or other conditions necessary to maintain the outputs and benefits of the project soundly, such as manuals, facilities and equipment for maintenance, and spare part stocks etc)

Original: (M/D)
Actual: (PMR)

**3-2 O&M Cost and Budget**

- The actual annual O&M cost for the duration of the project up to today, as well as the annual O&M budget.

Original: (M/D)
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**4: Precautions (Risk Management)**

- Risks and issues, if any, which may affect the project implementation, outcome, sustainability and planned countermeasures to be adapted are below.

Original Issues and Countermeasure(s): (M/D)	
Potential Project Risks	Assessment
1.	Probability: H/M/L
(Description of Risk)	Impact: H/M/L

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	Analysis of Probability and Impact:
	Mitigation Measures:
	Action during the Implementation:
	Contingency Plan (if applicable):
2.	Probability: H/M/L
(Description of Risk)	Impact: H/M/L
	Analysis of Probability and Impact:
	Mitigation Measures:
	Action during the Implementation:
	Contingency Plan (if applicable):
3.	Probability: H/M/L
(Description of Risk)	Impact: H/M/L
	Analysis of Probability and Impact:
	Mitigation Measures:
	Action during the Implementation:
	Contingency Plan (if applicable):
<b>Actual issues and Countermeasure(s)</b>	
(PMR)	

**5: Evaluation at Project Completion and Monitoring Plan**

**5-1 Overall evaluation**  
 Please describe your overall evaluation on the project.

**5-2 Lessons Learnt and Recommendations**

Please raise any lessons learned from the project experience, which might be valuable for the future assistance or similar type of projects, as well as any recommendations, which might be beneficial for better realization of the project effect, impact and assurance of sustainability.

**5-3 Monitoring Plan for the Indicators for Post-Evaluation**

Please describe monitoring methods, section(s)/department(s) in charge of monitoring, frequency, the term to monitor the indicators stipulated in 1-3.

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Attachment

1. Project Location Map
2. Undertakings to be taken by each Government
3. Monthly Report
4. Report on RD
5. Environmental Monitoring Form / Social Monitoring Form
6. Monitoring sheet on price of specified materials (Quarterly)
7. Report on Proportion of Procurement (Recipient Country, Japan and Third Countries)  
(Final Report Only)



Monitoring sheet on price of specified materials

1. Initial Conditions (Confirmed)

Items of Specified Materials		Initial Volume A	Initial Unit Price (¥) B	Initial total Price C=A×B	1% of Contract Price D	Condition of payment	
					Price (Decreased) E=C-D	Price (Increased) F=C+D	
1	Item 1	●●t	●	●	●	●	●
2	Item 2	●●t	●	●	●		
3	Item 3						
4	Item 4						
5	Item 5						

2. Monitoring of the Unit Price of Specified Materials

(1) Method of Monitoring : ●●

(2) Result of the Monitoring Survey on Unit Price for each specified materials

Items of Specified Materials		1st month, 2015	2nd month, 2015	3rd month, 2015	4th	5th	6th
1	Item 1	●	●	●			
2	Item 2						
3	Item 3						
4	Item 4						
5	Item 5						

(3) Summary of Discussion with Contractor (if necessary)

Report on Proportion of Procurement (Recipient Country, Japan and Third Countries)  
 (Actual Expenditure by Construction and Equipment each)

	Domestic Procurement (Recipient Country) A	Foreign Procurement (Japan) B	Foreign Procurement (Third Countries) C	Total D
Construction Cost	(A/D%)	(B/D%)	(C/D%)	
Direct Construction Cost	(A/D%)	(B/D%)	(C/D%)	
others	(A/D%)	(B/D%)	(C/D%)	
Equipment Cost	(A/D%)	(B/D%)	(C/D%)	
Design and Supervision Cost	(A/D%)	(B/D%)	(C/D%)	
Total	(A/D%)	(B/D%)	(C/D%)	

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