

Tigray National Regional State Education Bureau
Federal Democratic Republic of Ethiopia

**Preparatory Survey Report on
the Project for Construction of Secondary Schools in
Tigray National Regional State
in the Federal Democratic Republic of Ethiopia**

February 2017

Japan International Cooperation Agency (JICA)

Mohri, Architect & Associates, Inc.

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Preface

Japan International Cooperation Agency (JICA) decided to conduct the preparatory survey on “the Project for Construction of Secondary Schools in Tigray National Regional State in the Federal Democratic Republic of Ethiopia” and entrust the said survey to Mohri, Architect & Associates, Inc.

The survey team held a series of discussions with the officials concerned of the Government of Ethiopia, 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 the enhancement of friendly relations between our two countries.

Finally, I wish to express my sincere appreciation to the officials concerned of the Government of Ethiopia for their close cooperation extended to the survey team.

February 2017

Mitsuko Kumagai
Director General,
Human Development Department
Japan International Cooperation Agency

Summary

1. Overview of the Country

The Federal Democratic Republic of Ethiopia (hereinafter referred to as “Ethiopia”) is a republic of 1.097 million sq km with a population of approximately 99.39 million (World Bank, 2015). It is an inland country bordered by Somalia on the east, by Sudan and South Sudan on the west, by Kenya on the south, by Eritrea on the north and also by Djibouti on the southeast. The Ethiopian Highland and other plateaus occupy the majority of the land, and those vary from 1,500 to 4,000 m above sea level. Ethiopia belongs to the tropical and temperate climate zones, however, the climate differs from one place to another. Addis Ababa, the capital city of Ethiopia, is located at 2,400 m above sea level, and the average annual temperature is 16°C. The seasons in Ethiopia are mainly defined by a rainy season and a dry season. Furthermore, the former is divided into two: a small rainy season from April to May, and a main rainy season from June to September.

The GNI per capita of Ethiopia is 619 USD (World Bank, 2015) and the country is still at the Least Developed Country status. The major export items are coffee, khat, gold, leather products, and oil seeds, which are prone to be affected by the global market and the climate.

2. Background and Outline of the Project

The Government of Ethiopia promulgated its national development plan “Growth and Transformation Plan (GTP: 2010/11~2014/15)”, in which the country envisages to transform its agriculture-centered economy to an industrial economy. With this vision, it implemented an educational policy that focuses upon the development of competitive human resources in the industrial sector. And, GTP II (2015/16~2019/20) aims to achieve an annual average real GDP growth rate of 11% within a stable macroeconomic environment while pursuing aggressive measures towards rapid industrialization and structural transformation, thereby becoming a lower middle income country by 2025. As a strategy to realize the vision, GTP II emphasizes the expansion of accessibility and quality of social development (education and health) to create a skilled and competitive workforce to accelerate and sustain economic growth and development.

In the education sector, the Education Sector Development Plan V (ESDP V: 2015/16~2019/20) is now in place and it prioritizes equal access to education, the delivery of quality education, and the development of competent citizens who contribute to social, economic, political and cultural development through creation and transfer of knowledge and technology. In particular, ESDP V considers equal access to quality secondary education important as the basis and bridge to the

demand of the economy for middle and higher level human resources.

Owing to continuous effort, the Gross Enrollment Rate (GER) of primary education (G1-8) significantly improved from 57.4% in 2000/01 to 102.7% in 2014/15¹. However, on the other hand, the GER of secondary education (G9-12) during the same period grew very slowly, from 12.9% to 25.6%.

Tigray National Regional State, the target area of the Project, is an area where the government concentrates the building of factories. In fact, the region hosts large cement factories and garment factories that manufacture products for Western countries, thereby significantly contributing to the development of industry in Ethiopia. Consequently, human resources for the industrial sector is needed more than in any other regions. Thus, the improvement of secondary enrollment in Tigray National Regional State is crucial in terms of industrial development.

The educational statistics of the region mark above the national average. However, the GER of secondary education of the region is still at 42.62%, while that of primary education is remarkably good - 111.8%. This stagnated access of secondary education is attributed to a lack of secondary education facilities at which primary graduates study further. In Tigray National Regional State, while the number of primary schools (for G1-8) is 2,068 on the one hand; there are only 173 secondary schools on the other hand. In other words, only one secondary school is available for about every 12 primary schools. As a result, the GERs of general secondary (G9-10) and preparatory secondary education (G11-12) lag behind at 65.9% and 16.3% respectively in 2014/15.

Against this backdrop, Tigray National Regional State requested the Government of Japan to assist “the Project for Construction of Secondary Schools in Tigray National Regional State” (hereinafter referred to as “the Project.”).

3. Summary of the Survey and the Contents of the Project

In response to the request, JICA carried out Field Survey I from March 28th to May 14th 2016. Following the analysis in Japan, the Survey to explain the Draft Report of the Project was carried out from November 13th to 26th, 2016. Based upon the request, the survey results, and a series of discussions with the Ethiopian side, the Project plan has been drawn up as follows.

¹ The statistical data are cited from: “Education Statistics, EMIS and ICT Directorate, Federal Democratic Government of Ethiopia, Ministry of Education.”

3-1. Facility Plan

(1) Project schools

Based upon the survey results, the Project selected 7 out of 13 TREB's final requested schools. All 7 selected schools are new establishments, though 2 of them have already started their temporary operation by renting facilities or using temporary facilities. Of 7 schools, 5 are preparatory schools in which both general secondary and preparatory levels (G9-12) are taught; whereas the remaining 2 are secondary schools in which only general secondary level (G9-10) is taught.

(2) Outline of the project components

The facilities to be built per school include: classrooms, an administration room, a science laboratory, a library room, a record room/store, a computer center, a teachers' room, toilet for students, and toilet for teachers, all of which are first priorities among all requested components. Furniture for the respective rooms, which are also first priority, will be procured.

Teaching materials and equipment other than the furniture shall be procured by the Ethiopian side, and not by the Project.

The Project 7 schools and their components are as per the table below.

ID No.	Site	Classrooms	Laboratory	Preparation room	Computer center	Library	Administration building			Toilet building for students	Toilet building for teachers
							Administration room	Record room/store	Teachers' room		
1	Endamariam Qorar	12	1	3	1	1	1	1	1	2	1
2	Abraha Weatsbaha	12	1	3	1	1	1	1	1	2	1
3	Aragure	10	1	3	1	1	1	1	1	2	1
4	Maimegelta	12	1	3	1	1	1	1	1	2	1
5	Zengee	12	1	3	1	1	1	1	1	2	1
7	Korem	10	1	3	1	1	1	1	1	2	1
8	Abiyi Adi	12	1	3	1	1	1	1	1	2	1
	Total	80	7	21	7	7	7	7	7	14	7

(3) Setting the size of Project schools

The Project estimates the enrollment of 2019/20, the first school year after construction completion, for the respective schools. The number of necessary classrooms is calculated grade-wise and school-wise by considering the pupil classroom ratio as 40 and double shift schooling. However, the Project sets the maximum number of classrooms to be built per school

at 12.

3-2. Furniture and Equipment

The minimum basic furniture will be procured. No equipment will be included in the Project.

3-3. Soft Component

The community, led by the PTA, has already been supporting schools both financially and physically through provision of labor for small-scale facility maintenance. The same kind of active support by the community is expected for the facilities constructed by the Project. Thus there is no planned soft component in this Project.

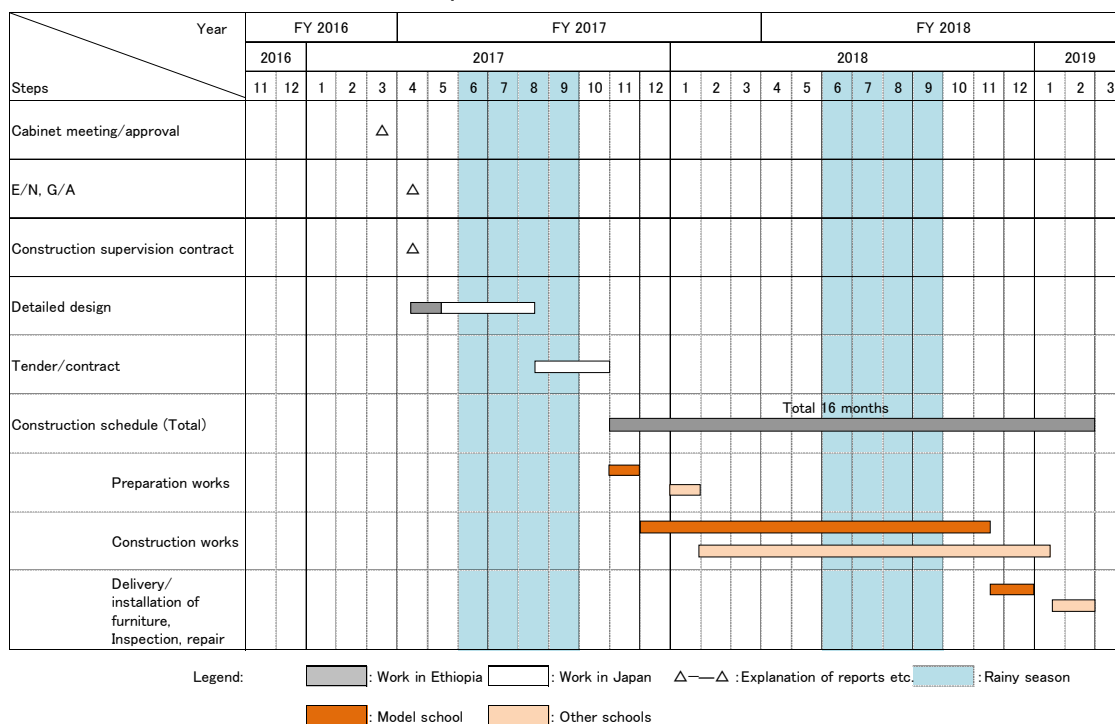
4. Implementation Schedule and Cost Estimation

After concluding the E/N, G/A and the construction supervision contract, the process from the detailed design to obtaining approvals on tender documents from the concerned parties is assumed to take about 4.0 months. After that, the process of a tender pre-qualification (PQ), the tender, and making a contract with contractors is assumed to take about 2.5 months.

The construction period will be about 14 months per school. However, the entire construction period for all 7 schools will be 16.0 months, as the construction of the model school will start two months prior to that of the remaining sites.

In setting the construction schedule, it should be noted that the commencement of the works (except for preparation works) shall avoid the rainy season (from June to September) and that the works are likely to be delayed during the rainy season. The table below shows the tentative implementation schedule, assuming that the Cabinet approves the Project in March 2017.

Implementation Schedule



The Project cost to be borne by the Ethiopian side is estimated to be 6,215,000 Birr.

5. Project Evaluation

5-1. Relevance

The Project objective is to improve teaching and learning environments in primary and secondary schools in the target areas, which corresponds to the purposes of the Japanese Grant Aid, such as “Basic Human Needs”, including primary and secondary education, and “Human Resource Development”. Also, this Project is expected to contribute to the fulfillment of the ESDP promulgated by the Ministry of Education in terms of expanding education facilities.

It is normal practice for each school under the Project to perform operation and maintenance tasks in which high skills are not required. Thus, it is expected that the Project schools will be used in good condition continuously. Furthermore, construction of the Project schools is implementable without difficulties under the Grant Aid Scheme.

Additionally, the Project will be able to utilize lessons learned and feedback from the preceding projects under the Japan’s Grant Aid Scheme implemented in the country as to manage the Project more efficiently and effectively. This can be noted as a comparative advantage of the Project. On account of these given justifications, the Project proves to be adequate for the

Japanese Grant Aid.

5-2. Effectiveness

(1) Quantitative results

The effectiveness of the Project will be proven by raising the indicators from the baseline data to the desired value.

Indicators	Baseline data (Year 2016)	Desired value (Year 2022: 3 year after the completion)
No. of classrooms to be continuously used.	0	80
No. of new secondary students	0	6,400 ²

(2) Qualitative results

- The Project contributes to improve the enrollment rate by constructing secondary schools.

² 80 classrooms x 2 shifts x 40 students/classroom

Index

Preface	
Summary	
Index	
Location Maps/Perspectives	
List of Tables and Figures	
Abbreviations	
CHAPTER 1 BACKGROUND OF THE PROJECT	1-1
1-1 BACKGROUND OF THE GRANT AID.....	1-1
1-2 PROJECT SITES AND THEIR SURROUNDINGS.....	1-2
1-2-1 Infrastructure.....	1-2
1-2-2 Natural Conditions	1-3
1-3 SOCIAL AND ENVIRONMENTAL CONSIDERATION	1-5
CHAPTER 2 CONTENTS OF THE PROJECT	2-1
2-1 BASIC CONCEPT OF THE PROJECT	2-1
2-1-1 Overall Goal and Project Objective	2-1
2-1-2 Outline of the Project	2-1
2-2 OUTLINE DESIGN OF THE JAPANESE ASSISTANCE.....	2-1
2-2-1 Design Policy	2-1
2-2-1-1 Basic Policy.....	2-1
2-2-1-2 Policy for Natural Environmental Conditions	2-2
2-2-1-3 Policy for Socio-Economic Conditions	2-3
2-2-1-4 Policy for Construction and Procurement of Construction Materials.....	2-3
2-2-1-5 Policy for Procuring Consultants and Contractors	2-4
2-2-1-6 Policy for Operation and Maintenance Plan.....	2-4
2-2-1-7 Policy for Setting Grades of Facility and Furniture.....	2-4
2-2-1-8 Policy for Quality Control	2-5
2-2-1-9 Policy for Implementing Schedule	2-5
2-2-2 Basic Plan.....	2-6
2-2-2-1 Contents of the Request.....	2-6
2-2-2-2 Project Schools.....	2-9
2-2-2-3 Architectural Plan.....	2-12
2-2-3 Outline Design Drawing	2-23
2-2-4 Implementation Plan	2-34
2-2-4-1 Implementation Policy	2-34

2-2-4-2 Issues to be considered in implementation	2-36
2-2-4-3 Scope of Works	2-36
2-2-4-4 Construction supervision plan/Procurement supervision plan	2-37
2-2-4-5 Quality control plan	2-38
2-2-4-6 Procurement plan of construction materials and equipment	2-38
2-2-4-7 Implementation schedule	2-39
2-3 OBLIGATIONS OF THE RECIPIENT COUNTRY	2-42
2-3-1 General	2-42
2-3-2 Undertakings to be Done Site by Site	2-43
2-4 PROJECT OPERATION PLAN	2-45
2-4-1 Operation Plan	2-45
2-4-2 Maintenance plan	2-48
2-5 PROJECT COST ESTIMATION	2-49
2-5-1 Initial Cost Estimation	2-49
2-5-2 Operation and Maintenance Cost	2-49
CHAPTER 3 PROJECT EVALUATION	3-1
3-1 PRECONDITIONS	3-1
3-2 NECESSARY INPUTS BY THE ETHIOPIAN SIDE	3-1
3-3 IMPORTANT ASSUMPTIONS	3-1
3-4 PROJECT EVALUATION	3-1
3-4-1 Relevance	3-1
3-4-2 Effectiveness	3-2

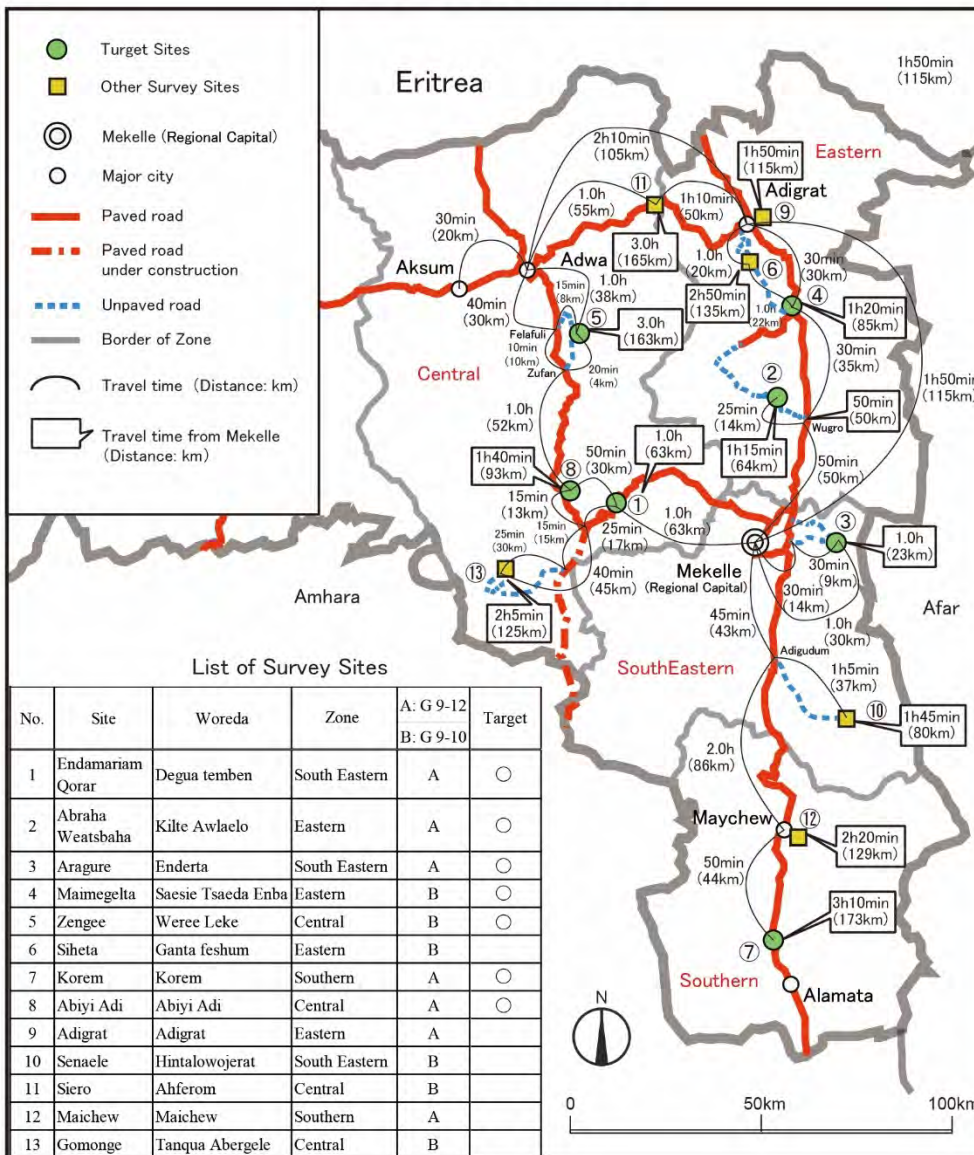
Appendices

1. Member List of the Survey Team
2. Field Survey Schedule
3. List of Parties Concerned in the Recipient Country
4. Minutes of Discussions/ Technical Notes
5. References
6. Layout Plan of the Project Schools
7. Result of Site Survey and Existing school Information

Location of the Recipient Country and Project Area



Site Location Map





Perspective of all school buildings



Perspective of Classroom buildings



Perspective of Administration building and Library/Computer building

List of Tables and Figures

Table 1-1 Transportation and access road condition at 7 sites	1-3
Table 1-2 Conditions of all 7 Project sites	1-3
Table 1-3 Temperature (high and low), precipitation, and no. of rainy days by month in Mekelle	1-4
Table 1-4 Summary of topographic and soil surveys at 7 sites	1-5
Table 2-1 Initially requested components	2-6
Table 2-2 Number of requested schools by zone	2-7
Table 2-3 Final requested schools and the priority order	2-8
Table 2-4 Final priority order	2-8
Table 2-5 Final requested components	2-9
Table 2-6 Project schools	2-9
Table 2-7 Projected enrollment and no. of classrooms to be built	2-11
Table 2-8 Project components	2-11
Table 2-9 No. of rooms to be built by facility component	2-12
Table 2-10 Planned facility prototypes	2-16
Table 2-11 List of facilities to be built for the Project schools	2-18
Table 2-12 Earthquake zone	2-19
Table 2-13 Facility specification for the Project	2-21
Table 2-14 Furniture to be provided for each room	2-22
Table 2-15 Major quality control items for each structural work stage	2-38
Table 2-16 Suppliers of materials and equipment for the Project	2-39
Table 2-17 Implementation schedule	2-41
Table 2-18 Undertakings to be done site by site	2-44
Table 2-19 Necessary number of new teachers	2-46
Table 2-20 Necessary staff to be hired per school	2-47
Table 2-21 Government subsidies per student	2-47
Table 2-22 Cost to be borne by the Ethiopian side	2-49
Table 2-23 Monthly personnel cost per school	2-50
Table 2-24 Expected secondary school budget for all 7 schools	2-51
Table 2-25 Items, frequency and annual cost for maintenance	2-51
Figure 1-1 Temperature (high and low) and precipitation in Mekelle	1-4
Figure 2-1 Classroom	2-13
Figure 2-2 Library room	2-13
Figure 2-3 Laboratory building	2-14

Figure 2-4 Computer center	2-14
Figure 2-5 Floor plan of an administration building	2-15
Figure 2-6 Toilet for students	2-15
Figure 2-7 Toilet for teachers	2-15
Figure 2-8 Facility prototypes	2-17
Figure 2-9 Classroom building Figure 2-10 Toilet building.....	2-19
Figure 2-11 Project implementation organization	2-35

Abbreviations

A/P	Authorization to Pay
B/A	Banking Arrangement
BOPF	Bureau of Plan and Finance
E/N	Exchange of Notes
EBCS	Ethiopia Building Code Standard
EIA	Environmental Impact Assessment
EIR	Environmental Impact Report
EMIS	Education Management Information System
EPLAUA	Environmental Protection, Land Administration and Use Agency
ESDP	Education Sector Development Programme
G/A	Grant Agreement
GDP	Gross Domestic Product
GEQIP	General Education Quality Improvement Program
GER	Gross Enrollment Ratio
GNI	Gross National Income
GTP	Growth and Transformation Plan
JICA	Japan International Cooperation Agency
MOFA	Ministry of Foreign Affairs of Japan
MOFEC	Ministry of Finance and Economic Cooperation
PQ	Pre-Qualification
PTA	Parent-Teacher Association
RC	Reinforced Concrete
TREB	Tigray National Regional State Education Bureau
TRSSE	Tigray Regional State Standard of Education
VAT	Value Added Tax
WEO	Woreda Education Office

CHAPTER 1 BACKGROUND OF THE PROJECT

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1-1 Background of the Grant Aid

The Government of Ethiopia promulgated its national development plan “Growth and Transformation Plan (GTP: 2010/11~2014/15)”, in which the country envisages to transform its agriculture-centered economy to an industrial economy. With this vision, it implemented an educational policy that focuses upon the development of competitive human resources in the industrial sector. And, GTP II (2015/16~2019/20) aims to achieve an annual average real GDP growth rate of 11% within a stable macroeconomic environment while pursuing aggressive measures towards rapid industrialization and structural transformation, thereby becoming a lower middle income country by 2025. As a strategy to realize the vision, GTP II emphasizes the expansion of accessibility and quality of social development (education and health) to create a skilled and competitive workforce to accelerate and sustain economic growth and development.

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Against this backdrop, Tigray National Regional State requested the Government of Japan to assist “the Project for Construction of Secondary Schools in Tigray National Regional State” (hereinafter referred to as “the Project.”).

1-2 Project Sites and Their Surroundings

1-2-1 Infrastructure

(1) Transportation and access road

The Project sites are scattered in an area of 200 km from north to south and 100 km from east to west. In the area there are a paved national road A2 connecting Addis Ababa, Woldia, Alamata, Maychew, Mekelle, Adigrat and Axum and another main road running in parallel in the west, though the latter is partly unpaved. The two roads are connected by a paved road between Mekelle and Abiyi Adi, which stretches from east to west.

Some Project sites are by the main road, and others are not. One has to travel 0.5 - 14 km on unpaved roads to reach sites off the main road. But, all Project sites, including ones off the main road, are accessible throughout the year by constructing an access road for construction vehicles or repairing existing roads, both of which are undertakings of the Ethiopian side. And, all sites are located within a 3-hour distance from the regional capital, Mekelle.

Table 1-1 Transportation and access road condition at 7 sites

ID No.	Site	Travel time and distance from Mekelle		Travel time and distance on unpaved road	
1	Endamariam Qorar	1h	(63km)	3min	(0.5km)
2	Abraha Weatsbaha	1h15min	(64km)	25min	(14km)
3	Aragure	1h	(23km)	30min	(9km)
4	Maimegelta	1h20min	(85km)	-	-
5	Zengee	3h	(163km)	15min	(8km)
7	Korem	3h10min	(173km)	5min	(1km)
8	Abiyi Adi	1h40min	(93km)	-	-

(2) Slope, Obstacle, Soil condition, Water and Electricity

The present conditions including slope, obstacles, soil conditions, water, and electricity at the respective Project sites are as follows.

Table 1-2 Conditions of all 7 Project sites

ID No.	Site	Slope	Obstacles	Soil conditions (checked visually)	Water	Electricity
1	Endamariam Qorar	Gentle	Dry river, trees	Black cotton soil	Well	Available (nearby the site)
2	Abraha Weatsbaha	Gentle	Stone walls, holes, trees, cabin (unused)	Silt/sand	Not available	Available (nearby the site)
3	Aragure	Slightly sloped	None	Slate bedrock	Not available	Available (nearby the site)
4	Maimegelta	Slightly sloped	Ruin (unused)	Slate/sand, bedrock	City water (nearby the site)	Available (nearby the site)
5	Zengee	Slightly sloped	Grasses, trees	Silt/sand, bedrock	Well	Available (nearby the site)
7	Korem	Flat	None	Black cotton soil	City water (far off the site)	Available (far off the site)
8	Abiyi Adi	Slightly sloped	Stone monument	Silt/sand, black cotton soil	City water (nearby the site)	Available (far off the site)

1-2-2 Natural Conditions

(1) Climate

Mekelle, the capital of Tigray Regional State, belongs to the humid and subtropical climate and features distinctive rainy and dry seasons. During the rainy season, July and August are characterized by heavy precipitation of more than 200 mm, while other months observe a

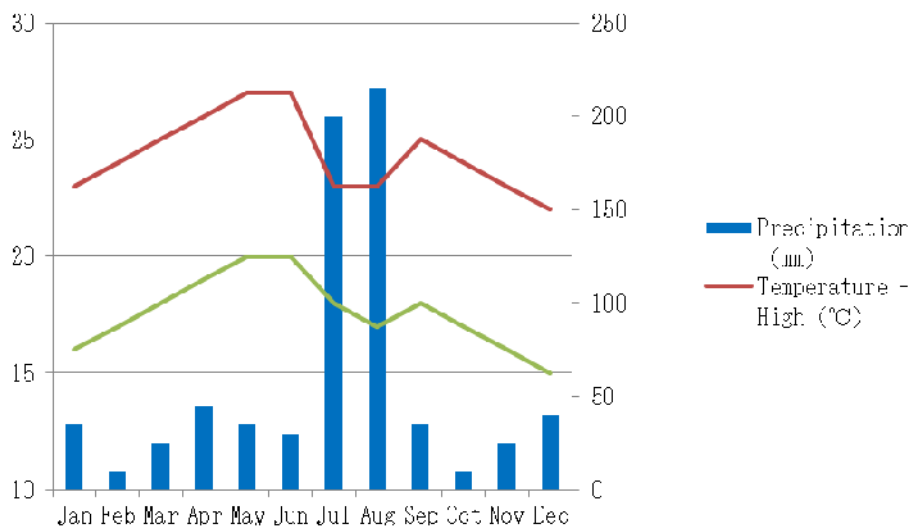
precipitation of no more than 50 mm. The temperature is between 19°C and 24°C throughout the year. The hottest time of the year is May and June, and the coldest time is December. The following table shows the average temperature (high and low) and the average precipitation and number of rainy days in Mekelle by month.

Table 1-3 Temperature (high and low), precipitation, and no. of rainy days by month in Mekelle

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Temperature - High (°C)	23	24	25	26	27	27	23	23	25	24	23	22
Temperature - Low (°C)	16	17	18	19	20	20	18	17	18	17	16	15
Precipitation (mm)	35	10	25	45	35	30	200	215	35	10	25	40
No. of rainy days	4	1	4	5	4	6	22	21	6	1	4	7

(From: World Climate)

Figure 1-1 Temperature (high and low) and precipitation in Mekelle



(2) Site condition

① Topographic survey⁴

Table 1-4 shows the level difference and size of each 7 sites.

② Soil survey⁵

Table 1-4 shows whether or not each site has black cotton soil.

⁴ The survey was conducted from July to August 2016 at 7 Project sites.

⁵ Ditto

Table 1-4 Summary of topographic and soil surveys at 7 sites

No.	Site	Woreda	Zone	Level diff (m)*	Size (m2)	Black cotton soil
1	Endamariam Qorar	Degua temben	South eastern	14	84,581	YES
2	Abraha Weatsbaha	Kilte Awlao	Eastern	4	24,065	NO
3	Aragure	Enderta	South eastern	11	36,876	NO
4	Maimengelta	Saesie Tsaeda Enba	Eastern	22	53,988	NO
5	Zenggee	Weree Leke	Central	7	17,735	NO
7	Korem	Korem	Southern	5	18,074	YES
8	Abiyi Adi	Abiyi Adi	Central	15	36,011	YES

*The level difference is between the lowest point and the highest point of each site.

1-3 Social and Environmental Consideration

The Environmental Protection Authority put together the “Environment Impact Assessment Guideline Document” in July 2000. However, the document was still a draft at the time of Field Survey I in April 2016. The document categorizes projects into 3 schedules: Schedule 1 which requires a full Environment Impact Assessment (EIA); Schedule 2 which requires a partial EIA; and Schedule 3 which does not require EIA. The document describes examples of projects corresponding to each schedule.

According to the document, when implementing a project, one applies to the Tigray National Regional State Environmental Protection, Land Administration and Use Agency (EPLAUA) for a “Pre-Screening,” a preliminary consultation. Then an application for “Screening” shall be made for EPLAUA to categorize the project into a schedule. If EPLAUA determines that the project requires an EIA, it will be carried out. Then, an Environmental Impact Report (EIR) shall be put together for an approval of the project. Furthermore, an inspection must be carried out after the project implementation. Even if the project does not require an EIA, a post project inspection must be carried out.

Thus far, the Tigray National Regional State Education Bureau (hereinafter referred to as “TREB”) has never applied to EPLAUA for Pre-Screening or Screening in implementing school construction projects. However, for the Project, TREB has pledged to apply to EPLAUA for Pre-Screening and Screening of about 13 requested school sites to confirm that the Project is categorized as Schedule 3.

The Project will construct school facilities on vacant lands for new secondary schools. The Project does not need to attain large land development for construction, though felling is necessary in several sites. In addition, there will be no forced settlement of any people from the Project sites. Thus, there will be no negative impact on the eco-system or social issues.

Therefore, according to “JICA Guidelines for Environmental and Social Considerations,” the Project is categorized as “C,” which is likely to have minimal or little adverse impact on the environment and society.

CHAPTER 2 CONTENTS OF THE PROJECT

Chapter 2 Contents of the Project

2-1 Basic Concept of the Project

2-1-1 Overall Goal and Project Objective

The Project contributes to a part of the above-mentioned ESDP V. The overall goal of the Project is to “improve access to and teaching and learning environment of secondary education in Tigray National Regional State” and the Project objective is to “improve access to and teaching and learning environment of secondary education in the target areas.”

2-1-2 Outline of the Project

The Project will establish 7 new secondary schools (secondary schools and preparatory schools) in Tigray National Regional State.

The facilities to be built per school include: Classrooms (10-12), a library room, a science laboratory, a computer center, an administration room (for the director, deputy directors, secretary and finance and administrator), a record room/store, a teachers’ room, and toilet. In addition, necessary furniture will be procured for each room.

Regarding the Project school locations, 2 schools are located in urban areas, while the remaining 5 sites are in rural areas. By establishing new secondary and preparatory schools, it is expected to improve access to secondary education and to mitigate the overcrowded classrooms in the existing secondary and preparatory schools in urban areas, while in rural areas, mainly improving access to secondary education is expected.

2-2 Outline Design of the Japanese Assistance

2-2-1 Design Policy

2-2-1-1 Basic Policy

(1) Project schools

Based upon the survey results, the Project selected 7 out of 13 TREB’s final requested schools. All 7 selected schools are new establishments, though 2 of them have already started their temporary operation by renting facilities or using temporary facilities. Of 7 schools, 5 are preparatory schools in which both general secondary and preparatory levels (G9-12) are taught; whereas the remaining 2 are secondary schools in which only general secondary level (G9-10) is

taught.

(2) Outline of the project components

The facilities to be built per school include: classrooms, an administration room, a science laboratory, a library room, a record room/store, a computer center, a teachers' room, toilet for students, and toilet for teachers, all of which are first priorities among all requested components. Furniture for the respective rooms, which are also first priority, will be procured for each room.

(3) Setting the size of Project schools

The Project estimates the enrollment of 2019/20, the first school year after construction completion, for the respective schools. The number of necessary classrooms is calculated grade-wise and school-wise by considering the pupil classroom ratio as 40 and double shift schooling. However, the Project sets the maximum number of classrooms to be built per school at 12.

2-2-1-2 Policy for Natural Environmental Conditions

(1) Climate condition

The Project area is located in low latitude and thus the temperatures are relatively stable throughout the year. The sunlight and the ultraviolet light are strong in the clear weather, but the temperature does not rise intensively and it is relatively cool and comfortable in the shade. Thus it is necessary to take into account the cool climate for designing openings. For example, an air-tight glass window with a steel frame may be considered so as to prevent the heat from being emitted. Furthermore, as the rainfall in the main rainy season between June and September is heavy, the sound of rain and flooding shall be considered in designing the facilities.

(2) Topography and site condition

Some Project sites are totally or partially sloped and there is a site with a dried river. In such sites with slopes or a dried river, building layout plans will be made to avoid steep slopes and the river.

In many Ethiopian schools, it is observed that floors and walls are stained with earth. In order to prevent earth from coming inside buildings, spaces between and around the buildings will be paved with generally-used stone materials.

(3) Soil condition

A soil survey was carried out for 7 Project sites. According to the survey, black cotton soil was

confirmed on the land surface at 3 sites and bedrock was confirmed at another 3 sites. The Project shall take necessary countermeasures based upon the soil survey result.

(4) Earthquake

According to the Ethiopia Building Code Standard (EBCS), there are five scales to indicate the degree of earthquake danger, from zone 0 to zone 4. The standard sets zone 4 for the African Great Rift Valley that runs from the north to the south of the country. The further from this valley, the smaller the degree of danger becomes. As for 7 Project sites, 4 sites belong to zone 4, 1 site to zone 3, and the remaining 2 to zone 2. For safety sake, the Project applies a structural design for zone 4 to all 7 schools.

2-2-1-3Policy for Socio-Economic Conditions

(1) Gender

According to the Tigray National Regional State Standard of Secondary Education (hereinafter referred to as "TRSSE"), toilet blocks for female students are separated from those for their male counterparts for privacy. The Project shall be in accord with the standard. Also, the circulation to female and male toilets will be separated to avoid interference.

(2) Measures to be taken for physically challenged students

To assist physically challenged students, slopes will be built on the ground floor of all the facilities of the schools for ease of usage by wheel-chairs. Also, a few classrooms, the laboratory, the computer center, the library room and toilets will be built on the ground floor.

2-2-1-4Policy for Construction and Procurement of Construction Materials

(1) Construction method

Reinforced concrete will be the main structure in constructing buildings, as it is relatively easy and conventional in Ethiopia.

(2) Construction materials

Construction materials shall be selected considering durability, cost effectiveness and ease of maintenance. The Project shall procure construction materials mainly from the market in Ethiopia, however, for those materials not available in the domestic market or materials of low quality, they shall be procured from the Japanese market.

(3) Rules and regulation

The facility plan is based upon TRSSE to design buildings. As for structural and utility plans, the Project refers to EBSC and similar types of local buildings. TREB shall be responsible for getting the building permit.

2-2-1-5 Policy for Procuring Consultants and Contractors

The Project shall select construction materials which require minimum maintenance. Parts which may be broken shall be selected with preference to ones which have spares that are easily procured and changed.

Concerning operation and maintenance, existing schools in the Tigray National Regional State have a well-established system where the PTA plays a central role. Thus, it is expected that Project schools will be managed in the same manner.

Of several surveyed schools, some have room to improve their daily cleaning work. But, since schools in Ethiopia usually hire janitors for daily cleaning, it is not deemed appropriate to plan a soft component activity so as to mobilize students for daily cleaning. Furthermore, the PTA consults with the community in carrying out school income generation activities to hire janitors. Therefore, it is determined that no soft component activity will be included in the Project.

2-2-1-6 Policy for Operation and Maintenance Plan

With regard to the operation and maintenance of secondary schools in Tigray National Regional State, the Woreda government is responsible for the salary of school teachers and staff and TREB is responsible for distributing textbooks to schools, while other teaching materials, stationeries, library books, examination related expenses and expenses for the school activities are born by the respective schools within the school budget. Regarding the facility maintenance, including daily cleaning, the PTA has been the main body to assist both financially and physically by providing labor. The system of operation and maintenance is in place in the Region, thus a soft component concerning this will not be included in the Project.

2-2-1-7 Policy for Setting Grades of Facility and Furniture

In setting the grade, the Project refers to the standard design in Ethiopia, and precedent Japan's Grant Aid scheme for Community Empowerment projects ("the Project for Construction of Primary Schools in Oromia Region", "the Project for Construction of Secondary Schools in Amhara Region", and "the Project for Construction of Primary and Secondary Schools in the Southern Nations, Nationalities and Peoples' Regional State"). And as for durability and the quality, the Project may upgrade as may be necessary. Details of specifications of facilities and

furniture to be applied to the Project are specified in 2-2-2-3 Architectural Plan (9) Plan for construction materials.

2-2-1-8 Policy for Quality Control

In the past Japan's Grant Aid scheme for Community Empowerment projects in Ethiopia, it took much time to do rework and correction works for the construction quality to meet the level required for Japan's Grant Aid scheme. This is mainly because Ethiopian construction companies did not thoroughly study design documents, thereby failing to correctly grasp the contents of the design. Consequently, their construction works did not follow the specifications and design documents.

Though the Project will employ a Japanese construction company as a prime contractor, it is deemed necessary to inform Ethiopian subcontractors of the difference in specifications between the local standard and Japan's Grant Aid standard. In addition, all stakeholders shall need to share the same understanding on the construction method and the construction quality. To address the quality issues, the Project will: 1) hold a pre-construction workshop seminar for construction supervisors and subcontractors to share necessary information and the understanding on the design contents; and, 2) select one Project school as a model construction case to start construction earlier than the remaining schools. Furthermore, the Project dispatches Japanese engineers to Ethiopia for technical guidance thereby keeping the construction quality.

2-2-1-9 Policy for Implementing Schedule

As stated above, one school will be selected as a model case, construction of which will start earlier than the remaining 6 schools. In doing so, the Project aims to unify the construction method and quality among all schools.

The schedule also takes the main rainy season (mid-June to mid-September) into account, as the effectiveness and quality of earth work, structural work and finishing work will be adversely affected during the rainy season.

2-2-2 Basic Plan

2-2-2-1 Contents of the Request

(1) Outline of the request

TREB initially requested the construction of 15 secondary schools in a request letter dated August 29, 2010. Then, TREB submitted a revised list of requested schools to cover 21 schools in 2015. Requested components are as follows.

Table 2-1 Initially requested components

Facility	Classroom, Administration, Laboratory, Library and store, Computer center, Segregated DPL 8 pit for boys and Girls, Guard house, Compound lighting, Sports field, and Satellite receiver house.
Furniture	Furniture for classrooms, Furniture for administration, Furniture for laboratory, Furniture for library and store, and Furniture for computer center
Equipment	Science equipment for chemistry, Chemicals for chemistry, Equipment for biology, Chemicals for biology, Apparatuses for physics laboratory, Computers with their accessories, and Equipment for satellite receiver house

(2) Final requested schools and their priority

① Requested schools

During Field Survey I, it was agreed to select final requested schools out of the 21 revised school list from 4 zones (Central zone, Eastern zone, South Eastern zone, and Southern zone) for the sake of efficient project management and supervision. On top of that, it was determined that the final requested schools should be located within a 4 hour-travel distance from Mekelle, the Regional capital.

Then, considering the following prerequisites that the final requested schools must meet and the priority conditions, 13 requested schools were identified and their priority order was set.

<Prerequisites>

The followings must be confirmed as prerequisites for final requested schools.

- Land ownership/land-use right by the document
- No duplication with any construction/improvement projects by other donors or Government
- No risk of massive natural hazard or security

- No hindrance for construction in terms of physical access to the site, working space, etc.
- Land soil has enough bearing strength for construction
- Sufficient land space for construction or extension
- No environmental impact or need for resettlement of population
- Sufficient enrollment demand for school
- Meeting JICA safety regulations (Access to the site is permitted by JICA)

<Priority conditions>

The followings shall be considered in setting the priority order among the final requested schools.

- Prioritization order of TREB
- The number of existing secondary school classrooms
- The number of students in one classroom
- Enrolment demand for school
- Possibilities to be a model and focal school in the area
- Possibilities to be used as a center for teacher training and a resource center
- Allocation of sufficient number of qualified teachers and government budget for the school operation
- Commitment /arrangement regarding school management
- Accessibility for construction
- Distance from Mekelle

Table 2-2 Number of requested schools by zone

Zone ^(*)	Before Field Survey I	During Field Survey I
Central	5	4
Eastern	5	4
South Eastern	3	3
Southern	4	2
North Western	4	0
Total	21	13

(*)In Ethiopia, the administration levels are federal, regional, zone, Woreda and Kebele in descending order. Tigray National Regional State consists of 7 zones (Central, Eastern, South Eastern, Southern, North Western, Western and Mekelle Special Zone) and 46 Woredas.

Table 2-3 Final requested schools and the priority order

ID No.	Site	Woreda	Zone
1	Endamariam Qorar	Degua temben	South Eastern
2	Abraha Weatsbaha	Kilte Awlaelo	Eastern
3	Aragure	Enderta	South Eastern
4	Maimegelta	Saesie Tsaeda Enba	Eastern
5	Zenggee	Weree Leke	Central
6	Siheta	Ganta feshum	Eastern
7	Korem	Korem	Southern
8	Abiyi Adi	Abiyi Adi	Central
9	Adigrat	Adigrat	Eastern
10	Senaele	Hintalwojerat	South Eastern
11	Siero	Ahferom	Central
12	Maichew	Maichew	Southern
13	Gomonge	Tanqua Abergele	Central

② Priority order

During Field Survey I, the preparatory survey team visited all 13 final requested schools to study the accessibility, site conditions (slope, obstacles, soil conditions, infrastructure, etc), facility needs, land-use right/land ownership certificates, etc. Through the survey, one of 13 schools turned out to be difficult to access during the rainy season, and thus, the priority order of said school was lowered. The priority order was finalized as in the following table.

Table 2-4 Final priority order

ID No.	Final priority order	Site	Woreda	Zone
1	1	Endamariam Qorar	Degua temben	South Eastern
2	2	Abraha Weatsbaha	Kilte Awlaelo	Eastern
3	3	Aragure	Enderta	South Eastern
4	4	Maimegelta	Saesie Tsaeda Enba	Eastern
5	5	Zenggee	Weree Leke	Central
7	6	Korem	Korem	Southern
8	7	Abiyi Adi	Abiyi Adi	Central
9	8	Adigrat	Adigrat	Eastern
10	9	Senaele	Hintalwojerat	South Eastern
11	10	Siero	Ahferom	Central
12	11	Maichew	Maichew	Southern
13	12	Gomonge	Tanqua Abergele	Central
6	13	Siheta	Ganta feshum	Eastern

(3) Final requested components

During Field Survey I, requested components were finalized as follows. Furthermore, if it is

deemed necessary to include a soft component following the site survey, it was agreed for the Japanese side to examine its contents and appropriateness.

Table 2-5 Final requested components

Facility	First priority	Classrooms, Administration rooms, Laboratories, Toilets, Libraries and stores, Computer centers
	Second priority	Sport fields (clearing surface only), Guardhouse
	Out of scope	Compound lighting, Satellite receiver houses
Furniture	First priority	Classroom furniture, Laboratory furniture, Administration room furniture, Library and store furniture, Computer center furniture.
Equipment	Second priority	Computers and their accessories
	Out of scope	Science equipment and apparatuses, Chemicals, Equipment for satellite receiver house

2-2-2-2 Project Schools

(1) Selection of the Project schools

Following Field Survey I, the preparatory survey team studied the contents and size of the Project and determined that the Project would cover the top 7 schools in the final priority order list with an agreement of TREB.

Table 2-6 Project schools

ID No.	Site	Woreda	Zone	Grade level	Urban/rural
1	Endamariam Qorar	Degua temben	South Eastern	G9-12	Rural
2	Abraha Weatsbaha	Kilte Awlaelo	Eastern	G9-12	Rural
3	Aragure	Enderta	South Eastern	G9-12	Rural
4	Maimegelta	Saesie Tsaeda Enba	Eastern	G9-10	Rural
5	Zengee	Weree Leke	Central	G9-10	Rural
7	Korem	Korem	Southern	G9-12	Urban
8	Abiyi Adi	Abiyi Adi	Central	G9-12	Urban

(2) Relevance of the Project schools

2 Project sites are located in urban areas, while the remaining 5 sites are in rural areas. As for the 2 sites in urban areas, there exist only one secondary school and one preparatory school in the respective school catchment areas. Those existing schools operate under double shift schooling, even though they limit the number of admissions. Thus, establishment of a new secondary school in each catchment is deemed necessary.

On the other hand, no rural sites have existing secondary schools in the respective catchment areas, leaving G8 graduates no choice but to travel more than 10 km or rent a room in an urban area for secondary education. Consequently, many drop-outs have been observed and/or students opt not to go to secondary schools in rural areas. Thus, establishment of new secondary schools is necessary in rural areas, thereby increasing the access to secondary education.

As a conclusion, the necessity of establishing new schools in the 7 sites is clear and thus it is deemed appropriate for the Japanese side to provide assistance.

(3) Setting the school size

The size of each Project school is set based upon the projected enrollment of 2019/20, the first school year after the construction completion. In projecting the enrollment, an assumption was made that students enrolling at feeder schools⁶ in 2015/16 promote from one grade to the next year by year until 2019/20.

- The actual student promotion rate from 2013/14 to 2014/15 of Tigray National Regional State was applied to the calculation. The following box shows the promotion rates applied.

G5→G6:94.7%, G6→G7:96.0%, G7→G8:102.8%
G8→G9:84.9%,G9→G10:86.8%, G10→G11: 28.1%, G11→G12: 92.9%

- The pupil classroom ratio of 40 and double shift schooling were applied.
- The necessary number of classrooms was calculated for each grade. (round-up)
- The maximum number of classrooms to be built was set at 12 for each school. From the architectural planning viewpoint, the number of classrooms to be built shall be an even number. In the case that the necessary number of classrooms is an odd number and not greater than 12, by subtracting 1 classroom, the number of classrooms to be built shall be an even number.

⁶Feeder schools refer to ones which feed students to a new school. Usually, primary schools are feeder schools for a secondary school in the same catchment area.

Table 2-7 Projected enrollment and no. of classrooms to be built

ID No.	Grade level		G9	G10	G11	G12	Total	No. of CRs to be built
1	G9-12	Enrollment	789	569	151	140	1,649	
		No. of necessary CRs	10	7	2	2	21	12
2	G9-12	Enrollment	436	418	91	88	1,033	
		No. of necessary CRs	5	5	1	1	12	12
3	G9-12	Enrollment	430	306	80	87	903	
		No. of necessary CRs	5	4	1	1	11	10
4	G9-10	Enrollment	709	598			1,307	
		No. of necessary CRs	9	7			16	12
5	G9-10	Enrollment	758	526			1,284	
		No. of necessary CRs	9	7			16	12
7	G9-12	Enrollment	347	300	87	74	808	
		No. of necessary CRs	4	4	1	1	10	10
8	G9-12	Enrollment	834	745	199	194	1,972	
		No. of necessary CRs	10	9	2	2	23	12

(4) Project component

Among all final requested components, first priority facilities and furniture are project components. As for laboratories, a combined laboratory for Chemistry, Physics and Biology with 3 separate preparation rooms is planned. And, a library with a 100-persons accommodation capacity is planned.

Table 2-8 Project components

Facility	Classrooms, Library, Laboratory with preparation rooms, Computer center, Toilets for students, Toilets for teachers, Administration room (for the director, deputy directors finance/administrator and secretary), Record room/store and Teachers' room
Furniture	Furniture for classrooms, Furniture for laboratory, Furniture for administration room, Furniture for library/store, and Furniture for computer center

The sizes of the respective schools are to be determined, considering the expected number of students and use of existing facilities.

Table 2-9 No. of rooms to be built by facility component

ID No.	Site	Classrooms	Laboratory	Preparation room	Computer center	Library	Administration building			Toilet building for students	Toilet building for teachers
							Administration room	Record room/store	Teachers' room		
1	Endamariam Qorar	12	1	3	1	1	1	1	1	2	1
2	Abraha Weatsbaha	12	1	3	1	1	1	1	1	2	1
3	Aragure	10	1	3	1	1	1	1	1	2	1
4	Maimegelta	12	1	3	1	1	1	1	1	2	1
5	Zengee	12	1	3	1	1	1	1	1	2	1
7	Korem	10	1	3	1	1	1	1	1	2	1
8	Abiyi Adi	12	1	3	1	1	1	1	1	2	1
	Total	80	7	21	7	7	7	7	7	14	7

2-2-2-3 Architectural Plan

(1) Layout plan

- Classrooms and the laboratory, the administration room, the teachers' room and the record room/store, and the library and the computer centers will be laid out together respectively for better function. A toilet building will be laid out independently.
- Buildings will be laid out on the assumption that spaces between buildings will be used as a meeting space or a courtyard.
- The library will be laid out far from classrooms and the circulation of toilet users for a quiet environment, considering that Ethiopian students usually read and study in or outside of a library.
- Toilet buildings for male and female shall be laid out far from each other to secure separate circulations.
- In principle, all buildings will be laid out close to the main gate of the site. In particular, the administration building will be laid out by the main gate.
- The layout plan shall take into account possible location of a sport field in the future.

(2) Floor plan

In principle, the size of each facility component follows TRSSE, but may be adjusted according to the Project school size.

① Classrooms

The size for a classroom is set at 8.00 m x 6.60 m = 52.80 sqm (TRSSE: 52.89 sqm) in order to accommodate 40 tablet-chairs. A 1.80 m-wide corridor will be established in front of the classrooms. There will be one entrance to the classroom and a transom window will be provided above the door. The entrance side window will be a clerestory while the other side will be windows with large openings. A chalkboard and a notice board will be put on the front wall.

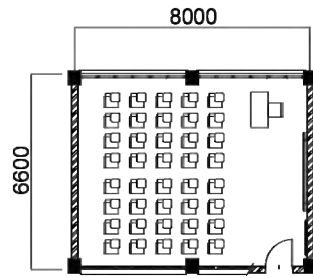


Figure 2-1 Classroom

② Library room

A library room will be composed of a space for stacks and librarians, and a reading space. The Project sets the library capacity at 100 persons and the size at 16.00 m x 8.60 m = 137.60 sqm, though TRSSE sets the capacity at 200 persons and the size at 259.00 sqm. There will be one entrance and the windows will have large openings on the long sides. A chalkboard and a notice board shall be installed on the wall in the reading space.

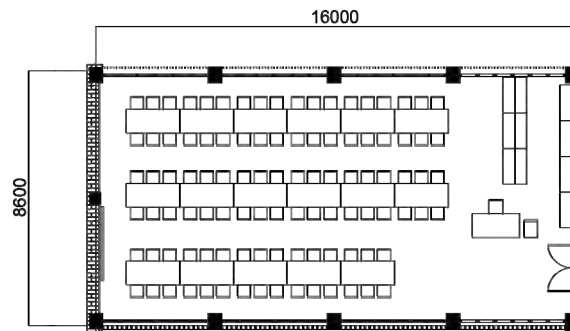


Figure 2-2 Library room

③ Laboratory (For combined use for Physics, Chemistry and Biology subjects)

A combined laboratory for Chemistry, Physics and Biology with 3 preparation rooms for the respective subjects will be built, while TRSSE sets 3 separate laboratories with a preparation rooms (a teacher's room and storage) for the respective subjects. Furthermore, TRSSE sets different sizes for a physics/chemistry laboratory with a teacher's room and storage (152.75 sqm) and for a biology laboratory with a preparation room (108.00 sqm). However, the Project will build a laboratory of the size as 20.00 x 6.60 m = 132.00 sqm and 3 preparation rooms, each size of which is 4.00 m x 6.60m = 26.40 sqm.

Two entrances to the laboratory will be built. The windows shall be large openings on the entrance and the other sides. In order that the laboratory may be divided into two rooms in the future by installing a parting wall, a chalkboard will be installed on both front and rear walls. And a counter with sinks will be installed in such a way that both rooms may have sinks when

the laboratory is divided into two. In addition, a demonstration table will be installed in front of the laboratory.

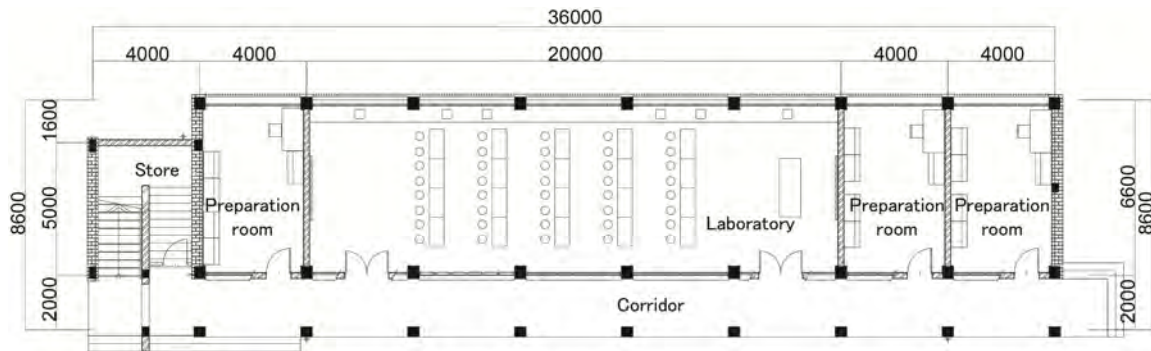


Figure 2-3 Laboratory building

④ Computer center

The size of a computer center is specified as 56.00 sqm to accommodate 20 computers in TRSSE. On the other hand, according to the standard for equipment, a student uses a computer without sharing it with other students in the lecture. Considering this point, the Project will build a computer center, which is 12.00 m x 8.60 m = 103.20 sqm, large enough to accommodate 40 computer desks. Beside the computer center, a preparation room which is large enough to install a server and satellite receiving devices will be built. The size of the preparation room is 4.00 m x 4.95 m = 19.8 sqm. There will be one entrance and the windows will have large openings on both long sides.

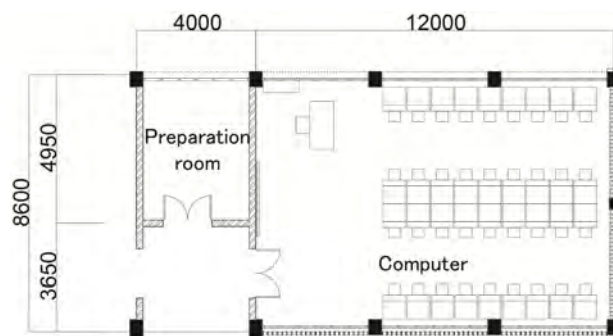


Figure 2-4 Computer center

⑤ Administration building

The administration building will have an administration room where the director, deputy directors, the secretary and the finance/administrator work, a record room/store, and a teachers' room with 30 persons' capacity. Clerestories will be on the entrance side, while windows with large openings shall be installed on the other side. A 2.00m-wide corridor will be established in

front of the rooms.

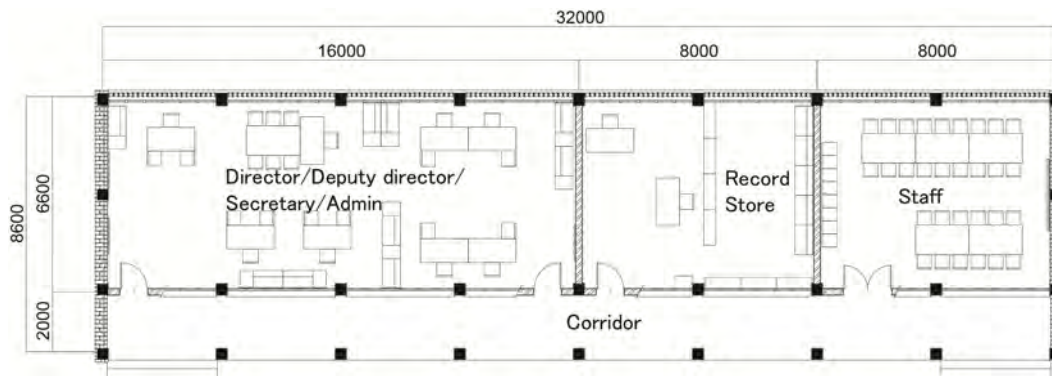


Figure 2-5 Floor plan of an administration building

⑥ Toilet

A toilet with 8 booths will be built separately for males and female students. For teachers, a toilet with 2 booths, which are to be shared among the genders, will be built.

All toilets will be Turkish style. Each booth will be $1.55\text{m} \times 1.20\text{m} = 1.86\text{ sqm}$ in size. Sewer water will be washed into a pit for removal.

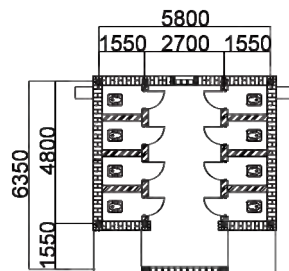


Figure 2-6 Toilet for students

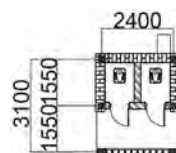


Figure 2-7 Toilet for teachers

(3) Building prototypes

The facility of each school shall be a combination of several prototypes listed in the table below.

Table 2-10 Planned facility prototypes

Building	Name of prototype	Name/No. of rooms	No. of stories	Area (sqm)
Classroom A	8C	Classrooms (8 rooms)	2	659.60
Classroom B	6C	Classrooms (6 rooms)	2	522.00
Laboratory & Classroom	L4C	Laboratory (1 room), preparation room (3 rooms), classrooms (4 rooms)	2	610.40
Administration	AD	Administration room (1 room), record/store room (1 room), teachers' room (1 room)	1	275.20
Library/computer center	RIT	Library room (1 room), computer center (1 room), preparation room (1 room)	1	275.20
Toilet for students	T	8 booths	1	36.83
Toilet for teachers	TS	2 booths	1	7.44

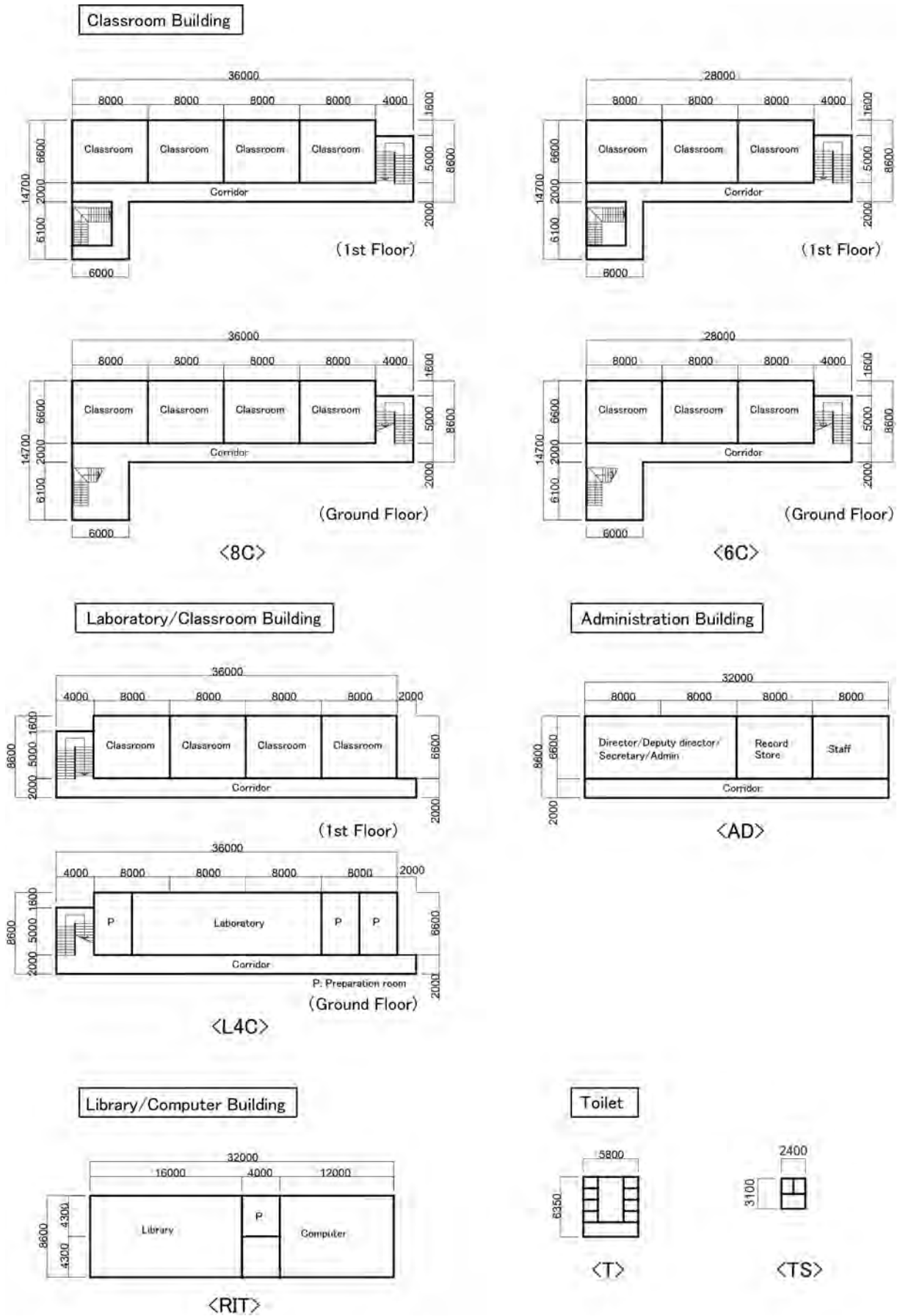


Figure 2-8 Facility prototypes

(4) List of planned facility (school by school)

The table below shows the facility prototypes, their details to be built, and the total construction area of each school.

Table 2-11 List of facilities to be built for the Project schools

ID No.	Site	Classroom/ Laboratory & Classroom bldg.			No. of CRs to be built	Admin istratio n bldg.	Library & computer center bldg.	Toilet bldg. for student s	Toilet bldg. for teache rs	Floor area (sqm)
		8C	6C	L4C						
1	Endamariam Qorar	1		1	12	1	1	2	1	1,902
2	Abraha Weatsbaha	1		1	12	1	1	2	1	1,902
3	Aragure		1	1	10	1	1	2	1	1,764
4	Maimegelta	1		1	12	1	1	2	1	1,902
5	Zengee	1		1	12	1	1	2	1	1,902
7	Korem		1	1	10	1	1	2	1	1,902
8	Abiyi Adi	1		1	12	1	1	2	1	1,764
Total		5	2	7	80	7	7	14	7	13,035

(5) Section plan

In designing the section plans, based upon local situations, the following points are considered.

- The floor of the buildings is higher than 45 cm above the ground so as to avoid flooding during the rainy season.
- The roof is flat type, which is becoming common in Ethiopia.
- Windows as high as the beams are installed to maximize intake of natural draft. For the sake of security and light shielding, decorative concrete blocks will be installed for windows on the ground floor.
- The library & computer center building and the administration buildings are one-storied, while the classroom & laboratory building is two-storied.
- The roof of the toilet building is shed type. The wall shall not be as high as the roof to allow natural draft.

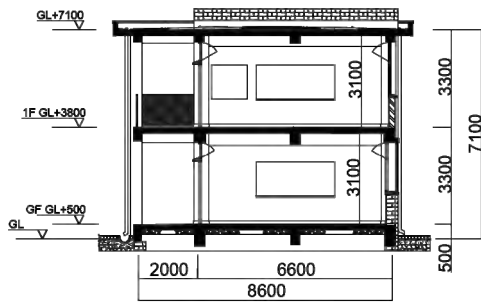


Figure 2-9 Classroom building

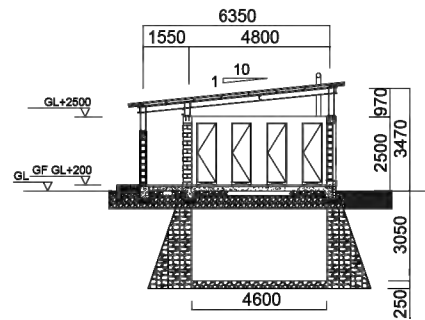


Figure 2-10 Toilet building

(6) Structural method and plan

① Structural method

Regarding the upper structure (column, beam, wall and roof), columns, beams and roofs will be RC. As for exterior walls, buildings having partition walls, and the corridor side of buildings, concrete blocks will be used, while a part of exterior walls shall be built with Ethiopian stone masonry.

The structure of the foundation is isolated footings of reinforced concrete. The shape and depth of the foundation shall be designed for each site according to the soil condition and number of stories to be built.

② External design forces

According to EBCS, there are five scales to indicate the degree of earthquake danger, from zone 0 to 4. Referring to the earthquake-resistant design standard of EBCS, the Project plans the buildings to meet the structural design specified for zone 4.

Table 2-12 Earthquake zone

Earthquake zone	4	3	2	1	0
Max acceleration (Gal)	100	70	50	30	0
Equivalent to Japan Meteorological Agency Seismic Intensity	5 lower	4 upper	4 middle	4 lower	0

(7) Electrical installation plan

All rooms (classrooms, the library room, the laboratory, the computer center, the administration room, the record room/store, the teachers' room and toilets) will have electrical equipment installed such as electric distribution board, lighting, and outlets. The Project also will install a power pole on each site boundary, while connecting electricity and installing an electric meter

shall be handled by the Ethiopian side.

(8) Plan for plumbing installation and sanitary services

Connecting water to each site, an undertaking of the Ethiopian side, is assumed to take a certain amount of time. Considering this point, the plan for plumbing installation and sanitary services of the Project are established as follows.

- No water supply facility, such as a water pipe or hydrant cock, shall be installed by the Project. It is expected that the Ethiopian side will undertake the installation of such facilities in the future.
- For the laboratory, a sink and an infiltration inlet shall be installed for drainage.
- A hand wash basin shall be installed by the Ethiopian side as one of its undertakings.
- A septic tank shall be installed so that sludge can be removed regularly.

(9) Plan for construction materials

Specifications of the buildings for the Project is shown in the table below.

Table 2-13 Facility specification for the Project

Part		Ethiopian Standard Construction Method (in general)	Method in the Project (under consideration)	Reason for consideration
Main Structure	Foundation	Isolated footing of RC structure	ditto	Follow the Ethiopian standard specifications
	Column/Beam	RC	ditto	Follow the Ethiopian standard specifications
	Wall	Concrete block layer	Ditto/Partially stone veneer using local natural stones	Follow the Ethiopian standard specifications
	Roofing	Wood truss (Eucalyptus)	RC	Improve durability
Exterior	Exterior Wall	Mortar finish/ Mortar Tyrolean finish	Ditto/Stone veneer using local natural stones	Follow the Ethiopian standard specifications
	Outside Floor	Cement tile on mortar substrate	ditto	Follow the Ethiopian standard specifications
	Moat	Stone veneer using local natural stones	Local natural paving stones	Follow the Ethiopian standard specifications
	Roof	Corrugated galvanized steel sheet	Asphalt water proofing	Improve durability
	Opening	Steel frame (local product), glass	Steel frame (overseas product)	Improve quality and durability
	Septic Tank	Masonry using local natural stones	ditto	Follow the Ethiopian standard specifications
Interior	Floor	Cement tile on mortar substrate	Terrazzo tile on mortar substrate	Improve quality and durability
	Interior wall	Painting on mortar substrate	Painting on mortar substrate/ Gypsum plaster finish on mortar substrate	Improve durability
	Baseboard	Cement tile	Terrazzo tiles	Improve quality and durability
	Ceiling	Timber ground, Particle board, Painting	RC, painting	Improve workability
Exterior (Landscape)	Walkway	Stone veneer using local natural stones	Local natural paving stones	Follow the Ethiopian standard specification

(10) Exterior Work

The Project will include the exterior works stated below.

- To pave the passage around and between the buildings;
- To build a ditch;
- To provide planting space;
- To install an infiltration inlet, and;
- To install a flagpole.

(11) Furniture plan

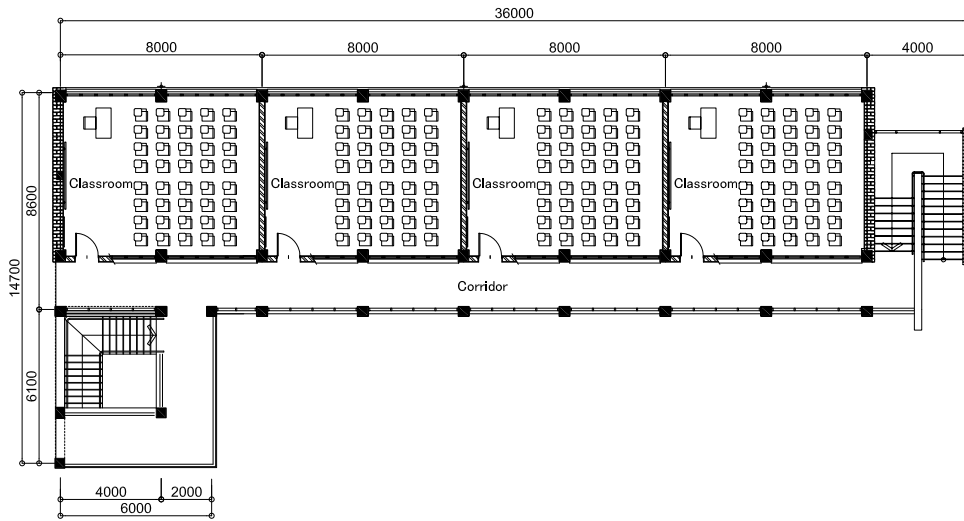
The table below shows furniture and its quantity to be provided room by room. The kind and quantity of the furniture are limited to the minimum. The specification of the furniture will be items commonly observed in Ethiopia.

Table 2-14 Furniture to be provided for each room

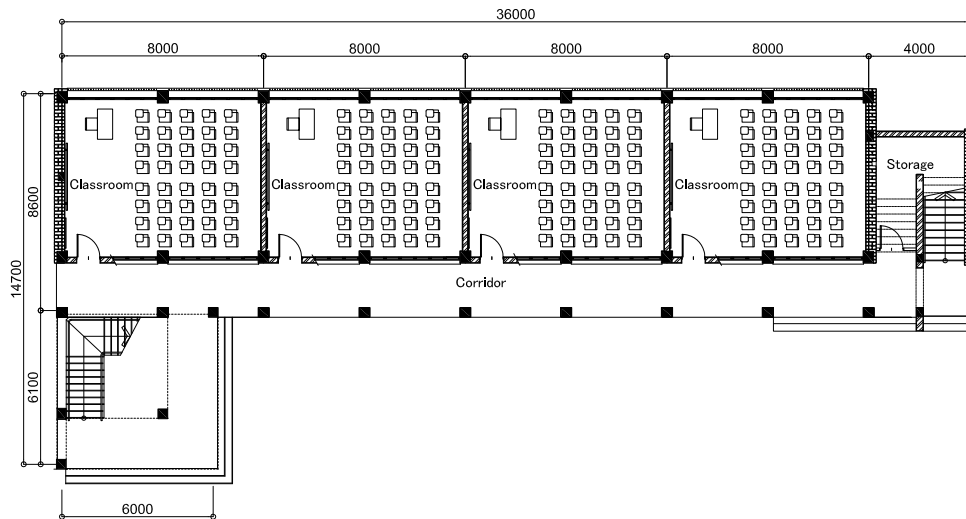
Room		Furniture (No in parenthesis = quantity)
For pedagogical use	Classroom	Tablet chair:(40),Teacher’s desk:(1),Teacher’s chair:(1),Chalkboard:(1), Notice board:(1)
	Library (Capacity:100)	Library desk:(17),Library chair:(102), File cabinet:(1), Librarian’s desk:(1), Librarian’s chair : (1),Bookshelf:(10),Chalkboard:(1),Notice board:(1)
	Science Laboratory (Physics/Chemistry/Biology)	Stool:(41), Students’ desk :(20), Demonstration table:(1),Chalkboard:(2)
	Preparation room	Teacher’s desk: (1), Teacher’s chair (1), Cupboard : (5)
	Computer center	Computer desk:(40), Chair:(40),Teacher’s desk:(1) , Teacher’s chair : (1), Bookshelf:(1), Whiteboard:(1), Notice board:(1)
For administrative use	Administration room	Director’s desk: (1), Armrest chair for the director: (1), Secretary’s desk: (1), Secretary’s chair: (1), Meeting table: (1), Guests’ chair: (16), Deputy directors’ desk: (2), Armrest chair for the deputy directors: (2), Administrators’ desk: (4), Administrators’ chair: (4), Cupboard: (8), File cabinet: (8), Notice board: (3)
	Teachers’ room	Teachers’ chair: (30), Meeting table: (5), Chalkboard: (1), Locker: (for 30 people)
	Record room/store	Administrators’ desk: (2), Administrators’ chair: (2), Cupboard: (5), Guests’ chair: (2), File cabinet: (1), Bookshelf: (8)

2-2-3 Outline Design Drawing

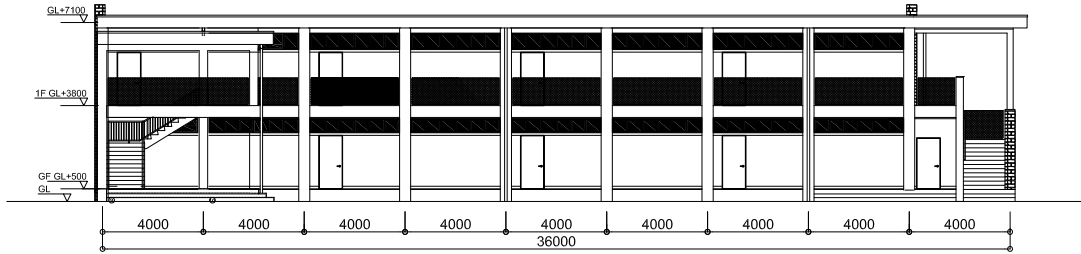
- Classroom building A Type 8C
- Classroom building B Type 6C
- Laboratory & classroom building Type L4C
- Administration building Type AD
- Library & computer center building Type RIT
- Toilet building Type T
- Toilet building for teachers Type TS



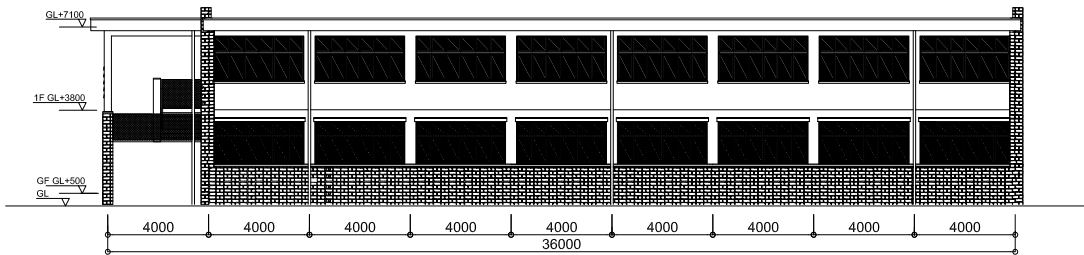
FIRST FLOOR PLAN



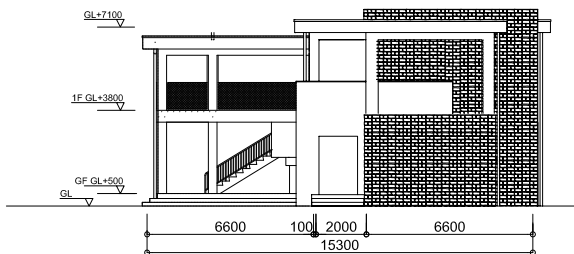
GROUND FLOOR PLAN



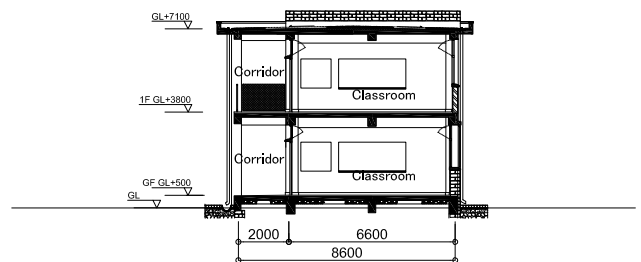
ELEVATION (CORRIDOR SIDE)



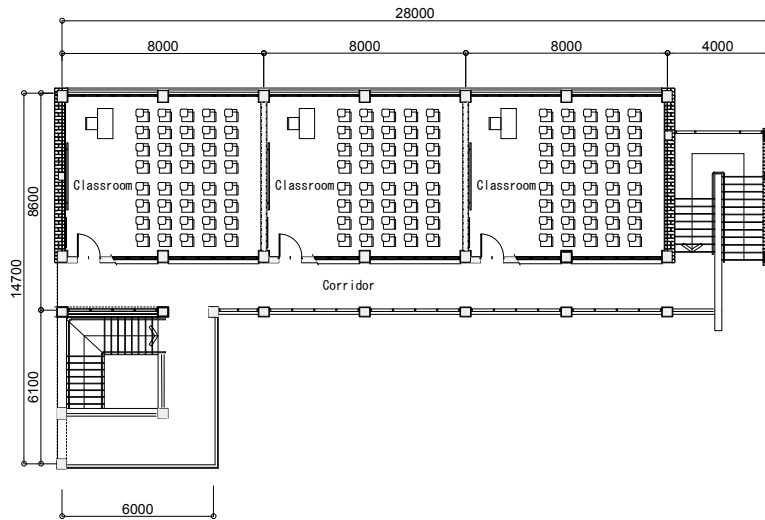
ELEVATION (CLASSROOM SIDE)



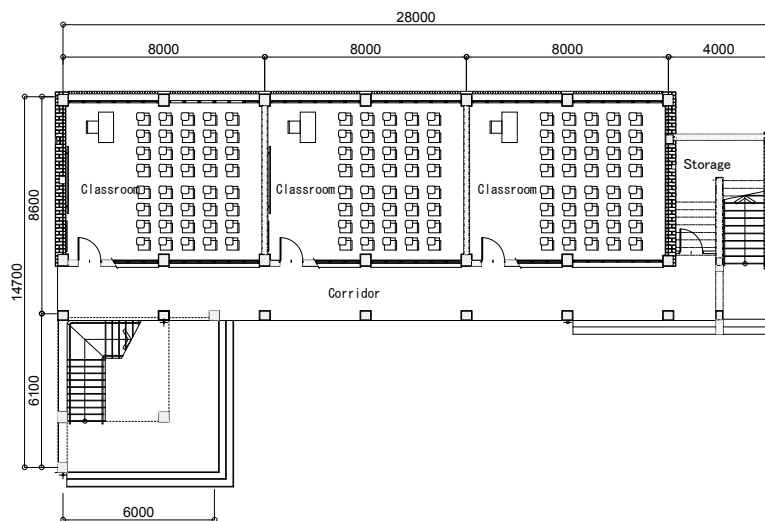
ELEVATION (GABLE SIDE)



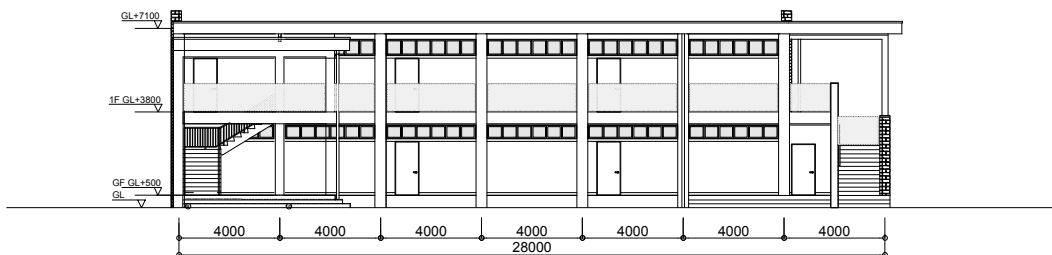
SECTION



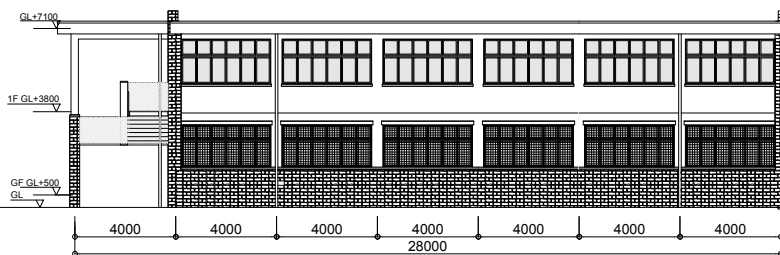
FIRST FLOOR PLAN



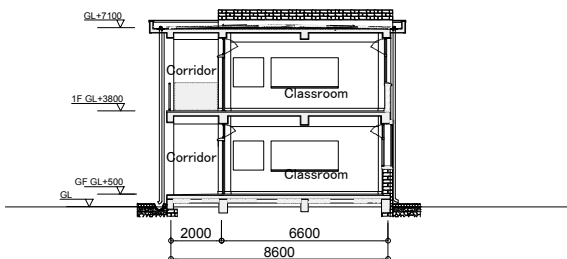
GROUND FLOOR PLAN



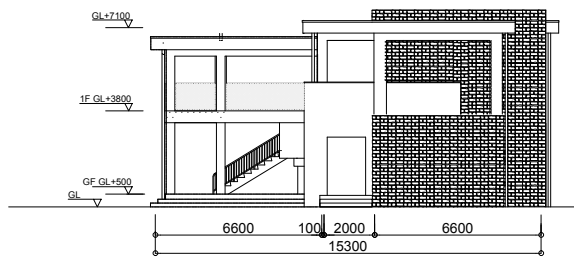
ELEVATION (CORRIDOR SIDE)



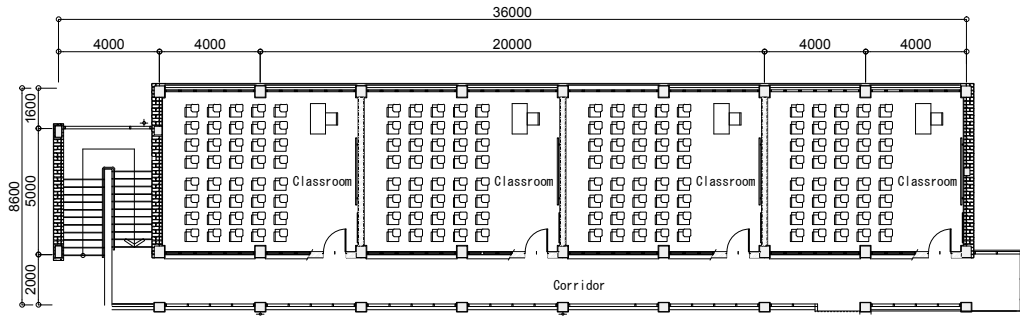
ELEVATION (CLASSROOM SIDE)



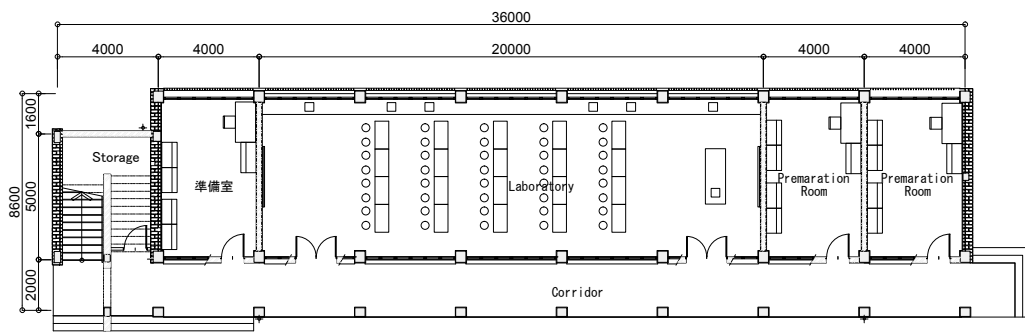
ELEVATION (GABLE SIDE)



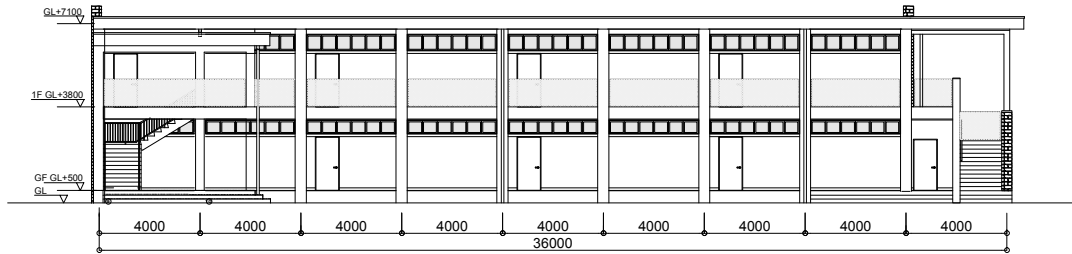
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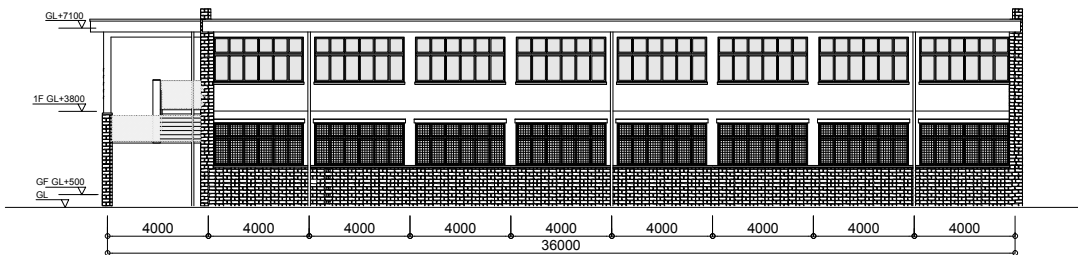
FIRST FLOOR PLAN



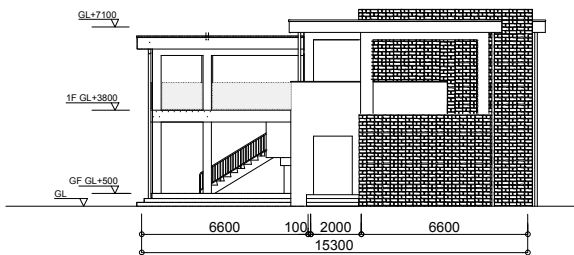
GROUND FLOOR PLAN



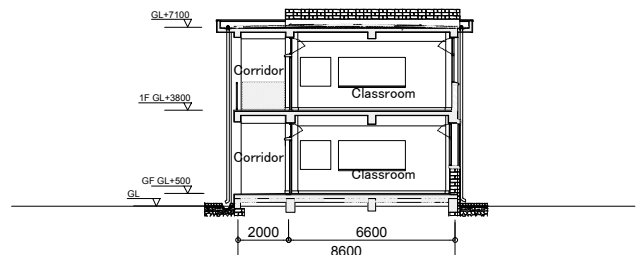
ELEVATION (CORRIDOR SIDE)



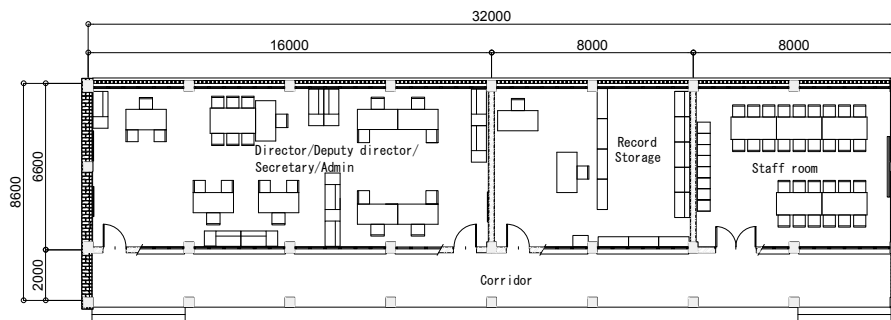
ELEVATION (CLASSROOM SIDE)



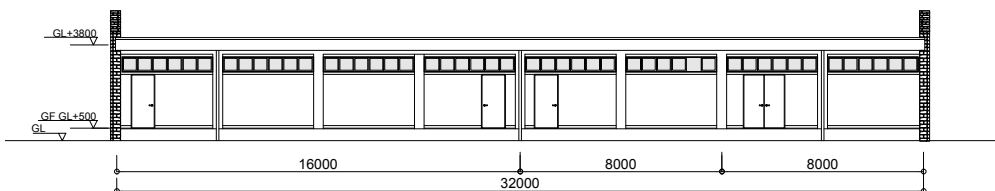
ELEVATION (GABLE SIDE)



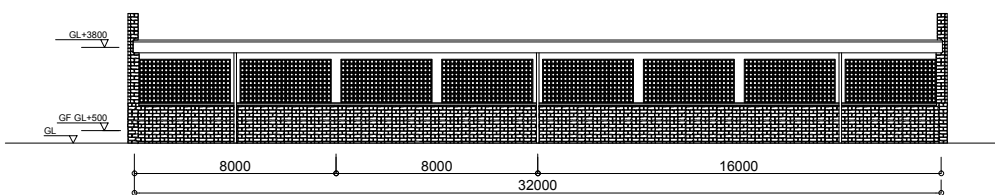
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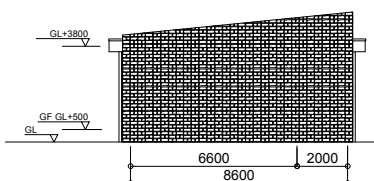
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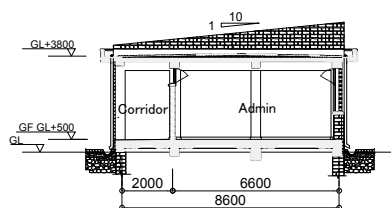
ELEVATION (ENTRANCE SIDE)



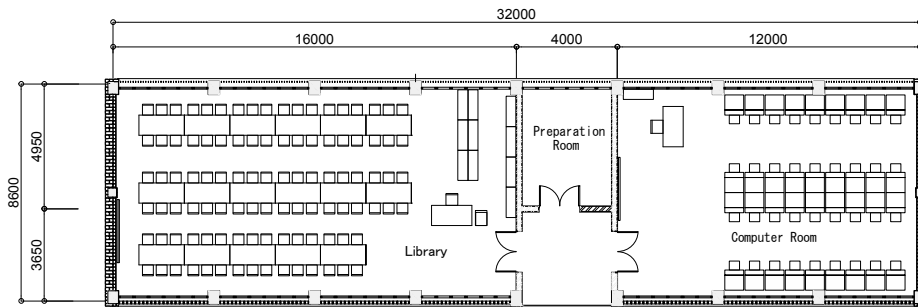
ELEVATION



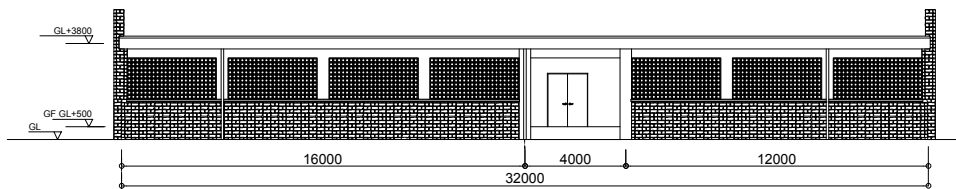
ELEVATION (GABLE SIDE)



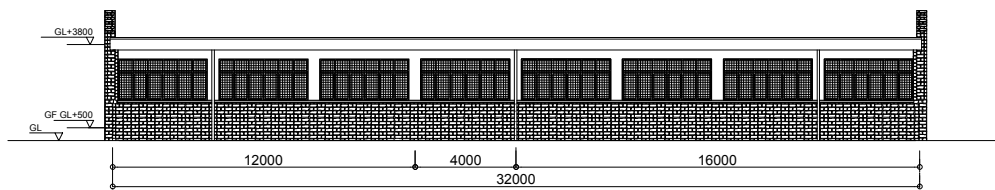
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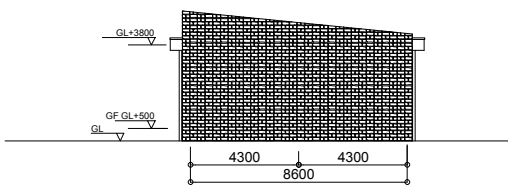
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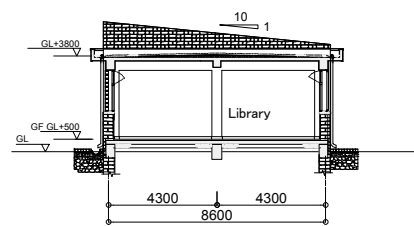
ELEVATION (ENTRANCE SIDE)



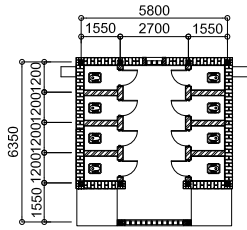
ELEVATION



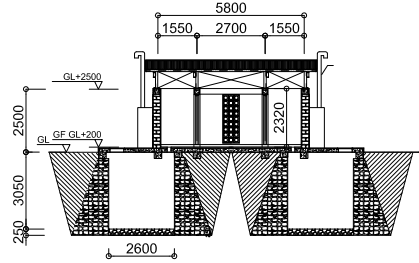
ELEVATION (GABLE SIDE)



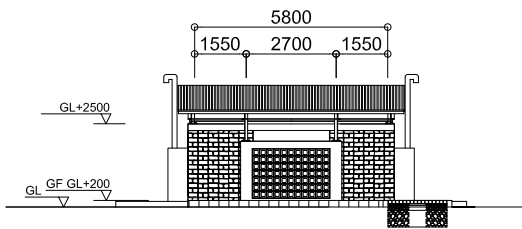
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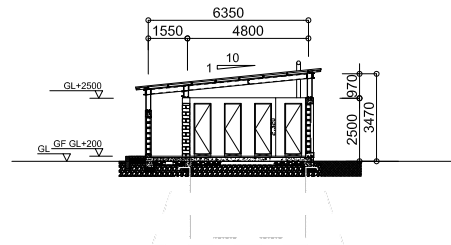
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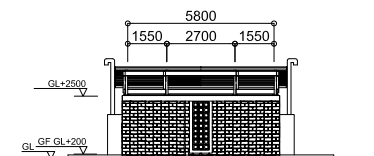
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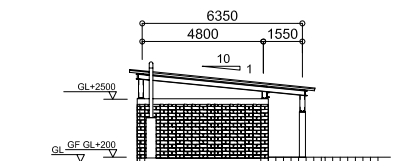
ELEVATION (ENTRANCE SIDE)



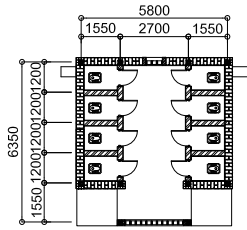
SECTION



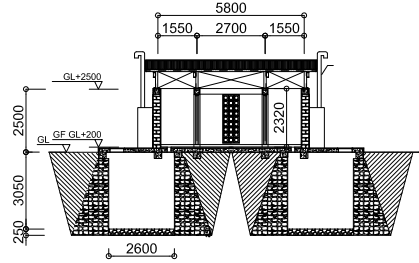
ELEVATION (REAR SIDE)



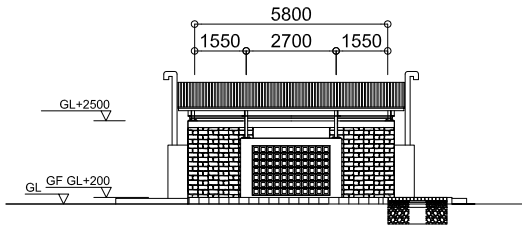
ELEVATION (GABLE SIDE)



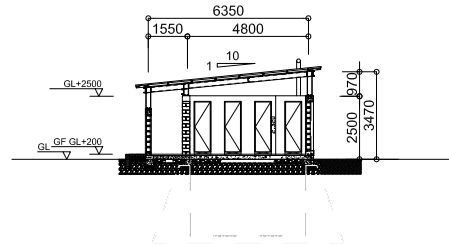
PLAN



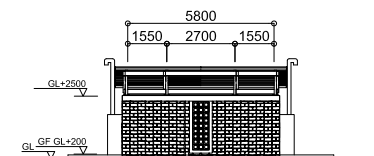
SECTION



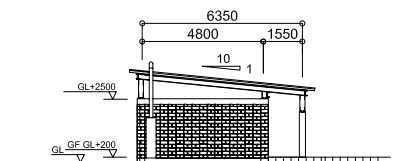
ELEVATION (ENTRANCE SIDE)



SECTION



ELEVATION (REAR SIDE)



ELEVATION (GABLE SIDE)

2-2-4 Implementation Plan

2-2-4-1 Implementation Policy

(1) Basic policy

The Project will be officially launched after an approval by the Cabinet of the Government of Japan, and signing the Exchange of Notes (E/N) and the Grant Agreement (G/A) between both countries.

Then, detailed design of facility and equipment will be carried out after signing an agreement between the Government of Ethiopia and a Japanese consulting firm. Upon the completion of detailed design drawings and tender documents, a competitive tender, open only to Japanese construction companies, will be called for. Thereafter, the Government of Ethiopia and the winner of the tender shall sign a contract, according to which facilities will be built and equipment will be procured.

(2) Project implementation organization

① Project implementation organization of the Ethiopian side

The responsible organization of the Ethiopian side is the Ministry of Finance and Economic Cooperation which signs the E/N, the G/A, and other agreements required for the Project implementation. The executing agency of the Project is TREB.

② Japan International Cooperation Agency

Japan International Cooperation Agency (JICA) supervises the implementation of the Project to confirm that the Grant is used appropriately and in a timely manner.

③ Consultant

A Japanese consultant will sign a contract with TREB to carry out the detailed design and construction supervision for the sake of smooth facility construction and equipment procurement. The consultant will put together a set of tender documents and assist TREB in selecting and signing a contract with a construction company and a supplier. Furthermore, the consultant will dispatch construction supervisors (architectural engineers) to Ethiopia to carry out overall supervision work including the quality and schedule management.

④ Construction company/supplier

A Japanese construction company/supplier, which will be selected through a competitive tender,

will construct buildings/ supply equipment based upon a construction/equipment supply contract with TREB. Needless to say, the construction/equipment supply shall be implemented before the completion date stipulated in the contract. The construction company/supplier shall establish an appropriate and effective implementation organization in Ethiopia, corresponding to the size and contents of the Project.

The following chart shows the organizational chart and the interrelation among the stakeholders at the Project implementation stage.

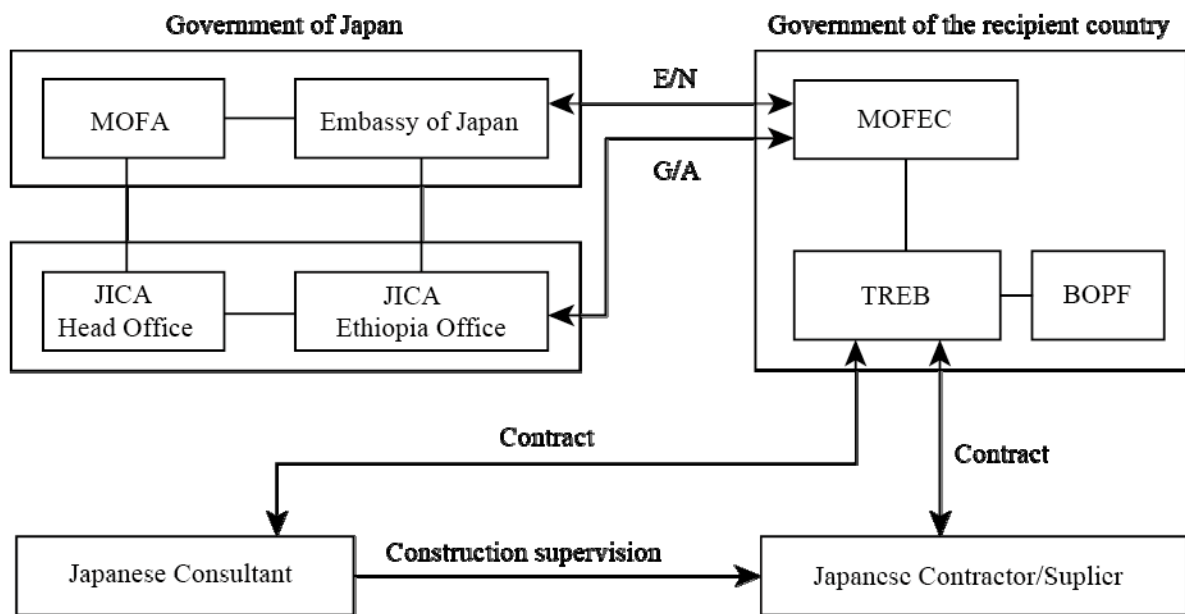


Figure 2-11 Project implementation organization

(3) Basic policy for construction and procurement

- The Project shall employ an Ethiopian consultant and construction companies that have expertise in construction and procurement in Ethiopia, thereby effectively implementing the Project and transferring construction skills to Ethiopia.
- The Project shall thoroughly manage safety, the construction quality and the construction schedule at the construction sites. The Project takes full advantage of such management skills of the Japanese construction company.
- The Project shall give due consideration to safety and security at the construction sites throughout the construction period. In particular, countermeasures against theft will be carefully considered.

- Since cooperation with the Ethiopian construction companies is indispensable for the Project to succeed, the Project shall establish a good management organization by clearly dividing works between the Japanese prime contractor and the Ethiopian subcontractors as well as giving due consideration in assigning staff appropriately.

2-2-4-2 Issues to be considered in implementation

To implement the Project smoothly, the tasks that should be undertaken by the Ethiopian side should be done effectively. To this end, persons-in-charge of TREB and the Japanese side will determine a detailed schedule so that the undertakings by Ethiopia, such as obtaining building permits, developing the land, and removing obstructions shall be done without delay.

In addition, in order for the Project to complete the construction according to the schedule, the Project shall carefully schedule the procurement of construction materials, taking into account the delivery timing so that no time will be wasted. In the scheduling, needless to say, special attention needs to be paid to materials requiring a certain amount of time to be procured.

Furthermore, the following points will be considered in implementation.

- ① An appropriate plan of temporary works shall be established site by site, considering the size, topography, conditions of the front road and the layout plan of the facilities to be built.
- ② Several sites are far off the respective main roads and thus may be difficult for construction vehicles to access in the rainy season. During that season, the construction may be suspended or the construction quality may be compromised due to insufficient curing time. Because it is not feasible to establish a construction plan which avoids the rainy season, the Project shall plan the schedule with some time margin.

2-2-4-3 Scope of Works

Prior to the commencement of construction work, the Ethiopian side needs to handle preparing the access roads, developing the land, and removing obstructions. Similarly, prior to the completion of the construction, installation of infrastructure for the facilities is also required.

The following are undertakings by the Japanese side and the Ethiopian side respectively:

(1) The Japanese side

- ① Construction work of the planned facilities (at 7 Project school sites)

- ② Land development work, exterior work, construction of retaining walls, etc. which are demarcated as undertakings by the Japanese side

(2) The Ethiopian side

- ① Securing the land
- ② Securing approvals and permits necessary for construction from relevant authorities
- ③ Securing access and/or constructing the access roads for construction vehicles to the sites from the main roads prior to the commencement of construction
- ④ Land development work (excluding the works to be undertaken by the Japanese side)
- ⑤ Removing obstructions from the surface and underground
- ⑥ Connecting power and city water
- ⑦ Construction of gates and fences
- ⑧ Construction of sport fields

2-2-4-4 Construction supervision plan/Procurement supervision plan

The Project requires completion of construction works at all 7 sites, which are scattered across Tigray National Regional State, within the planned schedule. Thus, the construction supervision consultant should communicate well with TREB, which is the executing agency of the Project, and provide proper instruction and supervision to the contractor. To this end, the consultant will supervise the Project both in Japan and in Ethiopia. Details are as follows.

(1) General supervision in Japan

The chief consultant who is in charge of the preparatory survey, together with engineers in charge of the detailed design, will supervise the construction schedule, make a comprehensive technical judgement, instruct the engineer assigned to Ethiopia, and report to JICA headquarters regularly.

(2) Supervision in Ethiopia

A Japanese engineer who has experience in supervising construction will reside in Ethiopia to carry out the following tasks.

- Study the construction schedule, working drawings, and construction guidelines together with an Ethiopian engineer, and instruct the construction company as may be necessary;
- Approve construction materials;
- Instruct the construction company;
- Carry out inspections during and at the end of construction;
- Collect updated information from the construction sites;

- Put together construction supervision reports; and,
- Report to TREB, the executing agency of the Project of the Ethiopian side, regularly.

The consultant shall open a supervising office in Mekelle, the regional capital. The resident engineer will visit JICA Ethiopia office and the Embassy of Japan in Addis Ababa every month to report the construction progress.

Additionally, engineers who are in charge of architecture, structure, and plumbing will supervise in Ethiopia on a visit-basis to support the resident engineer.

2-2-4-5 Quality control plan

As for quality control, the construction company will put together a construction guideline which stipulates the schedule, specifications, materials, procedure, inspection methods, required qualities, etc. in conformity with the design documents and construction supervision plan. The consultant shall check the construction guideline and approve it. The following table shows major quality control items for the respective structural work stages.

Table 2-15 Major quality control items for each structural work stage

Work	Item	Method	Frequency
Excavation	Check the excavated areas (to confirm the result of the soil investigation)	Observation	On completion of the excavation
Re-bar and Forms	Reinforcement materials	Check the mil sheets or tensile test	Every size
	Concrete cover depth, accuracy of arrangement	Inspection of the re-bar arrangement	Before casting concrete
	Accuracy	Inspection of the forms	Before casting concrete
Concrete Work	Material	Cement: Sorts Aggregates: Particle diameter	On planning the mixture
	Test mixing	Compression test on samples	Once every material used
	Compression strength	Setting a test machine in the construction base. Compression fracture test on samples	Once every striking point and every 150 cubic meters
	Slump	Slump test	
	Chloride content	Quantabs	

2-2-4-6 Procurement plan of construction materials and equipment

Major construction materials for the Project can be procured in Ethiopia. Reinforcement bars are

available locally both as national products and also imported ones from Turkey and other countries. As for cement, as several factories have opened recently in Ethiopia, the supply of domestically produced cement has become stable. In addition to that, cement produced in China and Pakistan is available in the domestic market. It should be noted that the quality standard of aggregates and sand is important for concrete.

Other than in Addis Ababa, furniture factories exist in Mekelle, and their capacity and quality are sufficient. Arrangement and timing should be properly set for the procurement. Suppliers of the major materials are shown in the table below.

Table 2-16 Suppliers of materials and equipment for the Project

Material	Suppliers		
	Local	Japan	Other countries
Cement	○		China, Pakistan, etc.
Aggregates for concrete	○		
Reinforcement	○		Turkey, etc.
Steel frame	○		
Form material	○		Australia, etc.
Plywood	○		
Concrete block	○		
Lumber	○		Australia, etc.
Steel fitting	○		Frames are imported.
Glass	○		
Paint material	○		
Panel board	○		
Electric wire/cable	○		
Conduit pipe	○		
Lighting	○		
Pipe material	○		
Valve, Attachment hardware for piping	○		

2-2-4-7 Implementation schedule

The Project implementation schedule assumes that the undertakings both by the Japanese and the Ethiopian sides, in conformity with the Grant Aid's scheme, are executed without any delay. Following the signing of the E/N and the G/A between the two countries, the Project shall be implemented in three stages: detailed design, tender/contract, and construction.

(1) Detailed design stage

The consultant will carry out detailed design in which it will put together detailed drawings, specifications, bill of quantities, etc, based upon the outline design. The consultant will discuss

with the Ethiopian stakeholders on a proper timing for an approval on the documents, and then proceed to the tender stage. This process is assumed to take about 4.0 months.

(2) Tender/construction stage

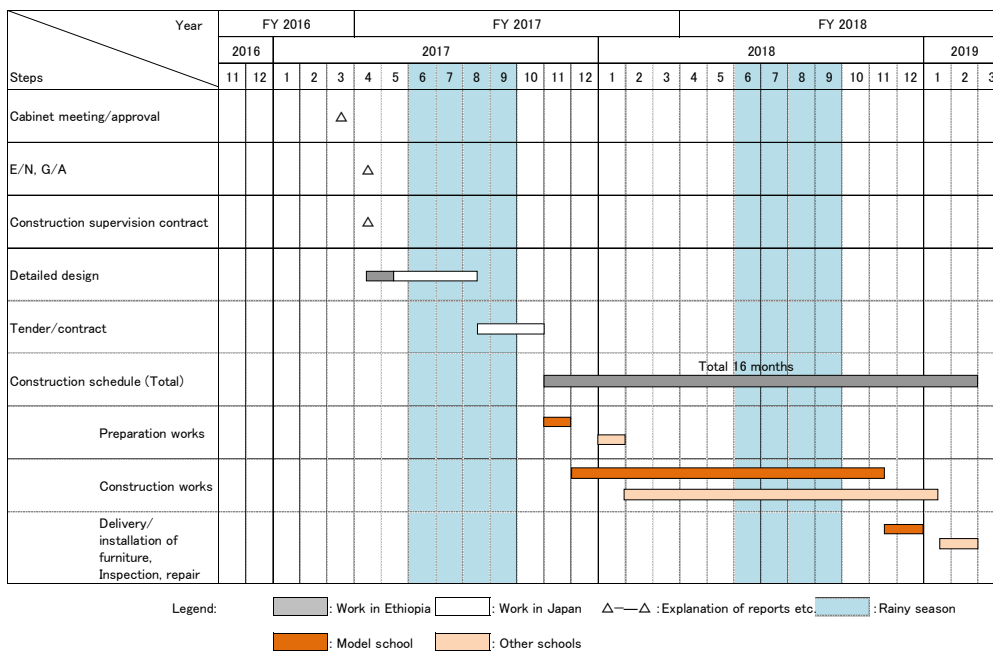
After the detailed design, a tender pre-qualification (PQ) will be called for in Japan. Then, based upon the PQ result, the Ethiopian side shall invite qualified companies for the tender. The tender shall be executed with attendance of stakeholders. The bidder with the lowest price will be the winner and sign a construction agreement with the Ethiopian side, on the condition that its bidding documents are confirmed appropriate. This process is assumed to take about 2.5 months.

(3) Implementation stage

Upon approval of the construction agreement by the Government of Japan, the construction will start. Assuming that the undertakings by the Ethiopian side are executed without any delay, the construction period will be about 14 months per school. However, the entire construction period for all 7 schools will be 16 months, as the construction of the model school will start two months prior to that of the remaining sites. In setting the construction schedule, it should be noted that the commencement of the works (except for preparation works) shall avoid the rainy season (from June to September) and that the works are likely to be delayed during the rainy season.

The implementation schedule incorporating the above points is shown below.

Table 2-17 Implementation schedule



2-3 Obligations of the Recipient Country

In executing the Project under Japan's Grant Aid scheme, the Ethiopian side shall take necessary measures described below.

2-3-1 General

(1) Before the tender

1. To open a Bank Account (Banking Arrangement (B/A)) within 1 month after the G/A;
2. To secure land for the Project sites and temporary construction and stock yard near the Project sites before notice of the tender documents;
3. To remove existing facilities and obstructions, if those are at the Project sites, and to handle preparation works such as land cutting and filling, before notice of the tender documents; and,
4. To obtain the planning, zoning and building permit before notice of the tender documents.

(2) During the Project implementation

1. To bear the Advising Commission of A/P and the Payment commissions for A/P to a bank of Japan for the banking services based upon the B/A;
2. To ensure tax exemption and customs clearance of the products in the recipient country;
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. (The term "nationals" wherever used in the G/A means Japanese physical persons or Japanese juridical persons controlled by Japanese physical persons in the case of Japanese nationals, and physical or juridical persons of third countries in the case of nationals of third countries.);
4. Tigray National Regional State (TNRS) to bear VAT.
5. To bear all the expenses, other than those to be borne by the Grant Aid, necessary for construction of the facilities;
6. To submit a Project Monitoring Report every month;

7. To construct access roads (outside the site) before the start of the construction; and,
8. To provide facilities for the distribution of electricity, water supply, sewage, drainage and other incidental facilities 6 months before the completion of the construction.

(3) After the Project

1. To maintain and use properly and effectively the facilities constructed and equipment provided under the Grant Aid by allocating operation and maintenance cost, allocating operation and maintenance staff, and carrying out routine checks and inspections.

2-3-2 Undertakings to be Done Site by Site

The table in the next page shows the Ethiopian undertakings to be done site by site. TREB is requested to inform the respective Zones and Woredas to implement the undertakings in a timely manner. If necessary, TREB is required to check the progress from time to time.

Table 2-18 Undertakings to be done site by site

ID No.	Site	Woreda	Zone	Repair or construction of new access road	Leveling	Felling and removing obstruction	Connecting electricity	Construction of gate, fence and guard house
				Before construction	Before construction	Before construction	6 months prior to completion	6 months prior to completion
1	Endamariam Qorar	Degua temben	South Eastern	-	Cutting: 1701.9 m ³ Filling: 24.8 m ³	-	100m	Gate : 1 Fence : 1200m Guardhouse : 1
2	Abraha Weatsbaha	Kilte Awlaelo	Eastern	Repair: 80m New construction: 200m	Cutting: 265.5 m ³ Filling: 608.8 m ³	Stone fence 300m, Stone store, felling 2000 m ² , Backfilling hole	200m	Gate : 1 Fence : 650m Guard house : 11
3	Aragure	Enderta	South Eastern	Repair: 250m	Cutting: 0 m ³ Filling: 4416.5 m ³ (incl. removing stones)	-	25m	Gate : 1 Fence : 800m Guard house : 1
4	Maimegelta	Saesie Tsaeda Enba	Eastern	Repair: 60m	Cutting: 90.5 m ³ Filling: 1519.7 m ³	-	100m	Gate : 1 Fence : 1000m Guard house : 1
5	Zengee	Weree Leke	Central	Repair : 1.2km	Cutting: 3184.7 m ³ Filling: 36.3 m ³	Felling (2 trees)	25m	Gate : 1 Fence : 600m Guard house : 1
7	Korem	Korem	Southern	New construction (on black cotton soil): 550m	Cutting: 935.5 m ³ Filling: 86.7 m ³	-	500m	Gate : 1 Fence : 550m Guard house : 1
8	Abiyi Adi	Abiyi Adi	Central	New construction (on black cotton soil) 500m	Cutting: 1576 m ³ Filling: 861.8 m ³	-	350m	Gate : 1 Fence : 800m Guard house : 1

2-4 Project Operation Plan

2-4-1 Operation Plan

All teachers and staff to be allocated to the Project schools will be hired by Woreda Education Offices (WEO) which administer the Project schools in the respective Woredas. WEOs make a request to TREB for the necessary number of teachers and staff to be assigned, and make a request to the respective Woreda governments for the necessary budget. All other school operation and maintenance is implemented by each school under the supervision of WEO and TREB.

(1) New employment of teachers

All Project schools need to be allocated with the necessary number of teachers subject by subject, considering the planned size of the respective schools. Table 2-19 shows the number of teachers required for each school, considering the number of classrooms to be built and the curriculum. In calculating the number of teachers required, the following assumptions were made.

- Double shift schooling and all planned classrooms will be used both in morning and afternoon shifts.
- 30 lectures per week⁷
- One teacher will be responsible for 22 lectures per week

⁷ The curriculum stipulates that 32 lectures (including 2 lectures for the mother language) per week for G9-10, and 35 for G11-12 are taught. On the other hand, the preparatory survey team found that 6 lectures per day, 5 days a week totaling 30 lectures per week are taught at existing schools under double shift schooling.

Table 2-19 Necessary number of new teachers

ID No.	Site	Grade	No. of CRs to be built (a)	No. of sections under double shift (b)=(a)*2	Lectures per week under double shift (c)=(b)*30	Necessary No of teachers (d)=(c)/22	Teachers currently employed (e) (*)	Necessary No of new teachers (f)=(d)-(e)
1	Endamariam Qorar	G9-12	12	24	720	33	18	15
2	Abraha Weatsbaha	G9-12	12	24	720	33	0	33
3	Aragure	G9-12	10	20	600	28	13	15
4	Maimegelta	G9-10	12	24	720	33	0	33
5	Zengee	G9-10	12	24	720	33	0	33
7	Korem	G9-12	10	20	600	28	0	28
8	Abiyi Adi	G9-12	12	24	720	33	0	33
Total								190

(*)School No.1 and No. 3 have already started operation temporarily and were assigned with the number of teachers mentioned in (e) in the above table at the time of the Field Survey in April 2016.

(2) New employment of staff

Likewise, school staff including the director, deputy director, administration/finance officer, store keeper, secretary, etc must be newly hired. The table below shows necessary staff and the number per school, which were agreed between TREB and the preparatory survey team. Additionally, each Project school will hire janitors with its own budget.

As stated, School No.1 and No.3 are already in temporary operation and staffed with 3 and 5 persons respectively. Should the existing staff continue working for the schools, the remaining number of staff must be added so that all the staff posts are filled.

Table 2-20 Necessary staff to be hired per school

Staff	No. of staff
Director	1
Deputy director	2
Unit leader	2
Admin & finance	1
Store keeper	1
Secretary	1
Record officer	1
Librarian	1
Laboratory technician	1
IT technician	1
Guard	2
Total	14

(3) Operation cost

In Ethiopia, primary education (G1-8) and general secondary education (G9-10) are free at government schools, while school fees are required for preparatory secondary education (G11-12). The preparatory survey team heard that Birr 80-200/year (JPY 405-1,013/year), depending on schools, was collected from every preparatory student at the time of Field Survey I in April 2016. The collected fees are used for school operation and maintenance.

Other than that, the government provides schools with subsidies for operation as follows. Those subsidies are earmarked for construction of female toilets and educational activities. The subsidies are spent specifically for: chalk, stationary, teaching materials, chemicals for experiments, training, etc.. The government is required to provide the subsidies to the Project schools in a timely manner.

Table 2-21 Government subsidies per student

Level	Subsidy	Budget source
General secondary (G9-10)	Block grant (Birr 60/year/student) appox. JPY 304	Government
	School grant (Birr 60/year/student) appox. JPY 304	GEQIP2
Preparatory secondary (G11-12)	School grant (Birr 70/year/student) appox. JPY 355	GEQIP2

(1Birr = appox. JPY 5.065, February 2017)

Other expenses, such as utility cost, facility maintenance and repair, salary for janitors, etc. are paid from income generation activities of each school, donation from the communities, and income from a bazaar. The preparatory survey team heard from existing schools that they generate income by renting their school facilities for trainings and meetings, selling trees and grasses growing in the school compound, selling vegetables harvested in the school garden, and renting a school plot for farming. The PTA manages both the governmental subsidies and school's own income.

2-4-2 Maintenance plan

As referenced in the above (3), school facilities are maintained with schools' own income. According to the survey at existing schools in April 2016, the PTA is actively involved in the school operation and maintenance not only by assisting financially but also by providing labor. Thus, it is expected that Project schools, all of which are new establishments, shall be operated and maintained by the PTA.

2-5 Project Cost Estimation

2-5-1 Initial Cost Estimation

(1) Cost to be borne by the Ethiopian side

Birr 6,215,000

The costs have been estimated by the Japanese side based upon the information obtained during the field survey between April and May 2016.

Table 2-22 Cost to be borne by the Ethiopian side

Item	Amount (Birr)	Equivalent to Japanese yen (Million Japanese yen)
Land formation (Cut, Filling)	1,700,000	9.06
Construction of the access roads	852,000	4.54
Construction of the gates, fences and guard rooms	2,695,000	14.37
Removing the obstructions (surface and underground)	44,000	0.23
Connecting electricity	650,000	3.47
Bank charge	274,000	1.46
Total	6,215,000	33.13

(2) Conditions of the Cost Estimation

- ① Estimated at the time of : May 2016
- ② Exchange rate applied : 1USD = JPY 113.65 , 1 Birr = JPY 5.330
- ③ Implementation schedule : Refer to Table 2-17
- ④ Others : The rules of Japan's Grant Aid Scheme were applied in estimating the cost.

2-5-2 Operation and Maintenance Cost

(1) Salary for Teachers

As explained in 2-4, the Project requires an additional 190 teachers to be hired for all 7 Project

schools. The total annual personnel cost for the additional teachers will be Birr 7,524,000⁸. (1Birr = approx. JPY 5.065, February 2017)

(2) Salary for Staff

Likewise, the Project requires an additional 90 persons as staff for all 7 Project schools. The total annual personnel cost for the additional staff will be Birr 2,657,484. (The total monthly salary Birr 221,457 x 12 months.)

Table 2-23 Monthly personnel cost per school

Staff	Monthly salary (Birr) ⁹	No. of staff required	Total monthly salary
Director	4,867	5	24,335
Deputy director	4,267	14	59,738
Unit leader	3,278	14	45,892
Admin & finance	2,008	6	12,048
Store keeper	1,305	6	7,830
Secretary	1,305	7	9,135
Record officer	1,305	7	9,135
Librarian	2,298	7	16,086
Laboratory technician	2,197	7	15,379
IT technician	2,197	7	15,379
Guard	650	10	6,500
Total	-	90	221,457

(1Birr = approx. JPY 5.065, February 2017)

(3) School budget

As stated in 2-4, the government provides schools with two subsidies, block grant and school grant, for their operations. Based upon the possible number of students to be accommodated, the total amount of the government subsidies and school fees collected from preparatory students for all 7 schools combined is Birr 728,000 per year. In addition, the fees collected from preparatory students are added to the school budget.

⁸ In calculating the cost, the average teachers' monthly salary of Birr 3,300 was applied, the information of which is from TREB. (Average salary for a general secondary teacher: Birr 2,872. Average salary for a preparatory secondary teacher: Birr 3,740.)

⁹ Information is from TREB.

Table 2-24 Expected secondary school budget for all 7 schools

ID No.	Site	Type	No. of CRs to be built	No. of CRs to be used per level		No. of students to be accommodated (double shift)	Block grant (Birr/year/student)	School grant (Birr/year/student)	School fee (Birr/year/student)	Total (Birr/year)
				G9-10	G11-12					
1	Endamariam Qorar	G9-12	12	G9-10	10	800	60	60		96,000
				G11-12	2	160	0	70	140	33,600
2	Abraha Weatsbaha	G9-12	12	G9-10	10	800	60	60		96,000
				G11-12	2	160	0	70	140	33,600
3	Aragure	G9-12	10	G9-10	8	640	60	60		76,800
				G11-12	2	160	0	70	140	33,600
4	Maimegelta	G9-10	12	G9-10	12	960	60	60		115,200
5	Zengee	G9-10	12	G9-10	12	960	60	60		115,200
7	Korem	G9-12	10	G9-10	8	640	60	60		76,800
				G11-12	2	160	0	70	140	33,600
8	Abiyi Adi	G9-12	12	G9-10	10	800	60	60		96,000
				G11-12	2	160	0	70	140	33,600
Total										840,000

(1Birr = approx. JPY 5.065, February 2017)

(4) Maintenance cost

The facilities that will be constructed under the Project will not require maintenance for a few years after handing them over to the Ethiopian side. The table below shows the items, frequency, and estimated cost when maintenance comes into necessity. It is deemed difficult for the respective Project schools to cover the cost with their own income, thus Tigray National Regional State is required to secure the cost. Birr 310,500, the total annual cost required for facility maintenance, is about only 0.007% of the investment budget (Birr 4,481,953,798) of the region in 2015/16, thus it is feasible to be covered by the region.

Table 2-25 Items, frequency and annual cost for maintenance

Item	Frequency	Annual cost (Birr)	Remarks
Waterproofing for roof	Every 13 years	182,000	
Exterior wall	Every 10 years	15,000	
Interior wall	Every 5 years	63,000	
Chalkboard	Every 5 years	1,000	
Fittings/steel frame	Every 5 years	45,000	
Sludge removal	Every 5 years	1,000	
Utility cost	-	3,500	
Total		310,500	

(1Birr = approx. JPY 5.065, February 2017)

As explained, other than providing labor, the community, led by the PTA, supports financially in terms of small-scale facility maintenance. Thus, the same kind of active support by the community is expected for the facilities constructed by the Project.

CHAPTER 3 PROJECT EVALUATION

Chapter 3 Project Evaluation

3-1 Preconditions

Site preparation work, construction of access roads, securing water supplies and connection of electricity, etc. are to be handled by the respective WEOs led by TREB as parts of the obligations of the Ethiopian side. Precisely, it is a precondition that those preparation works should be done without any delay. It should be well noted that most of the Project school sites require preparation works.

3-2 Necessary Inputs by the Ethiopian Side

- (1) To recruit and allocate the necessary number of teachers and staff without delay for the Project schools.
- (2) To admit proper number of students corresponding to the size of each school and allocate them in classes.
- (3) To allocate a sufficient budget in order for the Project schools to operate and perform the maintenance.
- (4) To undertake the operation and maintenance of the Project schools appropriately.

3-3 Important Assumptions

- (1) The number of students of the Project schools will not increase beyond this estimation.
- (2) There will be no sudden rise in prices which exceed the Project budget, and procurement of necessary materials and equipment can be conducted as planned.

3-4 Project Evaluation

3-4-1 Relevance

The Project proves to be adequate for the Japanese Grant Aid, on account of the justifications mentioned below.

- (1) The beneficiaries of the Project are citizens of Tigray National Regional State such as school students, totaling about 6,400.
- (2) The Project objective is to improve access to secondary education, and to improve its teaching and learning environment by constructing general secondary and preparatory schools in the Project areas in Tigray regional state. This corresponds to the purpose of the Japanese Grant Aid, such as Basic Human Needs and Education and “Human Resource Development.”
- (3) It is normal practice for each school under the Project to perform operation and

maintenance tasks in which high skills are not required. These are manageable within the budget and resources of the Ethiopian side.

- (4) This Project is expected to contribute to the fulfillment of ESDP in line with improving access to quality education and expanding school facilities.
- (5) The Project is presumed to have an economic impact from a long term and large-scale point of view, while it does not involve any immediate financial profitability.
- (6) There will be no negative influence on the environmental and social aspects of the sites by the implementation of the Project.
- (7) The implementation of the Project is practicable without difficulties, by the Japanese Grant Aid Scheme.
- (8) Furthermore, the Project will be able to utilize lessons learned and feedback from preceding projects under Japan’s Grant Aid scheme for Community Empowerment, i.e. “the Project for Construction of Primary Schools in Oromia Region,” “the Project for Construction of Secondary Schools in Amhara Region,” and “the Project for Construction of Primary and Secondary Schools in The Southern Nations, Nationalities and Peoples’ Regional State,” This can be noted as a comparative advantage of the Project in managing the Project efficiently.

3-4-2 Effectiveness

(1) Quantitative results

The effectiveness of the Project will be proven by raising the indicators from the baseline data to the desired value.

Table 3-1 Indicators of the Quantitative Results

Indicators	Baseline data (Year 2016)	Desired value (Year 2022: 3 year after the completion)
No. of classrooms to be continuously used.	0	80
No. of new secondary students	0	6,400 ¹⁰

(2) Qualitative results

- The Project contributes to improve the enrollment rate by constructing secondary schools.

¹⁰ 80 classrooms x 2 shifts x 40 students/classroom

APPENDICES

1. Member List of the Survey Team

(1) Field survey I

	Name	Position	Organization
1	Osamu Yamada	Leader	Japan International Cooperation Agency
2	Shimpei Taguchi	Project Planning	Japan International Cooperation Agency
4	Akira Sugiura	Chief Consultant /Architectural Planning	Mohri, Architect & Associates, Inc.
5	Tomohiro Shitara	Deputy Chief Consultant	Mohri, Architect & Associates, Inc.
6	Shinichi Yamamoto	Architectural Design 1/ Facility Planning	Mohri, Architect & Associates, Inc.
7	Kaoru Matsumiya	Architectural Design 2/ Construction Planning	Mohri, Architect & Associates, Inc.
8	Yoshiaki Ichibagase	Procurement Planning/ Quantity Survey	Mohri, Architect & Associates, Inc.
9	Maki Tanaka	Education Planning/ Equipment Planning/ Social and environmental survey	Mohri, Architect & Associates, Inc.

(2) Field survey II

	Name	Position	Organization
1	Osamu Yamada	Leader	Japan International Cooperation Agency
2	Shimpei Taguchi	Planning	Japan International Cooperation Agency
3	Akira Sugiura	Chief Consultant /Architectural Planning	Mohri, Architect & Associates, Inc.
4	Tomohiro Shitara	Deputy Chief Consultant	Mohri, Architect & Associates, Inc.
5	Kaoru Matsumiya	Architectural Design 2/ Construction Planning	Mohri, Architect & Associates, Inc.

2. Field Survey Schedule

(1) Field survey I

		Consultants						
		JICA Officials	a	b	c	d	e	f
		Leader, Project Planning	Chief Consultant/Architectural Planning	Deputy Chief Consultant	Architectural Design 1/ Facility Planning	Architectural Design 2/ Construction Planning	Procurement Planning /Quantity Survey	Education Planning/Equipment Planning/Social and Environmental Survey
	Osamu Yamada/ Shimpei Taguchi	Akira Sugiura	Tomohiro Shitara	Shinichi Yamamoto	Kaoru Matsumiya	Yoshiaki Ichibagase	Maki Tanaka	
	12days	25days	28days	30days	41days	35days	28days	
03/28/16	Mo	Narita→			Narita→			
03/29/16	Tu	→Dubai→Addis Ababa			→Dubai→Addis Ababa			
03/30/16	We	Courtesy call and meeting with JICA Office	Courtesy call and meeting with JICA Office		Courtesy call and meeting with JICA Office	Courtesy call and meeting with JICA Office		
03/31/16	Th	Addis Ababa→Mekelle, CC to TREB, CC to BOPF	Addis Ababa→Mekelle, CC to TREB, CC to BOPF		Addis Ababa→Mekelle, CC to TREB, CC to BOPF	Addis Ababa→Mekelle, CC to TREB, CC to BOPF		
04/01/16	F	Site visit 1,2,3	Site visit 1,2,3		Site visit 1,2,3	Site visit 1,2,3		
04/02/16	Sa	Discussion with TREB	Discussion with TREB		Discussion with TREB	Discussion with TREB		
04/03/16	Su	Documentation/Team meeting	Documentation/Team meeting		Documentation/Team meeting	Documentation/Team meeting		
04/04/16	Mo	Discussion with TREB, Visit existing schools in Mekelle	Discussion with TREB, Visit existing schools in Mekelle		Discussion with TREB, Visit existing schools in Mekelle	Discussion with TREB, Visit existing schools in Mekelle		
04/05/16	Tu	Discussion and signing on MM with TREB, Mekelle→Addis Ababa	Discussion and signing on MM with TREB, Mekelle→Addis Ababa		Discussion and signing on MM with TREB, Mekelle→Addis Ababa	Discussion and signing on MM with TREB, Mekelle→Addis Ababa		
04/06/16	We	Report to JICA/EOJ						
04/07/16	Th	Site visit 7,12	Site visit 7,12		Site visit 7,12	Site visit 7,12		
04/08/16	F	Site visit 5,8,13	Site visit 5,8,13		Site visit 5,8,13	Site visit 5,8,13		
04/09/16	Sa	Site visit 4,6,11	Site visit 4,6,11		Site visit 4,6,11	Site visit 4,6,11		
04/10/16	Su	Team meeting	Team meeting		Team meeting	Team meeting		
04/11/16	Mo	Documentation	Narita→		Documentation	Narita→		
04/12/16	Tu	Site survey 10	→Dubai→Addis Ababa		Site survey 10	→Dubai→Addis Ababa		
04/13/16	We	Site survey 9	Visit to Contractors and		Site survey 9	Visit to Contractors and		
04/14/16	Th	Survey at existing schools 7, Site survey 12	Addis Ababa→Mekelle		Site survey 7,12	Survey at existing schools 7	Survey at existing schools 7	
04/15/16	F	CC to TREB, Visit to existing schools	CC to TREB, Visit to existing schools		CC to TREB, Site survey 3	CC to TREB, Documentation	CC to TREB, Visit to existing schools	
04/16/16	Sa	Survey on architecture and construction	Survey on architecture and construction		Site survey 8,13	Survey at existing schools 8	Survey on architecture and construction	
04/17/16	Su	Team meeting	Team meeting		Team meeting	Team meeting	Team meeting	
04/18/16	Mo	Documentation	Documentation		Documentation	Documentation	Documentation	
04/19/16	Tu	Survey on architecture and construction, Site visit 3	Survey on architecture and construction, Site visit 3		Site survey 4,8	Survey at existing schools 9	Survey on cost and procurement, Site visit 3	
04/20/16	We	Report to JICA, Addis Ababa→Dubai	Survey on architecture and construction, Site visit 3		Site survey 11,5	12,10	Survey on cost and procurement, Site visit 3	
04/21/16	Th	Dubai→Narita	Site survey 7,12,10		Site survey 1,2	Site survey 1,2	Survey on cost and procurement, Site visit 3	
04/22/16	F		Site visit 1,13,8,5		Site survey, Data analysis	Site survey, Data analysis	Education survey 1,13	
04/23/16	Sa		Team meeting		Survey on architecture and construction	Survey on architecture and construction	Education survey 2,4,6	
04/24/16	Su		Site visit 11,9,6,4		Team meeting	Team meeting	Education survey 11,5	
04/25/16	Mo		Site survey, Data analysis		Site survey, Data analysis	Site survey, Data analysis	Site visit 11,9,6,4	
04/26/16	Tu		Drafting TN		Addis Ababa→Dubai	As above	Survey on educational planning	
04/27/16	We		Report to TREB, Discussion on TN, Site visit 2		Dubai→Narita	As above	As above	
04/28/16	Th		Discussion on TN, Survey on Architecture and construction		Report to TREB, Discussion on TN, Site visit 2	Report to TREB, Discussion on TN, Site visit 2	Report to TREB, Discussion on TN, Site visit 2	
04/29/16	F		Discussion and signing on TN		Discussion on TN, Survey on Architecture and construction	Discussion on TN, Procurement and Quantity survey	Discussion on TN, Education Planning survey	
04/30/16	Sa		Team meeting		Discussion and signing on TN	Discussion and signing on TN	Discussion and signing on TN	
05/01/16	Su		Lalibela→Addis Ababa		Team meeting	Team meeting	Team meeting	
05/02/16	Mo		Survey on architecture and construction		Lalibela→Addis Ababa	Lalibela→Addis Ababa	Documentation	
05/03/16	Tu		As above		Survey on architecture and construction	Survey on cost and procurement	Survey on educational planning	
05/04/16	We		As above		As above	As above	Mekelle→Addis Ababa	
05/05/16	Th		As above		As above	As above	Survey on educational planning	
05/06/16	F		Report to JICA, Addis Ababa→Dubai		As above	As above	As above	
05/07/16	Sa		Dubai→Narita		Report to JICA, Addis Ababa→Dubai	Report to JICA	Report to JICA, Addis Ababa→Dubai	
05/08/16	Su				Dubai→Narita	Survey on cost and procurement	Dubai→Haneda	
05/09/16	Mo					Documentation		
05/10/16	Tu					Survey on cost and procurement		
05/11/16	We					As above		
05/12/16	Th					As above		
05/13/16	F					Addis Ababa→Dubai		
05/14/16	Sa					Dubai→Narita		

(2) Field survey II

		JICA officials		Consultants		
		Leader	Project Planning	a	b	c
				Chief Consultant/Architectural Planning	Deputy chief consultant	Architectural Design 2/ Construction Planning
		Osamu Yamada 8 days	Shimpei Taguchi 8days	Akira Sugiura 12days	Tomohiro Shitara 13days	Kaoru Matsumiya 12days
11/13/16	Su	Tokyo→Addis Ababa				
11/14/16	Mo	Courtesy call and discussion at JICA office, Courtesy call and discussion at MOFED Addis Ababa→Mekelle				
11/15/16	Tu	Discussion with TREB				
11/16/16	We	Courtesy call and discussion at BOPF, Discussion and signing on MM with TREB				
11/17/16	Th	Mekelle→Addis Ababa		Discussion with TREB		
11/18/16	Fr	Report to JICA Office, Report to MOFED, Report to EoJ, Addis Ababa→		Site survey 5,8		
11/19/16	Sa	→Tokyo	→Cairo	Site survey 7		
11/20/16	Su	Team meeting				
11/21/16	Mo	Site survey 2,4				
11/22/16	Tu	Site survey 1,3				
11/23/16	We			Mekelle→Addis Ababa Report to JICA Office	Discussion with TREB Mekelle→Addis Ababa	
11/24/16	Th			Team meeting Addis Ababa→	Survey on architecture, construciton and procurement	Survey on architecture, construciton and procurement
11/25/16	Fr			→Tokyo	Survey on architecture, construciton and procurement Addis Ababa→	Survey on architecture, construciton and procurement
11/26/16	Sa				→Tokyo	Documentation

2. List of Parties Concerned in the Recipient Country

- Federal Ministry of Education

Mr. Abebe Garedew	Pre-service Teacher Training Coordinator
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- Tigray National Regional State Education Bureau (TREB)

Mr.Gebreegziabher	Vice Bureau Head
Mr.BahataW/Michael	Vice Bureau Head
Mr.Wihibsegay	Audit Head
Mr.Gebremedhin Mesfin	Plan Head
Mr.Edris Mohammed	Procurement finance property head
Mr.Dagnew Aytegeb	Communication Head
Mr.Zerabruk Kebede	Head/Core Process License and Relicense
Ms.Dinkayehu Haile	Data encoder
Mr.Teklay G/michael	Data base administrator
Mr.Atsbha Hailezgi	EMIS Expert
Mr.Seifu Anbesse	Human Resource Development
Mr.Abraham Tekele Haimanot	Capacity Building Case Manager
Mr.Solomon Fsahaie	Curriculum Development
Ms.Silas Araya	Curriculum Development Implementation case manager
Ms.Deguyetnu Asrese	Storekeeper

- Tigray Development Association

Mr.Taddele Hagos	CEO
------------------	-----

- Tigray National Regional State Bureau of Plan and Finance

Mr.Brhane Tsegab	Bureau Head
Mr.Hagos Weldekidan	Deputy Head
Mr.Girmay Hailu	Plan and Budget Coordinator
Mr.Hadush Gebremeskel	IT Administrator

- Woreda Education Office

Mr.Gebre Egziabher Hailemariam	Deguatemben WEO/ Vice Head
Mr.Atsbaha	Kilte Awlaelo WEO/ Vice Head
Mr.KibromTesfay	Enderta WEO/Vice head and Head of Curriculum

Mr.Hairekiros Gebregzeobhair	Enderta WEO/ Head of Curriculum
Mr.Bahre Birlao	Saesie Tsaeda Enba WEO/ Vice Head and Planning
Mr.Hailemariam Abebe	Saesie Tsaeda Enba WEO/Quality of standard assurance
Mr.Bereket Amadie	Weree Leke WEO/ Vice head
Mr.Kidane Getahun	Gantafeshum WEO/Head
Mr.Hailemariam Mesfin	Gantafeshum WEO/Curriculum Implementation
Mr.Kahsay Mamo	Gantafeshum WEO/Curriculum Implementation
Mr.Mohammed Hassen	KoremWEO/Head
Mr.Moges Yirga Kahsay	KoremWEO/Planning and Documentation
Mr.AkliluBrhan	AbiyiAdi WEO/Head
Mr.TesfaMariamBerhe	AbiyiAdi WEO/Planner
Mr.HabtomMeles	Adigrat WEO/Head
Mr.Fitiwi Mebrahtom	Adigrat WEO/Planning
Mr.Tesfau Hafte	Hintalwojerat WEO/Head
Mr.Haftom Abraha	Ahferom WEO/Head
Mr.GebreKidan Amare	Ahferom WEO/Vice Head
Mr.UkubayG/gergs	Ahferom WEO/Planning
Ms.GerimaG/giorgis	Ahferom WEO/Standard quality of Education
Mr.YohannesAlem	Maichew WEO/Head
Mr.MesfinAemero	Maichew WEO/Developmental Plan
Mr.Hailelassie Hadush	TanquaAbergele WEO/ Vice Head
Mr.Mehari Weldegebriel Weldeyohanes	TanquaAbergele WEO

- Tigray National Regional State Bureau of Construction, Road and Transport

Mr.Guesh Menkr	Construction Regulation License and Permission Core Process Head
Mr.Zelalem Ngusse	Building Design and Construction Core Process Head

- Tigray National Regional State Environmental Protection, Land Administration and Use Agency

Mr.HailelassieFiseha	Environmental Protection Core Process Head
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**Minutes of Discussions
on the Preparatory Survey for the Project for
Construction of Secondary Schools in Tigray National Regional State**

In response to the request from the Government of the Federal Democratic Republic of Ethiopia (hereinafter referred to as "Ethiopia"), the Government of Japan decided to conduct a Preparatory Survey for the Project for Construction of Secondary Schools in Tigray National Regional State (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 Ethiopia, headed by Osamu Yamada, JICA Senior Advisor, and is scheduled to stay in the country from March 30th to May 13th, 2016.

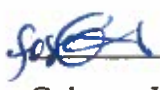
The Team held a series of discussions with the officials concerned of the Government of Ethiopia including Tigray National Regional State and conducted a field survey in the Project area. In the course of the discussions, both sides have confirmed the main items described in the attached sheets. The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


Mekelle, April 5th, 2016



Osamu Yamada
Leader, Preparatory Survey Team
Japan International Cooperation Agency

Japan International Cooperation Agency
Japan
4
Witnessed by



Gobezey Woldearegay Kinfu
Bureau Head
Tigray National Regional State Education Bureau
Federal Democratic Republic of Ethiopia

Witnessed by



Kokeb Misrak
Director
Bilateral Cooperation Directorate,
Ministry of Finance and Economic Cooperation
Federal Democratic Republic of Ethiopia




Erhane Tsegb
Bureau Head
Tigray National Regional State Plan and Finance
Bureau
Federal Democratic Republic of Ethiopia


ATTACHMENT

1. Objective of the Project

The main objective of the Project is to improve teaching and learning in secondary education through the construction of school buildings in Tigray National Regional State (hereinafter referred to as “TNRS”), thereby contributing to the expansion of access and the improvement of quality, equity, efficiency of secondary education, which is described as one of the main priority goals in education policy documents, namely Education Sector Development Program 5 of Ethiopia.

2. Title of the Preparatory Survey

Both sides confirmed the title of the Preparatory Survey as “the Preparatory Survey for the Project for Construction of Secondary Schools in Tigray National Regional State”.

3. Project Site

3-1. For the sake of efficient project management and supervision, both sides confirmed that the sites of the Project are in Central zone, Eastern zone, South Eastern zone, and Southern zone, which is shown in Annex 1.

3-2. Both sides also agreed that the sites for the Project will be selected from the list of requested construction sites and their priorities as attached in Annex 1, based on the criteria described in Annex 2. However, depending on the field survey results, the list of requested construction sites and their priorities (Annex 1) can be revised with the consensus of JICA and Tigray National Regional State Education Bureau (hereinafter referred to as “TREB”).

3-3. The Ethiopian side agreed that TREB shall provide attestation for all requested construction sites to the Team by the end of April, 2016.

3-4. The Ethiopian side also agreed that the actual construction sites will be selected by Japanese side, based on the overall result of this field survey and within the budget limitation of the Government of Japan.

4. Responsible Authority for the Project

Both sides confirmed that TREB will be the executing agency for the Project (hereinafter referred to as the “Executing Agency”). The Executing Agency shall coordinate with all the relevant authorities to ensure smooth implementation of the

Minutes of Discussions

Project and ensure that the undertakings for the Project shall be taken by relevant authorities properly and on time. The organization charts are shown in Annex 3.

5. Items requested by the Government of Ethiopia

- 5-1. As a result of discussions, both sides confirmed that the items requested by the Government of Ethiopia are in Annex 4.
- 5-2. If it deems necessary to include a soft component based on the survey, the relevance and content will be examined by Japanese side.
- 5-3. JICA will assess the appropriateness of the above requested items through the survey and will report the findings to the Government of Japan. The final scope of the Project will be decided by the Government of Japan.

6. Japanese Grant Scheme

6-1. The Ethiopian side understands the Japanese Grant Scheme and its procedures as described in Annex 5, Annex 6 and Annex 7, and necessary measures to be taken by the Government of Ethiopia. A template of the Project Monitoring Report to be submitted by the executing agency is as attached in Annex 8.

6-2. The Ethiopian side agreed to take the necessary measures, as described in Annex 9, for smooth implementation of the Project, as a condition for the Japanese Grant to be implemented. The contents of the Annex 9 will be elaborated and refined during the survey and be agreed in the mission dispatched for explanation of the Draft Preparatory Survey Report.

The contents of Annex 9 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 9 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 Ethiopia until May 13th, 2016.

7-2. JICA will prepare a draft Preparatory Survey Report in English and dispatch a mission to Ethiopia in order to explain its contents around October, 2016.

7-3. If the contents of the draft Preparatory Survey Report is accepted in principle and the undertakings for the Project are fully agreed by the Ethiopian side, JICA will finalize the Preparatory Survey Report in English and send it to Ethiopia around

Minutes of Discussions

January, 2017.

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

8. Other Relevant Issues

8-1. Tax Exemption

The Team and TNRS have agreed that VAT shall be borne by TNRS. As to other taxes, Japanese side position is stipulated in the Annex 5 and clearly explained to Ethiopian side. However, Ethiopian side did not agree on it, and those issues are left for further discussions.

8-2. Prime contractors

Ministry of Finance and Economic Cooperation, the Government of Ethiopia requested JICA to consider local companies to be directly hired as prime contractors under the Project and also requested JICA to explain their position to TREB. To this effect, the Team conveyed their message to TREB but also explained that for the efficient and smooth implementation of the Project, the prime contractors should be limited to Japanese nationals as stipulated in Annex 5. Both sides discussed this issue and finally confirmed that the prime contractors shall be Japanese nationals.

8-3. Questionnaire and relevant information on the Study

TREB agreed to provide the Team with available relevant data, information and materials necessary for the execution of this field survey by the end of April, 2016.

8-4. Operation and maintenance

The Ethiopian side shall be responsible for proper operation and maintenance of school facilities constructed under the Project. The Ethiopian side shall be also responsible for assigning and deploying the number of qualified teachers and other administrative persons to the school facilities.

8-5. Approval of the project

The both sides confirmed that the approval of the Project is subjective to the decision of the Government of Japan.

Annex 1 List of requested construction sites and their priorities (attached with geographical mapping)

Annex 2 Selection criteria for construction sites

Annex 3 Organization Chart

Annex 4 Requested Components and their priorities



Minutes of Discussions

Annex 5 Japanese Grant

Annex 6 Flow Chart of Japanese Grant Procedures

Annex 7 Financial Flow of Japanese Grant

Annex 8 Project Monitoring Report (template)

Annex 9 Major Undertakings to be taken by Each Government



Annex 1

List of requested construction sites and their priorities

Priority No.	Site	Woreda	Zone	A: G 9-12 B: G 9-10
1	Endamariam Qorar	Degua temben	South Eastern	A
2	Abraha Weatsbaha	Kilte Awlaelo	Eastern	A
3	Aragure	Enderta	South Eastern	A
4	Maimegelta	Saesie Tsaeda Enba	Eastern	B
5	Zengee	Weree Leke	Central	B
6	Siheta	Ganta feshum	Eastern	B
7	Korem	Korem	Southern	A
8	Abiyi Adi	Abiyi Adi	Central	A
9	Adigrat	Aigrat	Eastern	A
10	Senaale	Hintalowojerat	South Eastern	B
11	Siero	Ahferom	Central	B
12	Maichew	Maichew	Southern	A
13	Gomonge	Tanqua Abergele	Central	B
Excluded	Zata	Ofla	Southern	-
Excluded	Tsaedaqerni	Teselemti	North Western	-
Excluded	Maidmu	Tahtay Qoraro	North Western	-
Excluded	Tsehayo	Laelay Adyabo	North Western	-
Excluded	Maiatsmi(Hanbera)	Tahtay Maichew	Central	-
Excluded	Shire-Endaslase	Shire-Endaslase	North Western	-
Excluded	Alamata(urban)	Alamata(urban)	Southern	-
Excluded	Wugro	Wugro	Eastern	-

“Excluded” means that those sites are excluded from the survey for the sake of efficient and effective project management.

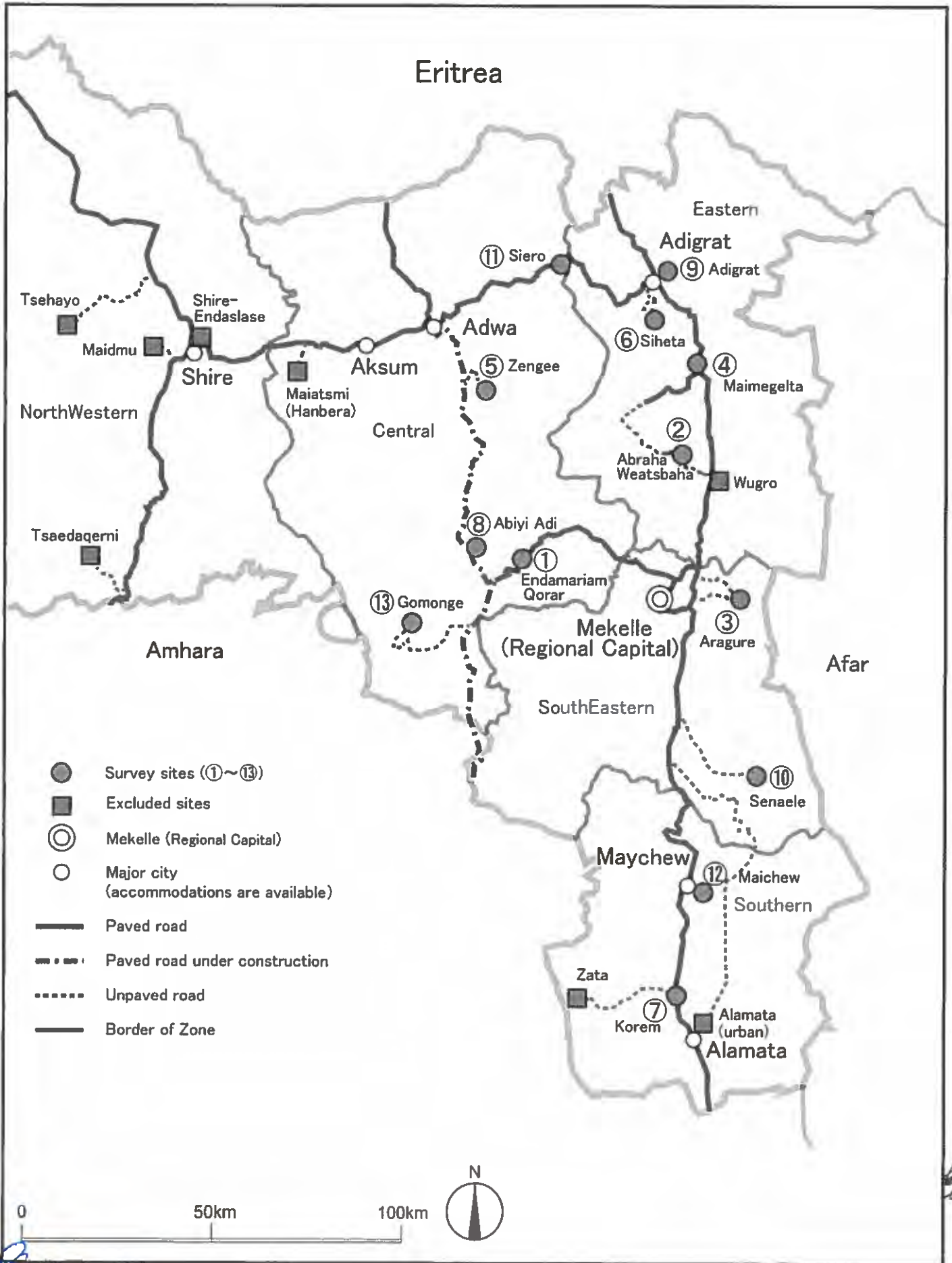
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Geographical Mapping of Requested Construction Sites



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Selection criteria for construction sites

Necessary criteria for possible construction site

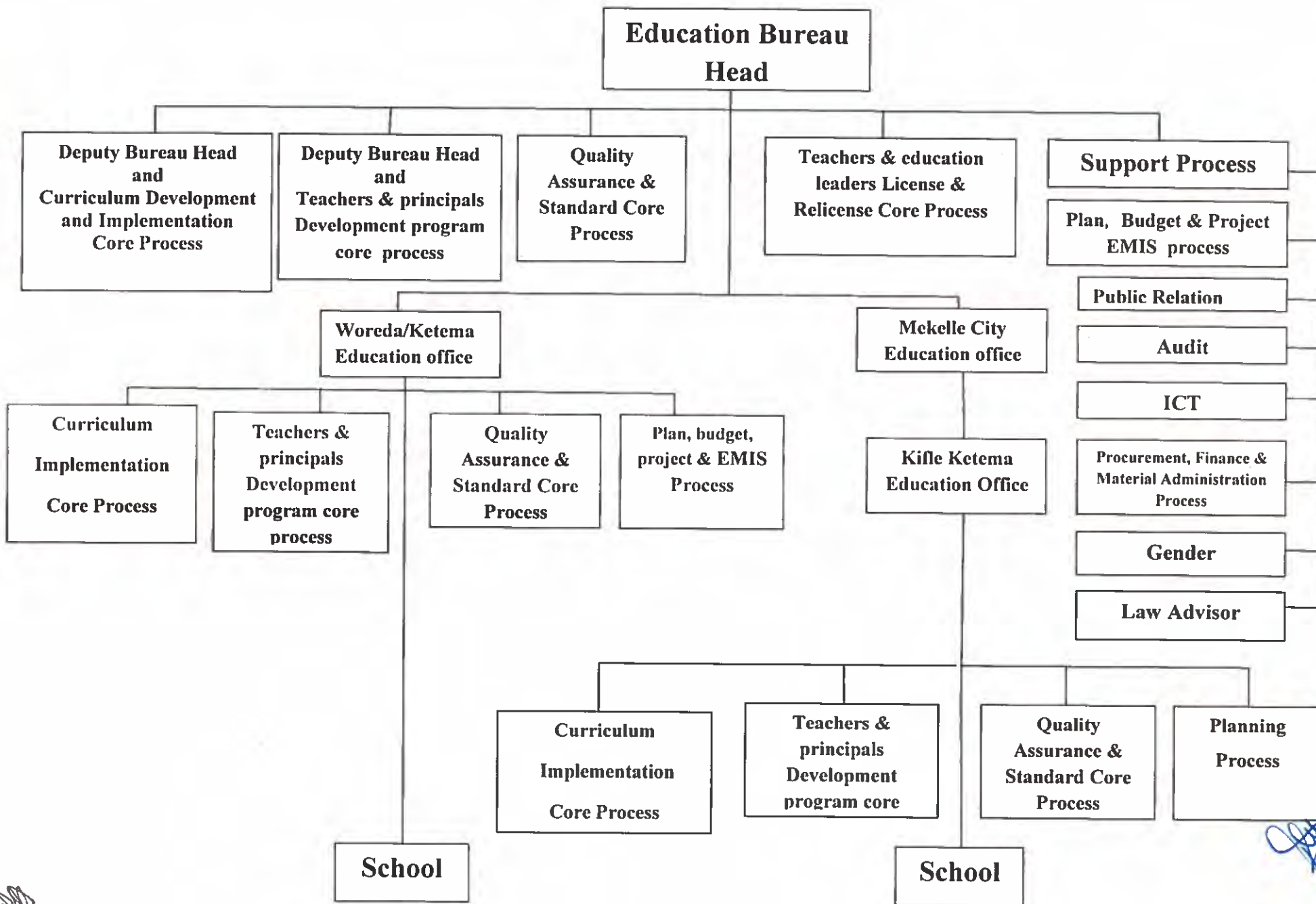
- Verifiable of the land ownership/land-use right by the document
- No duplication with any construction/improvement projects by other donors or Government
- No risk of massive natural hazard and security
- No hindrance for construction in terms of physical access to the site, working space, etc.
- Land soil has enough bearing strength for construction
- Sufficient land space for construction or extension
- No environmental impact or need for resettlement of population
- Sufficient enrollment demand for school
- JICA safety regulations

Selection criteria for prioritization

- Prioritization order of TREB
- The number of existing secondary school classrooms
- The number of students in one classroom
- Enrolment demand for school
- Possibilities to be a model and focal school in the area
- Possibilities to be used as a center for teacher training and a resource center
- Allocation of sufficient number of qualified teachers and government budget for the school operation
- Commitment /arrangement regarding school management
- Accessibility for construction
- Distance from Mekelle



Organizational Structure of Tigray Education Bureau



Annex 4

Requested Components

Requested Components		Priorities
Construction Facilities	Classrooms	First priority Minimum standard
	Administration rooms	
	Laboratories	
	Toilets	
	Libraries and stores	
	Computer centers	
	Sports fields (30,000 – 60,000 m ²) (Clearing surface only)	Second priority
	Guardhouses	
	Compound lighting	Out of scope
	Satellite receiver houses	
Furniture	Classroom furniture	First priority Minimum standard
	Laboratory furniture	
	Administration room furniture	
	Library and store furniture	
	Computer center furniture	
Equipment, Chemicals, and Computers	Computers and their accessories	Second priority
	Science equipment and apparatuses	Out of scope
	Chemicals	
	Equipment for satellite receiver house	

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.



Annex 5

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



Annex 5

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 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

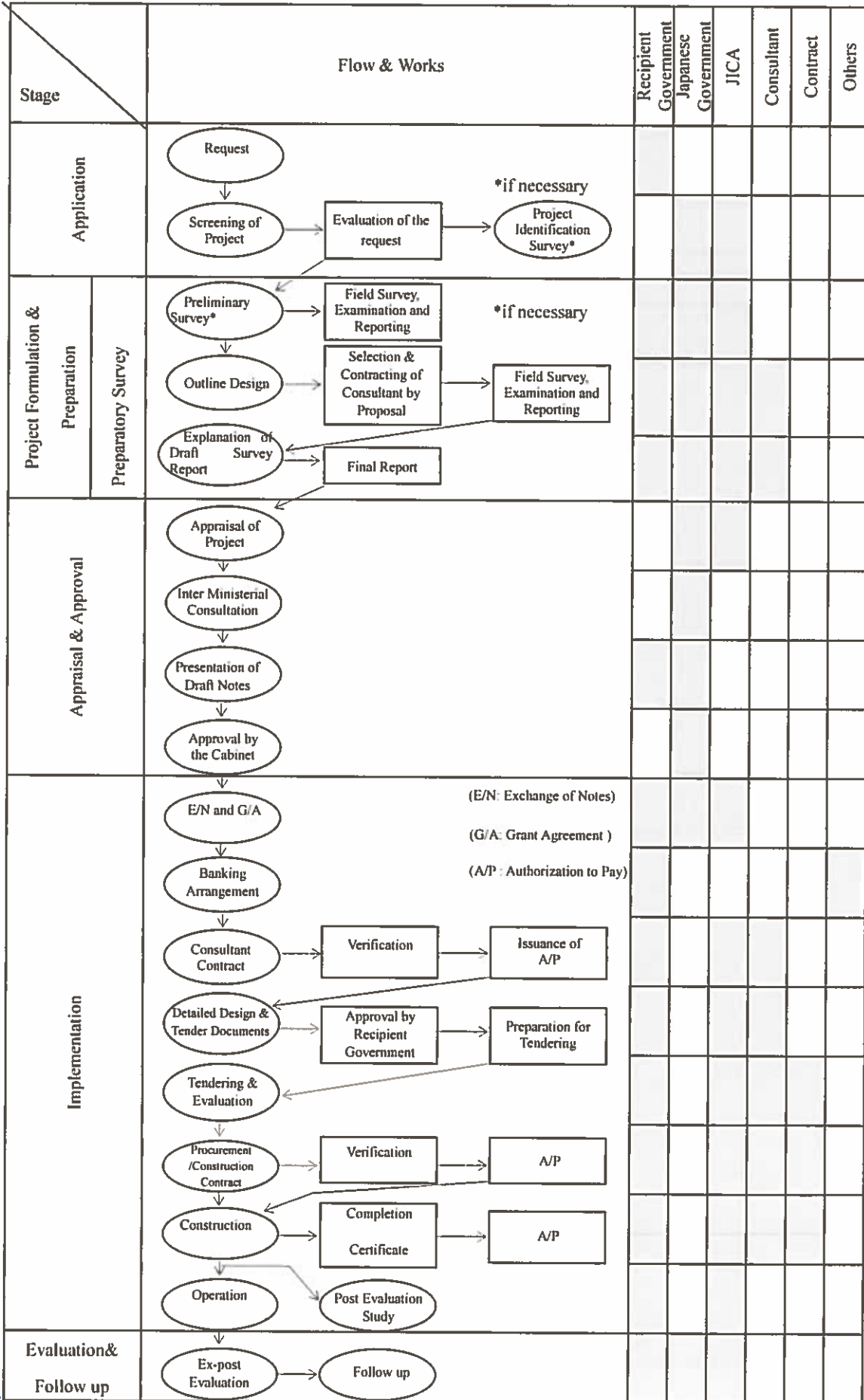
The Government of the recipient country must take their initiative to carefully monitor the progress of the Project in order to ensure its smooth implementation as part of their responsibility in the G/A, and must regularly report to JICA about its status by using the Project Monitoring Report (PMR).

(12) Safety Measures

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



FLOW CHART OF JAPANESE GRANT PROCEDURES

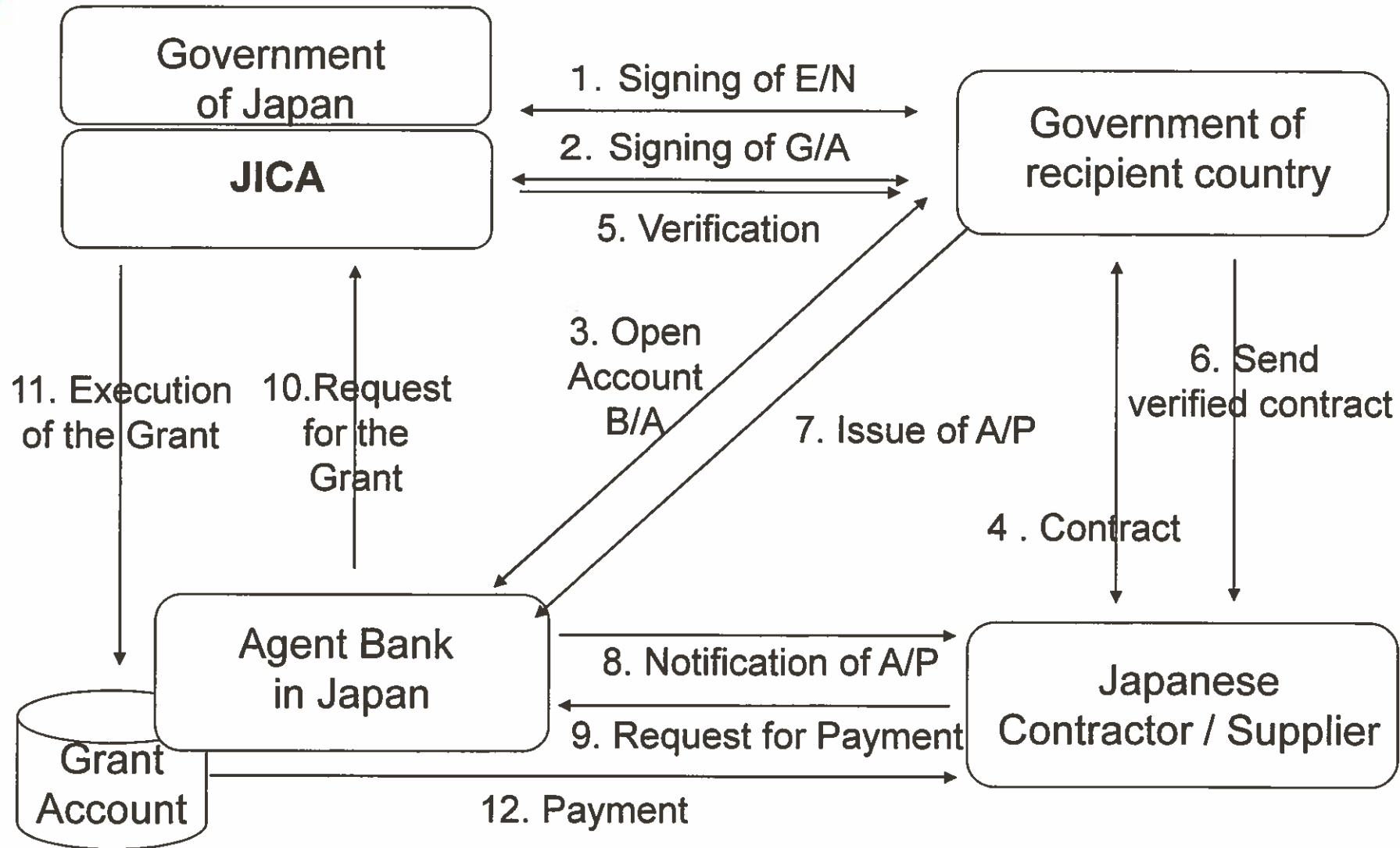


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Financial Flow of Grant Aid (A/P Type)



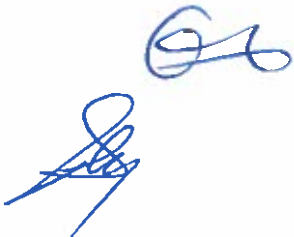
Project Monitoring Report
on
Project Name
Grant Agreement No. XXXXXXXX
 20XX, Month

Organization Information

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

Outline of Grant Agreement:

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





1: Project Description

1-1 Project Objective

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.

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.

'Soft component' shall be included in 'Items'.	All change of design shall be recorded regardless of its degree.
--	--

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)

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)
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)

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
	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):
Actual issues and Countermeasure(s)	
(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.





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	2nd	3rd	4th	5th	6th
		●month, 2015	●month, 2015	●month, 2015			
1	Item 1						
2	Item 2						
3	Item 3						
4	Item 4						
5	Item 5						

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

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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%)	

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	MoFEC/ BoPF		
2	To secure the following lands 1) project sites 2) temporary construction yard and stock yard near the project sites	before notice of the tender document	TREB		
3	To remove existing facilities, if those are at the construction sites, and clear the project sites	before notice of the tender document	TREB		
4	To obtain the planning, zoning, building permit	before notice of the tender document	TREB		

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		MoFEC/ BoPF		
	1) Advising commission of A/P	within 1 month after the signing of the contract	MoFEC/ BoPF		
	2) Payment commission for A/P	every payment	MoFEC/ BoPF		
2	To ensure tax exemption and customs clearance of the products in recipient country	during the Project	TREB		
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	TREB		
4	The Team and TNRS have agreed that VAT shall be borne by TNRS. As to other taxes, Japanese side position is stipulated in the Annex 5 and clearly explained to Ethiopian side. However, Ethiopian side did not agree on it, and those issues are left for further discussions.	during the Project	MoFEC/ BoPF		
5	To bear all the expenses, other than those to be borne by the Grant Aid, necessary for construction of the facilities	during the Project	TREB		
6	To submit Project Monitoring Report.	every month	TREB		MD
7	To construct access roads (outside the site)	before start of the construction	TREB		
8	To provide facilities for the distribution of electricity, water supply, drainage and other incidental facilities		TREB		
	1) Electricity The distributing line to the site	6 months before completion of the construction	TREB		
	2) Water Supply The city water distribution main to the site	6 months before completion of the construction	TREB		
	3) Drainage The city drainage main (for storm, sewer and others) to the site	6 months before completion of the construction	TREB		

Annex 9

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 operation and maintenance cost 2) Allocation of operation and maintenance staff 3) Routine check/Periodic inspection	After completion of the construction	TREB		

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

Major Undertakings to be Covered by the Japanese Grant

No	Items	Deadline	Cost Estimated (Million Japanese Yen)*	
1	To construct schools (or To procure equipment)			
	1) To ensure prompt unloading and customs clearance at the port of disembarkation in recipient country			
	a) Marine(Air) transportation of the products from Japan to the recipient country			
	b) Internal transportation from the port of disembarkation to the project site			
	2) To construct access roads			
	a) Within the site			
	3) To provide facilities for the distribution of electricity, water supply, drainage and other incidental facilities			
	a) Electricity			
	- The drop wiring and internal wiring within the site			
	- The main circuit breaker and transformer			
	b) Water Supply			
	- The supply system within the site (receiving and/or elevated tanks)			
	c) Drainage			
	- The drainage system (for toilet sewer, ordinary waste, storm drainage and others) within the site			
	d) Furniture and Equipment			
	- Project equipment			
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.






**Technical Notes
on the Preparatory Survey for
the Project for Construction of Secondary Schools in Tigray National
Regional State
(Field Survey I)**

Following the signing of the Minutes of Discussions (hereinafter referred to as “M/D”) on the Project for Construction of Secondary Schools in Tigray National Regional State (hereinafter referred to as “the Project”) on April 5, 2016, the Consultant members of the Preparatory Survey Team (hereinafter referred to as “the Consultant”) continued to hold a series of meetings with the officials concerned of the Tigray National Regional State (hereinafter referred to as “TNRS”) and to conduct field survey in the requested areas of TNRS.

In the course of meetings and the field survey, Tigray National Regional State Education Bureau (hereinafter referred to as “TREB”) the executing agency of the Project, and the Consultant have identified technical issues to be addressed as per described in the attached sheets.



Mr. Gebremedhin Mesfin Yigzaw

Head of Plan, Budget & Project EMIS Process
Tigray National Regional State Education
Bureau
Federal Democratic Republic of Ethiopia

Mekelle, April 29, 2016



設 楽 知 法

Mr. Tomohiro Shitara

Deputy Chief Consultant
Preparatory Survey Team
Mohri, Architect & Associates, Inc.

ATTACHMENT

1. Site Visit Results

The Consultant surveyed 13 schools requested in the agreed Minutes of Meetings. The result of the survey has been reported to TREB as per the Annex 1. TREB confirmed the contents of the survey result. The Consultant explained to TREB that several surveyed sites are difficult to access and it is highly likely that the priorities of such schools become low.

2. Priority of the Surveyed Sites

Following the survey result, TREB requested the Consultant to change the priority order of the sites as per the Annex 2.

3. Land Use Right Certificates

TREB submitted to the Consultant the land use right certificates/or land ownership certificates of 9 requested sites out of all 13 requested sites as per the Annex 3, and the land use right certificates/or land ownership certificates of remaining 4 requested sites (No.9, 11, 12 and 13) shall be submitted to the Consultant by the end of May, 2016.

In addition, TREB explained to the Consultant that the Government solely owns the land and/or the land use right of 13 requested sites.

TREB confirmed to the Consultant that there are no inhabitants in 13 requested sites and thus the Project shall not involve any relocation of people from the respective sites.

4. Building Permit and Building Code

TREB shall be responsible for applying for a building permit to relevant authorities in executing the Project. TREB shall inform the Consultants of documents and information including relevant building codes in applying for a building permit by the end of May, 2016. The Consultant shall provide TREB with the necessary documents and information accordingly.

5. Environmental and Social Consideration

TREB shall be responsible for applying for an assessment (a screening) on environmental and social consideration matters to Environmental Protection, Rural Land Administration and Use Agency. TREB shall submit a certificate issued by the agency which clearly states that all 13 requested sites do not require an Environmental Impact Assessment (EIA) to the Consultant by the end of May, 2016.

6. Preparation Work

The Consultant explained to TREB that preparation works stipulated in the Annex 4 are necessary to be executed by the Ethiopian side with its budget. TREB pledged the execution of the listed works. The Consultant shall explain details of the preparation works including the timing and an approximate cost to the TREB in the Field Survey II. Also, in the Field Survey II, the Consultant and TREB shall confirm the responsible bodies of the respective preparation works.

7. Education Standard

TREB submitted an Educational Standard of Tigray Regional State (Tigrigna version). The Educational Standard is viewed as a long-term educational objective by TREB and the Consultant. Therefore, TREB and the Consultant agreed to alter/modify the contents of the standard according to actual use of existing educational facilities and project cost, as may be necessary.

8. Facilities and Furniture

Both sides confirmed that the specifications of the respective facility components stipulated in the Minutes of Meetings are as per the Annex 5. Additionally, both sides confirmed that the necessary furniture for the respective facility components are as per the Annex 6. Furthermore, TREB submitted to the Consultant a list of minimum necessary required teachers and staff for a secondary school as per the Annex 7. The Consultant explained to TREB that it shall finalize the components and the specification of the facilities

and the furniture based upon a further analysis in Japan. TREB agreed on the point.

9. Student Enrollment Projection

TREB submitted to the Consultant student enrollment projections of the respective sites as per the Annex 8. The Consultant explained to TREB that it shall analyze the projections and may change them following the analysis in Japan. TREB agreed on the point.

10. Setting the Number of Classrooms

Both sides confirm pre-conditions in setting the number of classrooms at the respective sites as follows. However, it should be noted that the number of classrooms at the respective sites shall be finalized by the Japanese side following the analysis in Japan.

- No. of students per section is 40
- Schools shall be operated in full time schooling
- The number of students to be accommodated in the respective schools shall be projected as of 2019/20, based upon the actual enrollment of existing feeder schools.

11. Number of Science Laboratories

The Consultant proposed to TREB that 1 science laboratory may be used for 3 science subjects instead of designing 3 separate science laboratories. However, TREB emphasized that 3 separate science laboratories are standard for both G9-10 and G9-12 schools.

END



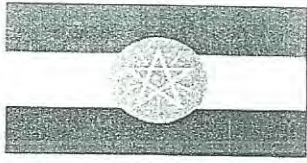
Annex 1 Report on the site survey

No.	Zone	Woreda	Site	Urban/Rural	Requested Grade Level	Type of Needs			School Statistics (2015/16)									
						To reduce the congestion in the existing secondary schools	To improve access to secondary education	Temporary operation has already started	Existing Secondary School in the Catchment					Primary Schools in the Catchment				
									No. of Schools	Grade Level	Enrollment	No. of Sections	No. of available classrooms	Remarks	No. of Schools	Total G8 Enrollment	Total G8 enrollment expected to register new school	Remarks
1	South Eastern	Degua temben	Endamariam Qorar	R	G9-12	✓	✓	✓	1	G9	621	10	0	The statistics of the temporary school. Existing schools are far for students living near the new site.	21	729	729	-
2	Eastern	Kilte Awlaelo	Abraha Weatsbaha	R	G9-12		✓		-	-	-	-	-	-	8	460	460	-
3	South Eastern	Enderta	Aragure	R	G9-12		✓	✓	1	G9-10	254	6	0	The statistics of the temporary school.	11	456	456	-
4	Eastern	Saesie Tsaeda Enba	Maimegelta	R	G9-10		✓		-	-	-	-	-	-	9	1,005	882	-
5	Central	Weree Leke	Zengee	R	G9-10	✓	✓		-	-	-	-	-	Existing schools are far for students living near the new site.	15	1,000	834	-
6	Eastern	Ganta feshum	Siheta	R	G9-10		✓		-	-	-	-	-	-	12	1,336	1,314	8 schools in Ganta feshum woreda, 2 schools in Hawzen woreda and 2 schools in Saesi tsaedaemba woreda.
7	Southern	Korem	Korem	U	G9-12	✓	✓		1	G9-10	2,492	48	21	Existing schools limit the registration because of the crowdeness.	8	546	387	-
									1	G11-12	663	14	8					
8	Central	Abiyi Adi	Abiyi Adi	U	G9-12	✓	✓		1	G9-10	1,899	32	24	Existing schools limit the registration because of the crowdeness. 8 classrooms are not utilized in the hot season.	10	1,007	1,007	2 schools in Abi-adi woreda and 8 schools in Kola temben woreda.
									1	G11-12	1,369	24	16					
9	Eastern	Adigrat	Adigrat	U	G9-12	✓	✓		3	G9-10	5,636	108	57	Existing schools limit the registration because of the crowdeness.	19	1,743	1,423	5 schools in Adigrat woreda, 5 schools in Gantafshum woreda, and 9 schools from Gulomekada woreda.
									1	G9-12	1,610	27	27					
									1	G11-12	983	21	15					
10	South eastern	Hintalwojerat	Senaale	R	G9-10		✓		-	-	-	-	-	-	8	709	709	-
11	Central	Ahferom	Siero	R	G9-10		✓		-	-	-	-	-	-	8	526	526	7 schools in Ahferom woreda and 5 school in Ganta afeshum woreda.
12	Southern	Maichew	Maichew	U	G9-12	✓	✓		2	G9-10	3,171	64	32	Existing schools limit the registration because of the crowdeness.	17	1,205	1,205	2 schools in Maichew woreda and 15 schools in Endamohoni woreda.
13	Central	Tanqua Abergele	Gomonge	R	G9-10		✓		-	-	-	-	-	-	11	443	443	-

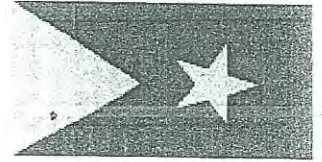
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Annex 2 Priority order of the sites

No.	Site	Woreda	Zone	Priority	
				TREB Priority	Surveyed Priority
1	Endamariam Qorar	Degua temben	South Eastern	1	1
2	Abraha Weatsbaha	Kilte Awlaelo	Eastern	2	2
3	Aragure	Enderta	South Eastern	3	3
4	Maimegelta	Saesie Tsaeda Enba	Eastern	4	4
5	Zengee	Weree Leke	Central	5	5
6	Siheta	Ganta feshum	Eastern	6	13
7	Korem	Korem	Southern	7	6
8	Abiyi Adi	Abiyi Adi	Central	8	7
9	Adigrat	Adigrat	Eastern	9	8
10	Senaele	Hintalwojerat	South Eastern	10	9
11	Siero	Ahferom	Central	11	10
12	Maichew	Maichew	Southern	12	11
13	Gomonge	Tanqua Abergele	Central	13	12



ቤት ፅሕፈት ትምህርት ወረዳ ደገዓ ተምቤን
WERDA DEGUA TEMBIEN EDUCATION OFFICE
ሃ/ሰላም
H/SELAM



ሰ.ቁ. 0343390271
0343390013

Tell

Ref 8- 1.307/35

Date 04/04/2 016 E.C

To Tigray Region Educatin bureau

Mekelle

Subject : - land perparation of endamariam 2nd school

As you tell as to write you a letter about the land that is prepared for the building of secondary school in Degua temben Wereda, Endamariyam Tebia, the people and the local administration of the tabiya offer **250 meter x 240 meter = 60, 000 square meter** land as a gift for the secondary school construction. The land that offers by the people and local admistration as agift is free from any compensation fee. Learning and teaching process is held in the area with 621 grade nine students in the offered area. The people and local administration of the tabia as wel as the adminstration of the wereda and the education officè is ready to ally with the charity organization in any aspect.

With regard

G/her H/mariam

Vice head of Degua tenben wereda education office



Copy:-

- To head of Degua tenben wereda education office
- To Degua tenben wereda education office
- To Degua tenben wereda Adminstration bureau

ራእይ ቤት ፅሕፈትና

ቁጥና ዘለዎ ልምዳታዊ ሰራዊት ትምህርት ብምህናዕን ዕሬት ትምህርት ተረጋገፁ፣ ሃገር ለኽ ተመራመርቲን መሃዝትን ሰገናት እፍራኝ

ድኸነት ነበረደ-ነበረ ከይኑ ምርአይ እይ።

ቤት ፅ/ት ትምህርቲ ወረዳ ፪ አውላዕሎ
Kilete Awlaelo Wereda Education Office

ቁፅ 02/05/13-873/5/35
ዕለት 13/07/2008 ሐ/ፀ

ናብ ቢሮ ትም/ቲ ክልል ትግራይ

መቐለ፣

ዋኒት፣ ብዛዕባን 2^ይ ብርኪ ቤት ትም/ቲ አብረሃ አፅበሃ ዝውዕል መሬት ዝተዳለወ
መ-ካኑ ምፍላጥ ይምልከት

አብ ር/ዋኒት ከምዝተሓበረ ንዘለና ናይ 2ይ ብርኪ ቤት ትም/ቲ ሸፋን ፀገም ንምፍታሕ አብ ጣብያ አብረሃ ወ/አፅበሃ ብጃፓን መንግስቲ ክስረሐልና ትልሚ ካምዝተትሓዘን ናይቲ ጣብያ ማሕበረሰብን አመራርሓን እውን ንዚ ተረዲኦም ንቲ 2ይ ብርኪ ዝህነፀሉ ቦታ ቅድሚ ክልተ ዓመት አትሒዙ ተነጊሩዎ ቦታ ነጻሩ ወሲኑ ካምዝሃቦን እቲ ፀገም ክፍተሐሉ አብ ምፅባይ ካምዘሎ እንትነፍልጥ እቲ ጣብያ ቦታ ካምዘዳለዩ ዝሕብር ዝፀሓፉልና ደብዳቤ ፎቶ ኮፒ ምስ እዚ መሰነይታ ደብዳቤ እዚ አተሓሕዝና ንልእኽ ካምዘለና ንሕብር፡፡

ABRIHA - ATSBA IHA

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አፅበሃ ገ/ወርያ
ም/ሓጻፊ ቤት ፅሕፈት

ቅዳሕ፣

ንጣብያ አ/አፅበሃ

አ/አፅበሃ፣

ናብ ወረዳ ክልተ ኣውላዕሎ ክፍለ ትምህርቲ ቤት ዕሕፊት

ውቅሮ

ዋኒት ፡ ብዛዕባ ን 2^ይብርኪ ቤት ትምህርቲ ዝኸውን ቦታ ምፍላጥ ይምልከተ

ኣብ ር/ዋኒት ከምዝተሓበረ ኣብ ጣብያና ጣብያ ኣ/ኣፅብሃ ናይ ሃይስኩል ዕድል ከም ዝረከበት ዝፍለጥ ኮይኑ ንዚ መስርሒ ዝኸውን ድማ ኣብ ቁሽት ኣ/ኣፅብሃ ፍሉይ ቦታ እንዳጃንሆይ ዝተበሃለ እንትኸውን ስፍሓት መሬቱ ድማ 6ተ ሄክታር ኮይኑ እዚ ዝተጠቀሰ ቦታ ብሰብ ሞያ ተራኪዶ እንድሕር ኣይኮንን ዝበሃል እንተኮይኑ ካልእ 3ተ መማረፂ ዝኸውን ቦታ ከም ዘለናን ብተ ወሳኪ ድማ ሰብ ሞያ ኣብ ዝመረዕዎ ቦታ ንክስረሐልና ፍቃደኛታት ከም ዝኮና ክንሕብር ንፈቱ።

ምስ ሰላምታ

ገ/ሚካኤል ገደይ

ጣብያ ኣ/ኣፅብሃ አማሓዳሪ



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አብ ብሄራዊ ክልላዊ መንግስቲ ትግራይ ቤት ዕሕራት ትምህርቲ ወረዳ እንደርታ
The Government of The national State of Tigray Enderta Wereda
Education Office

ቁጽ (Reff.No) አወት/ 7/1316/9/135
ዕለት (Date) 30/7/2008 ዓ/ም



From :- Enderta wereda Education office

Quiha

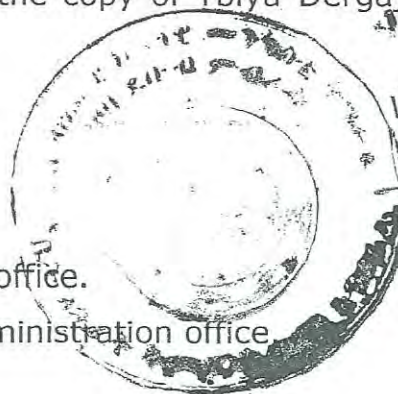
To :- Tigray region education bureau

Mekelle

Concerning:- About Aragure high school land approval

Governments of Ethiopia and Japan have a long period of cooperation in different developmental activities as the contunity of cooperation the government of Japan will build Aragure secondary School. The people of tabiya Dergajen feeling happy when the information is heard. As the result they give 30000 m² land freely to the construction of the school. And the committee of land use and administration office of tabiya Dergajen approved the 30000 m² land. We attached the copy of Tbiya Dergajen land use and administration letter.

With best regards,



በደብዳቤ ላይ ስም
Tesse Teklay Teslay

Copy

To Enderta wereda Administration office.

To Endert wereda land use and administration office

Quiha

ራስዬ:- በቢሮደራሪ ዝርዝር ተምሃሮ ዕሬታ ዝሓለዎ ትምህርቲ የእኹል ፍልጠት ዘለለትን ግንባብን ሓዘም ናይ እተሓሰበ ለውጢ ብምምጃ ንባዕሎምን

ግድምን ጠቐምቲ ህኾኑ ዜጋታት ፈርዮም ምርእይ።

ስልኪ 0344420259/334

Administration of kebele may megelta wereda saesie tsaeda'emba

MAY MEGELTA

Fre-weyni

Number

Date 04/04/2016

To Tigray district education buero

Mekele

Subject :- fore warding a question for building secondary school

As it is expressed above we are a candidate of selecting for the building of secondary school by Japan government and you are appointed us on 03/04/2016

for coming and we are also giving appointment for our population to come on the mentioned date above with d/t preconditions for accepting his guests but you are not coming on your appointment date and the population is wishing of high school building even though feeling of guilty b/c the society are poor. To rehears you a few may megelta kebele has around 45,865 population from this sours we have around 8262 students each year from 8 full primary schools out of this 1860 students migrate each year to edaga hamus & freweyni separating from parents and suffering by house rent, transportation and food consumption etc.

Example of students drop out of 5 years their education because of distant high school and economical problems are as follows

sex	2012	2013	2014	2015	2016	subtotal	remark
male	37	29	18	23	13	120	
female	26	22	25	33	15	121	
total	63	51	43	56	28	241	

Etc. can be mentioned

- 1.our kebele is peaceful & secured
- 2.Climatic condition is semi cool which is comfortable for health
- 3.We have above eight hectare free place for high school foundation .
- 4.Comfortable for transportation place which is around main road/high way/or black road
- 5.Water and electric city accessible/available/ on it.
- 6.We have 8 sarounding full primary schools they are Mariam-agamet,Adi-ayfela.Sedwa,Akora,Ayfela,Hangoda,Devyen and May-megelta. Including satellite students we have around 8262students each year.
- 7.It can solve the overcrowded of students in high schools of Freweyni& Edaga hamus .

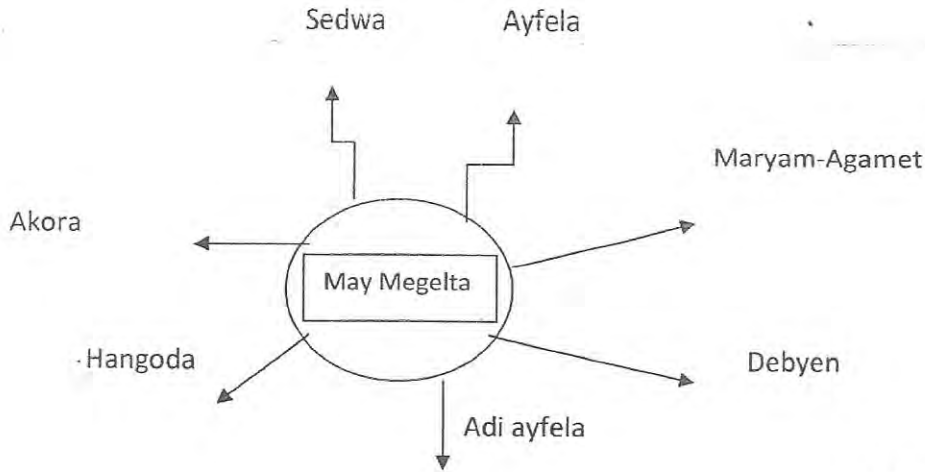
By this that we put above factors it can make us special candidate &we wish it can pass us and our population also since he had a great hope & desire and so since the appointment is not on





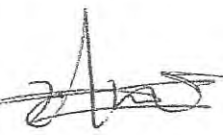
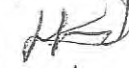
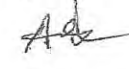




its saying date ,we are requesting you to give us a short period of appointment please for computation with others on computation

We apologize with great respect please!



With regards!

Administrators of kebele may megelta

- | | | |
|------------------------|-------------------------------|---|
| 1.Mr. Muez Hailu | main administrator |  |
| 2.Mr. Alem G/medhn | propaganda |  |
| 3.Mr.H/gebreal Hadush | population assosation |  |
| 4.Mis. Abrha Tadese | female affairs |  |
| 5.Mr.G/meskel Mebrahtu | youth affairs |  |
| 6.Mr.Amha kahsay | Affairs of calm&adminstration |  |
| 7.Mr.G/medhin teka | population&gov't coordination |  |
| 8.Teacher Tesfay Grbru | principal |  |
| 9.Mr.Kahsay Tsegay | agricultural technitian |  |

Copy

To wereda saesie tsaeda emba buero of education office

To wereda saesie tsaeda emba administrator office

Freweyni

To regional administration office

mekele



Saesie Tsaeda Emba Education office
Freweini

Ref No 687 ለ/ገ.አ.ግ. 02-21

Date 25/07/2008

To Tigray Region State Education Bureau

Mekele

Case Selection Of Secondary School For construction

As mentioned above the Bureau of Education of Tigray wrote a letter to select one secondary school to be constructed by Government & assigned to the management of the wereda Education office Instead so as the wereda Education office Management committee selected a site using the following Criteria's ,

Population size

Cluster distance

Distance from another high school nearby

By seeing the above criteria's deeply the management committee of the wereda Education office has been selected one high school as mentioned by the Government to be constructed sited in cluster Maimegelta , Tabia Maimegelta . To deepen the selection the beneficiaries are put in a clear way in the following Table

S.No	Name of beneficiary	M	F	T
1	Mariam Agamet	374	393	767
2	Maimegelta	605	570	1175
3	Deven	297	308	605
4	Adi Ayfela	466	455	921
5	Hangoda	284	278	562
6	Sedwa	375	384	759
7	Ayfela	300	383	683
8	Brgudo0	76	73	149
9	Angol	50	51	101
	Total	2827	2895	5722

With Regards

Hailmariam Abebe
R/Head Office Of education

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Ref.No W/L 1/1/827/35

Date 26/07/08 E/C

To: Tigray Education Bureau

Mekelle

Attention to Ato G/medhin (Planning)

Issue; in forming community commitment to have secondary school by the Japan Government

Wereda werie leke have more than 180000 people and more than 44436 elementary and secondary school students. To those students there are 70 elementary schools organized in 12 cluster schools.

But those 6 secondary schools are hardly crowded to manage the students in the ratio of 1:75 students in a class.

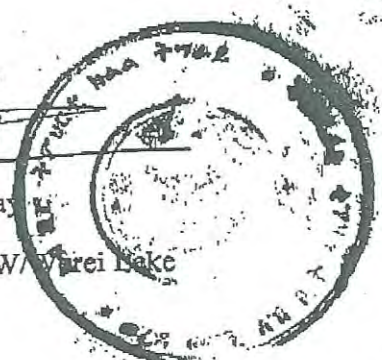
So the Wereda Administration and Education office in collabrating the community of Zongue Kebele Was happy to have secondary school that will be constructed by the Japan Government and they are committed to prepare school land area and other resoruces which will asking to do so in our context.

With regards

Handwritten signature of Tadesse Girmay

Tadesse Girmay

Head Education office of W/ Weri Beke



Handwritten signature

Handwritten initials TS

Siheta



NO 1/2-810/25/35

date 25/07/2008 e/c

TO TIGRAY REGION EDUCATION BUREAU

MEKELE

Subject about free land to open in secondary school

In the above subject in wereda ganta Afeshum tabya bahira siheta is open secondary school then the NGO (JAPAN Government) if you came to this wereda or tabya I weel come to give the free land with out any obstacle (compencetino) to buld the class rooms .

Set by

[Signature]
Kidane getahun

Wereda education office head

[Signature]
ክፍለ ወረዳ ክፍለ ትምህርት
Wereda education office head



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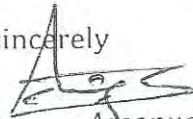
Ref. ኮ.ት/0323/ቡ-83/35

Date April 4, 2016

To Tigray Education bureau
Development Planning & Resource Mobilization management process
Mekelle

We shall announce you that the administration office of Korem town permitted 1.809543 hectare land for building of secondary school in order to minimize the problem that is faced to the one secondary school we have. Therefore we are asking education bureau to solve the problem that we already have in order to help us to assure quality of education for our society. We thank you in advance by the name of people and administration of Korem town for your cooperation.

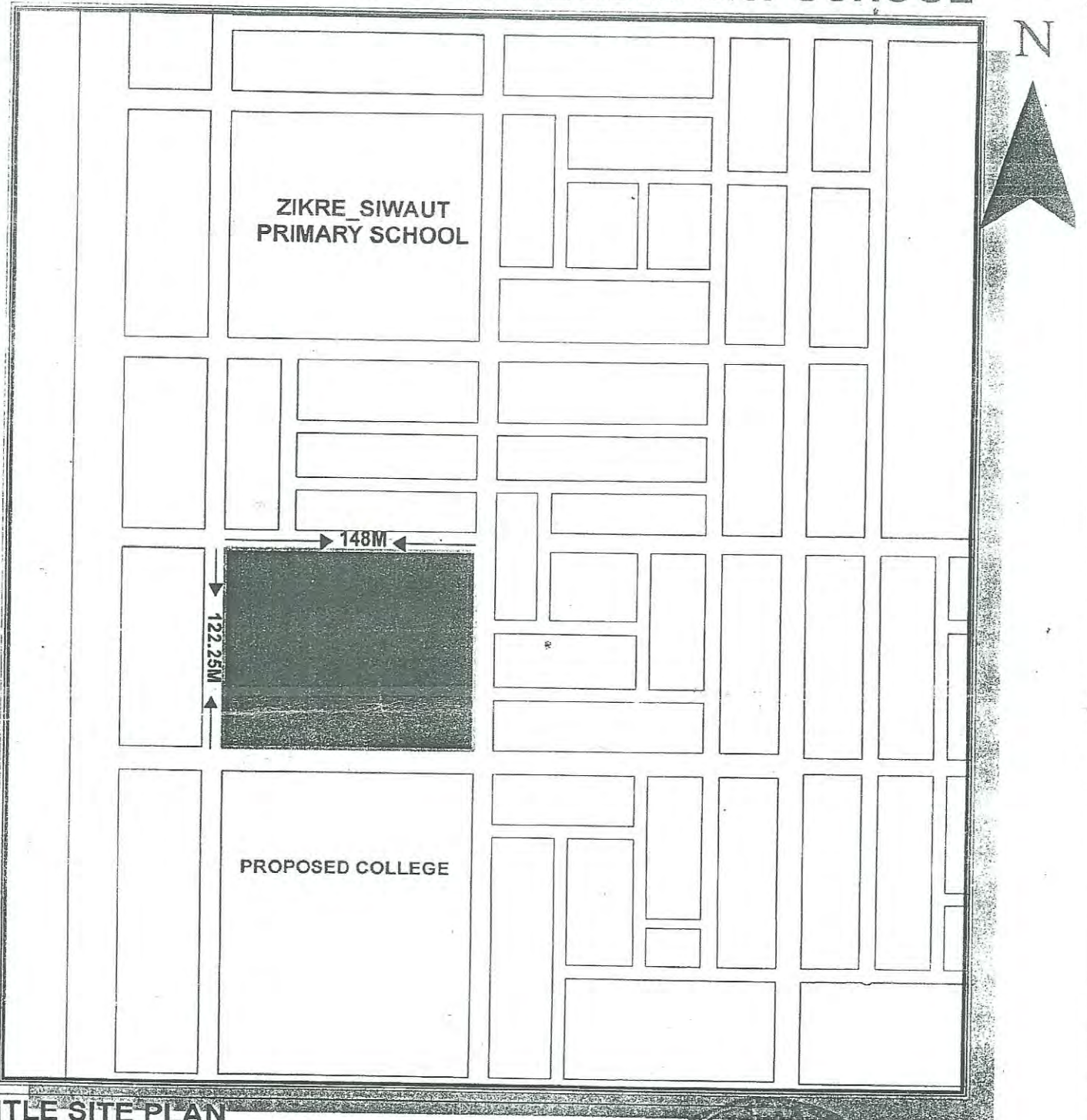
Your sincerely



Amanuel Tsehaye
Vice head of the office



SITE PALN TO KOREM SECONDERY SCHOOL



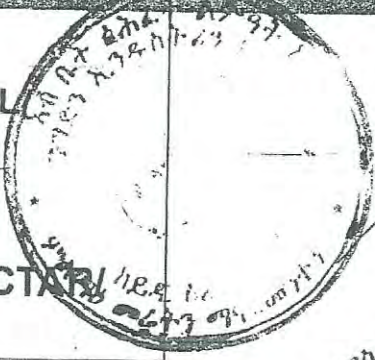
TITLE SITE PLAN

OWNER; KOREM CITY EDUCATION OFFICE
PROJECET; SERVECE/SECONDERY SCHOOL
PREPARED BY ; BERIHUN ASSEFA

GIS EXPERT

LOCATION KOREM 02 KEBELE

MEASURED AREA; 18095.43M²/1.809543 HECTAR



Handwritten signature and date: '07-07-08' and 'Berihun Assefa'.

Handwritten signature in blue ink.

ቤት ፅሕፈት ትምህርት ከተማ ኮረም

Korem City Education Office

☎ 034 5510286

☒ 49



አብ ቤት ፅሕፈት ትምህርት
ከተማ ኮረም ደ.ማ
ፊርማ ስምዖን ተልሚ

ቁጽ ገ-4/ሱ-608/ዳ-111/35

ዕለት 07/07/2008

አብ ቤት ትም/ቲ ክልል ትግራይ

ናብ ክደደ ስራሕ ልምዓታዊ ትልሚ

መቐለ 1/2

**ዋኒኑ ፡ ብዛዕባ ንጊጅ ብርኪ ንምስራሕ ዝተዳለወ ሳይት ፕላን ምልክ
ይምልከት ፡**

አብ ሳዕሊ ዋኒኑ ከምዝተሓበረ አብ ከተማ ኮረም ሕፃናት 2^ይ ብርኪ ብምህላው ነዚ ፀገም ንምፍታሕ ድማ ምምሕዳር ከተማ ኮረም 1.809543 ሂሳብ ስቲ ቤት ትም/ቲ ዝገረፈሉ ቦታ ዘዳለዩ እንትኸውን ቤት ትም/ቲ ክልል ትግራይ ድማ እቲ ፀገም ተረዲኡ አድላይ ዘበለ ሓገዝ ክግበረልና ምስዚ መሰነይታ ደብዳቤ ዝተዳለወ ሳይት ፕላን አተሓሕዝና ዘለእኸና እንትኸውን ንእትገብሩልና ሓገዝ ብሽም ሀዘብን ምም/ርን ከተማ ኮረም አቀዲምና ብምምስጋን/ዩ ።



ምስ ሰላምታ
[Signature]
/አማካኝ ዕዳ ስምዖን ተልሚ
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ኢትዮጵያ ስልጣን መንግስት ትግራይ ቤት ል/ት ት/ቲ ከተማ ዓ/ግዳ.
THE NATIONAL REGIONAL STATE OF TIGRAY ABI-ADI EDUCATION OFFICE

No di / 175 / 92 :
Date April 04 / 2016

To national regional state of tigray education bureau

Mekele

First of all we thank to Japans government and people
Abi-Adi town was constructd in (1571-1605) 1563-1597 E. C on time of Sertse-dngl. It located
western of Mekele , about 95 k/m away from Mekele . It is between mekele and adwa town. It
is low land area .The area is peace full and secured.

Abi-Adi town has 4 kebeles .

Total population of the town in 2016 = male 13133 femel 13883 Total 27016 and.

Total number of students in 2016 = male 3733 femel 3311 Total 7044

Most of the people lived on lower economic level. i.e on farm , tread, civil sevants , small
interprizs , wages and man power etc.

At this time We have shortage of schools and classrooms, specially secondary schools,
numberly we have only 1 secondary school (9-10) and 1 preparastory school (11-12)

The number of students grade 9-10 male 966 femel 933 total 1899 . grade 11-12 male 887
femel 482 total 1369 . Total number of students 9-12 Male 1853 Femel 1415 Total 3268 .

The number of classrooms = 56. Students' classroom ratio about 1:58.35 . This is dificult to
manage the classroom and it affects quality of education. But we have not any chance to
minimize student classroom ratio. The cause of increasing students, many students come from
rural area around of the town. Administration of Abi- Adi town have futurity decade plan to
add additional schools. now we discuses where the place is and arreged about 33,000
m² free from any thig to construct. we hope the place will be acceptd , other wise we have
alternative to change where they went . After they see the place will be transfer on time with its
site plan , the Administration and people of Abi- Adi town stand with you to complate the
constraction

In general we thank more to Japans government and people.

ABIYI ADI

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[Handwritten signature]
Tefamariam Berhe Reda
ከኢትዮጵያ ስልጣን መንግስት ትግራይ
የትምህርት ቤት ል/ት ት/ቲ ከተማ ዓ/ግዳ

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Date 24/7/2008

To Tigray Regional State Of Educational Bureau –
Performer Development Plan

Mekelle

Subject- about prepared place for senale secondary school.

As we mentioned in the topic Hintalo wojrat education office needs to open a secondary school in senale tabya with depending farther distance and interest of the community.

Senale located in southern east woreda Hintalo wejerat. In this cluster around 6334 students learn at this time. Because of these we want to open secondary school at senale .

If we get helper(donour) to open the secondary school there is a prepared place with out any payment(insurance)



Best regards With

Abraha Gebremedhin

Head of hintalo wejrat education office

Annex 4 Undertakings to be done by the Government of Ethiopia

No.	Site	Woreda	Zone	Access Road Construction or Repair	Leveling	Remove Obstruction	Water Supply	Power Supply
1	Endamariam Qorar	Degua temben	South Eastern	No need	Needed	Trees	Water supply is not provided by the project	100m cabling
2	Abraha Weatsbaha	Kilte Awiaelo	Eastern	80m repair and 100m new access road construction are needed	Needed	Stone fence, Stone store (Not used), Trees, and Hole		200m cabling
3	Aragure	Enderta	South Eastern	200m repair and 100m new access road construction are needed	Needed with stone removal	No need		25m cabling
4	Maimegelta	Saesie Tsaeda Enba	Eastern	60m repair is needed	Needed with stone removal	Collapsed stone building (Not used)		100m cabling
5	Zenggee	Weree Leke	Central	1.2km repair is needed	Needed with stone removal	No need		25m cabling
6	Siheta	Ganta feshum	Eastern	100m repair is needed No access to the town in rainy season	Needed	No need		No power supply
7	Korem	Korem	Southern	500m new access road construction is needed on black cotton soil	No need	No need		500m cabling
8	Abiyi Adi	Abiyi Adi	Central	350m new access road construction is needed	Needed	Stone monument		350m cabling
9	Adigrat	Adigrat	Eastern	No need	Needed	Stone monument		25m cabling
10	Senaele	Hintalwojerat	South Eastern	150m new access road construction is needed	Needed	No need		200m cabling
11	Siero	Ahferom	Central	1.0km repair is needed	No need	Trees		500m cabling
12	Maichew	Maichew	Southern	15m new access road construction is needed	Needed	No need		No power supply
13	Gomonge	Tanqua Abergele	Central	500m new access road construction is needed	Needed with stone removal	No need		400m cabling

Annex 5 List and Major Specification of the Facility Components

Block	Name of Room	Area (m ²)	Remarks
Pedagogical Block	Classroom	52.89	7.20mx7.34m
	Library room	259.00	Reading room; 200m ² Books receiving area: 30m ² Show room: 9m ² Staff room:20m ²
	Physics laboratory	152.75	Demonstration Room, Preparatory Room, and Store
	Chemistry laboratory	152.75	ditto
	Biology laboratory	108.00	ditto
	Computer center	56.00	8.00mx7.00m
	Toilet (for students)	22.26	Dry latrine with 8 wells separate for boys and girls
Administration Block	Director's office with secretary office	23.12	Director:12.53 m ² , Secretary:10.59m ²
	Deputy director's office	12.53	3.55mx3.53m
	Staff room	28.12	3.70mx7.60m
	Administration room	12.53	3.55mx3.53m
	Record room	12.53	3.55mx3.53m
	Guard house	6	2.45mx2.45m
	Store room	37.19	5.55mx6.70m
	First aid room	14.83	3.53mx4.20m
	Waiting area	4.14	1.80mx2.30m
	Janitors room	17.82	14.85mx1.20m
	Room for distribution of electric	1.48	1.00mx1.48m
	Toilet (for staffs and teachers)	6.13	Separate for males and females, 2.15mx2.85m

Annex 6 List and Major Specification of the Facility Components

Type	Facility		Accommodation Capacity	Furniture		
	Name	Number		Name	Number	
Secondary School	Pedagogical Block	Classroom	Depends on schools	Student:40 Teacher:1	Arm (Tablet) Chair	40
					Teacher's Table	1
					Teacher's Chair	1
					Chalk board	1
					Notice Board	1
		Physics, Chemistry and Biology laboratories	Total: 3	Student:40 Teacher:1	Stool	40
					Student's Working Table	20
					Teacher's Table	1
					Teacher's Chair	1
					Demonstration Table	1
	Library room	1	Student:150 Librarian:1	Chalk board	1	
				Cupboard	4	
				Demonstrating Cupboard	1	
				Library Table	25	
				Library Chair	150	
				File Cabinet	1	
				Librarian Table	1	
	Computer center	1	Student:40 Teacher:1	Librarian Chair	1	
				Bookshelf	20	
				Chalk board	1	
Notice Board				1		
Computer Table				20		
Student's Chair				40		
Teacher's Table				1		
Administration Block	Director's office with secretary office	1	Director:1 Secretary:1 Guest:4+4	Teacher's Chair	1	
				Shelf	1	
	Deputy director's office	Total: 2	Vice Director:1 Guest:2	White Board	1	
				Notice Board	1	
				Office Table	2	
				Meeting Table	1	
				Armrest Chair	2	
	Staff room	1	Teaching Staff: 30	Guest Chair	8	
				Cupboard	2	
				File Cabinet	2	
Notice Board				1		
Administration room	1	Administrator:2 Accountant:1 Casher:1	Office Table	1		
			Armrest Chair	1		
			Guest Chair	2		
			Cupboard	1		
			File Cabinet	1		
Record room	1	Record Officer:1	Office Chair	30		
			Meeting Table	5		
			Chalkboard	1		
			Locker	Minimum 30 Boxes		
Store room	1	Store Keeper:1	Office Table	4		
			Armrest Chair	4		
			Office Chair	4		
			Cupboard	4		
			File Cabinet	4		
Fast Aid room	1	-	Office Table	1		
			Office Chair	1		
			Guest Chair	1		
			Cupboard	4		
			Bookshelf	8		
			Office Chair	1		
			Cupboard	1		
			Bed	1		

* No furniture in Guard house, Janitors room, Waiting space, Room for distribution of electric, and Toilet

Annex 7

Necessary staff in Secondary school

G9-10		G9-12	
Field of work	Number of staff	Field of work	Number of staff
Director	1	Director	1
Deputy Director	2	Deputy Director	2
Teacher	Depend on the number of student	Teacher	Depend on the number of student
Unit Leader	2	Unit Leader	2
Admin & Finance	1	Admin & Finance	1
Store keeper	1	Store keeper	1
Secretary	1	Secretary	1
Record officer	1	Record officer	1
Librarian	1	Librarian	1
Laboratory Technician	1	Laboratory Technician	1
IT Technician	1	IT Technician	1
Janitor	By school budget	Janitor	By school budget
Guard	2	Guard	2

Annex 8 Calculation of Estimated enrollment

A type (G9-12)

No.	Zone	Woreda	Site	Year	G5	G6	G7	G8	G9	G10	G11	G12			
1	South eastern	Degua temben	Endamariam Qorar	2015/16	995	782	707	729							
				2016/17		995	782	707	729						
				2017/18			995	782	707	729					
				2018/19				995	782	707	729				
				2019/20					995	782	707	729			
												3,213			
												No. of necessary classroom	81		

No.	Zone	Woreda	Site	Year	G5	G6	G7	G8	G9	G10	G11	G12		
2	Eastern	Kilte Awlao	Abraha Weatsbaha	2015/16	549	576	428	460						
				2016/17		549	576	428	460					
				2017/18			549	576	428	460				
				2018/19				549	576	428	460			
				2019/20					549	576	428	460		
												2,013		
												No. of necessary classroom	51	

No.	Zone	Woreda	Site	Year	G5	G6	G7	G8	G9	G10	G11	G12		
3	South eastern	Enderta	Aragure	2015/16	543	422	374	456						
				2016/17		543	422	374	456					
				2017/18			543	422	374	456				
				2018/19				543	422	374	456			
				2019/20					543	422	374	456		
												1,795		
												No. of necessary classroom	45	

No.	Zone	Woreda	Site	Year	G5	G6	G7	G8	G9	G10	G11	G12		
7	Southern	Korem	Korem	2015/16	438	412	407	387						
				2016/17		438	412	407	387					
				2017/18			438	412	407	387				
				2018/19				438	412	407	387			
				2019/20					438	412	407	387		
												1,644		
												No. of necessary classroom	42	

No.	Zone	Woreda	Site	Year	G5	G6	G7	G8	G9	G10	G11	G12		
8	Central	Abiyi Adi	Abiyi Adi	2015/16	1,051	1,024	933	1,007						
				2016/17		1,051	1,024	933	1,007					
				2017/18			1,051	1,024	933	1,007				
				2018/19				1,051	1,024	933	1,007			
				2019/20					1,051	1,024	933	1,007		
												4,015		
												No. of necessary classroom	101	

No.	Zone	Woreda	Site	Year	G5	G6	G7	G8	G9	G10	G11	G12		
9	Eastern	Adigrat	Adigrat	2015/16	1,252	1,225	1,329	1,423						
				2016/17		1,252	1,225	1,329	1,423					
				2017/18			1,252	1,225	1,329	1,423				
				2018/19				1,252	1,225	1,329	1,423			
				2019/20					1,252	1,225	1,329	1,423		
												5,229		
												No. of necessary classroom	131	

No.	Zone	Woreda	Site	Year	G5	G6	G7	G8	G9	G10	G11	G12		
12	Southern	Maichew	Maichew	2015/16	1,103	1,032	1,064	1,205						
				2016/17		1,103	1,032	1,064	1,205					
				2017/18			1,103	1,032	1,064	1,205				
				2018/19				1,103	1,032	1,064	1,205			
				2019/20					1,103	1,032	1,064	1,205		
												4,404		
												No. of necessary classroom	111	

B type (G9-10)

No.	Zone	Woreda	Site	Year	G5	G6	G7	G8	G9	G10			
4	Eastern	Saesie Tsaeda Enba	Maimegelta	2015/16	893	823							
				2016/17		893	823						
				2017/18			893	823					
				2018/19					893	823			
				2019/20							893	823	1,716
No. of necessary classroom											43		

No.	Zone	Woreda	Site	Year	G5	G6	G7	G8	G9	G10			
5	Central	Weree Leke	Zengec	2015/16	956	724							
				2016/17		956	724						
				2017/18			956	724					
				2018/19					956	724			
				2019/20							956	724	1,680
No. of necessary classroom											42		

No.	Zone	Woreda	Site	Year	G5	G6	G7	G8	G9	G10			
6	Eastern	Ganta feshum	Siheta	2015/16	1,206	1,123							
				2016/17		1,206	1,123						
				2017/18			1,206	1,123					
				2018/19					1,206	1,123			
				2019/20							1,206	1,123	2,329
No. of necessary classroom											59		

No.	Zone	Woreda	Site	Year	G5	G6	G7	G8	G9	G10			
10	South eastern	Hintalwojerat	Senaale	2015/16	630	692							
				2016/17		630	692						
				2017/18			630	692					
				2018/19					630	692			
				2019/20							630	692	1,322
No. of necessary classroom											34		

No.	Zone	Woreda	Site	Year	G5	G6	G7	G8	G9	G10			
11	Central	Ahferom	Siero	2015/16	641	611							
				2016/17		641	611						
				2017/18			641	611					
				2018/19					641	611			
				2019/20							641	611	1,252
No. of necessary classroom											32		

No.	Zone	Woreda	Site	Year	G5	G6	G7	G8	G9	G10			
13	Central	Tanqua Abergele	Gomonge	2015/16	871	708							
				2016/17		871	708						
				2017/18			871	708					
				2018/19					871	708			
				2019/20							871	708	1,579
No. of necessary classroom											40		

Expectation

G5→G6	100%
G6→G7	100%
G7→G8	100%
G8→G9	100%
G9→G10	100%
G10→G11	100%
G11→G12	100%

Pre-conditions in setting the number of classrooms

- No. of students per section is 40
- Schools shall be operated in full time schooling




**Minutes of Discussions
on the Preparatory Survey for the Project for
Construction of Secondary Schools in Tigray National Regional State
(Explanation on Draft Preparatory Survey Report)**

With reference to the minutes of discussions signed between Tigray National Regional State Education Bureau (hereinafter referred to as "TREB") and the Japan International Cooperation Agency (hereinafter referred to as "JICA") on 5th April, 2016 and in response to the request from the Government of Federal Democratic Republic of Ethiopia (hereinafter referred to as "Ethiopia") dated 29th August, 2013, JICA dispatched the Preparatory Survey Team (hereinafter referred to as "the Team") for the explanation of Draft Preparatory Survey Report (hereinafter referred to as "the Draft Report") for the Project for Construction of Secondary Schools in Tigray National Regional State (hereinafter referred to as "the Project"), headed by Osamu Yamada, JICA Senior Adviser from 13th to 18th November, 2016.

As a result of the discussions, both sides agreed on the main items described in the attached sheets.

Mekelle, 17th November, 2016

山口 隆

Osamu Yamada
Leader, Preparatory Survey Team
Japan International Cooperation Agency



for

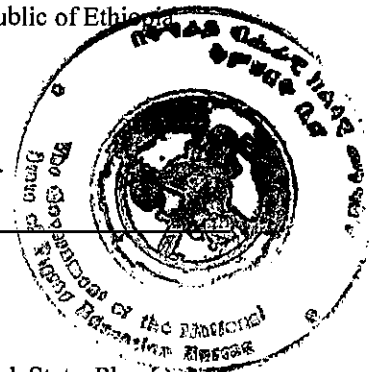
Gobeza Woldearegay Kinfu
Bureau Head
Tigray National Regional State Education Bureau
Federal Democratic Republic of Ethiopia

Witnessed by

Kokeb Misrak
Director
Bilateral Cooperation Directorate,
Ministry of Finance and Economic Cooperation
Federal Democratic Republic of Ethiopia



Brhane Tsegb
Bureau Head
Tigray National Regional State Plan and Finance
Bureau
Federal Democratic Republic of Ethiopia



ATTACHEMENT

1. Objective of the Project

The objective of the Project is to improve teaching and learning in secondary education through the construction of school buildings in Tigray National Regional State (hereinafter referred to as "TNRS"), thereby contributing to the expansion of access and the improvement of quality, equity, efficiency of secondary education, which is described as one of the main priority goals in education policy documents, namely Education Sector Development Program 5 of Ethiopia.

2. Title of the Preparatory Survey

Both sides confirmed the title of the Preparatory Survey as "the Preparatory Survey for the Project for Construction of Secondary Schools in Tigray National Regional State".

3. Project site

Both sides confirmed that the sites of the Project are in TNRS, which is shown in Annex 1.

4. Responsible authority for the Project

Both sides confirmed the authorities responsible for the Project are as follows:
The TREB will be the executing agency for the Project (hereinafter referred to as "the Executing Agency"). The Executing Agency shall coordinate with all the relevant authorities to ensure smooth implementation of the Project and ensure that the undertakings for the Project shall be taken care by relevant authorities properly and on time. The organization charts are shown in Annex 2.

5. Contents of the Draft Report

After the explanation of the contents of the Draft Report by the Team, the Ethiopian side agreed to its contents, which are outlined in Annex 3.

6. Cost estimate

Both sides confirmed that the cost estimate described in the Annex 4, Major Undertakings to be taken by the Government of Ethiopia is provisional and will be examined further by the Government of Japan for its approval.



7. Confidentiality of the cost estimate and technical specifications

Both sides confirmed that the cost estimate and technical specifications in the Draft Report should never be duplicated or disclosed to any third parties until all the contracts under the Project are concluded.

8. Procedures and Basic Principles of Japanese Grant

The Ethiopian side agreed that the procedures and basic principles of Japanese Grant as described in Annex 6 shall be applied to the Project. In addition, the Ethiopian side agreed to take necessary measures according to the procedures.

9. Timeline for the project implementation

The Team explained to the Ethiopian side that the expected timeline for the project implementation is as attached in Annex 7.

10. Expected outcomes and indicators

Both sides agreed that key indicators for expected outcomes are as follows. The Ethiopian side will be responsible for the achievement of agreed key indicators targeted in year 2022 and shall monitor the progress based on those indicators.

[Quantitative indicators]

The number of classrooms used continuously

[Qualitative indicators]

The quality of secondary education

11. Undertakings of the Project

Both sides confirmed the undertakings of the Project as described in Annex 4.

Both sides particularly confirmed that indirect taxes such as VAT and Stamp Duties except Custom Duties, which may be imposed in Ethiopia with respect to the purchase of the products and/or the services shall be borne by TREB without using the Grant, as stipulated in clause 5 of Annex 4. In addition, with respect to the Custom Duties related to the Project, both sides confirmed the exemption of the tax. However, with respect to direct taxes such as corporate taxes and personal income taxes, both sides understand that further discussion will be necessary between Government of Japan and Government of Ethiopia.

The Ethiopian side assured to take the necessary measures and coordination including allocation of the necessary budget, as stipulated in Annex 4, which are preconditions of implementation of the Project. It is further agreed that the costs are



indicative, i.e. at Outline Design level. More accurate costs will be calculated at the Detailed Design stage. Details of obligations in each site is described in Annex 5. Both sides also confirmed that the Annex 4 will be used as an attachment of G/A.

12. Monitoring during the implementation

The Project will be monitored by the Executing Agency and reported to JICA by using the form of Project Monitoring Report (PMR) attached as Annex 8. The timing of submission of the PMR is described in Annex 4.

13. Project completion

Both sides confirmed that the project completes when all the facilities constructed and equipment procured by the grant are in operation. The completion of the Project will be reported to JICA promptly, but in any event not later than six months after completion of the Project.

14. Ex-Post Evaluation

JICA will conduct ex-post evaluation after three (3) years from the project completion, in principle, with respect to five evaluation criteria (Relevance, Effectiveness, Efficiency, Impact, Sustainability). The result of the evaluation will be publicized. The Ethiopian side is required to provide necessary support for the data collection.


15. Schedule of the Study

JICA will finalize the Preparatory Survey Report based on the confirmed items. The report will be sent to the Ethiopian side around April 2016.

16. Environmental and Social Considerations

The Team explained that 'JICA Guidelines for Environmental and Social Considerations (April 2010)' (hereinafter referred to as "the Guidelines") is applicable for the Project. The Project is categorized as C because the Project is likely to have minimal adverse impact on the environment under the Guidelines.

However, in Ethiopia all construction projects must apply to Pre-Screening or Screening for Environmental Impact Assessment (EIA). Therefore, it is TREB's responsibility to apply to TNRS Environmental Protection, Land Administration and Use Agency (EPLAUA) for the screening, and obtain an approval before the beginning of the construction.



17. Other Relevant Issues

17-1. Disclosure of Information

Both sides confirmed that the Preparatory Survey Report from which project cost is excluded will be disclosed to the public after completion of the Preparatory Survey. The comprehensive report including the project cost will be disclosed to the public after all the contracts under the Project are concluded.

17-2. Ammendment of the Scope

It is sugested from TREB that toilets for teachers and staffs should be separeted from toilets for students, and also male and female toilets for students should be located in certain distance away from each other for the consideration of female students. The team noted the request and shall consider to change the design within the limit of budget.

17-3. Building Permit

The team suggested TREB to obtain Building Permit for each school construction site and TREB agreed to obtain those documents after the detail design and before the tender of Japanese contractor.

17-3. Qulaity of furniture

TREB insisited that the qualiy of furnituire should be approved by TREB before the delivery to the Projects sites.

Annex 1 Project Site

Annex 2 Organization Chart

Annex 3 Project Scope

Annex 4 Major Undertakings to be taken by the Government of Ethiopia

Annex 5 Details of Obligations in each site

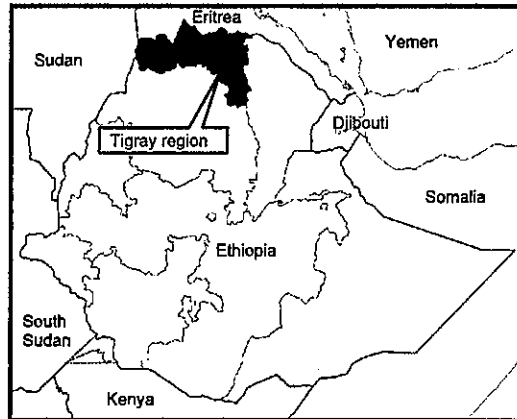
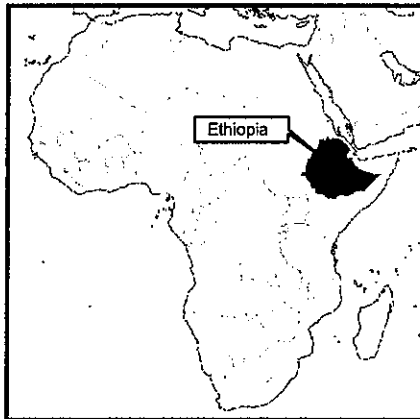
Annex 6 Japanese Grant

Annex 7 Project Implementation Schedule

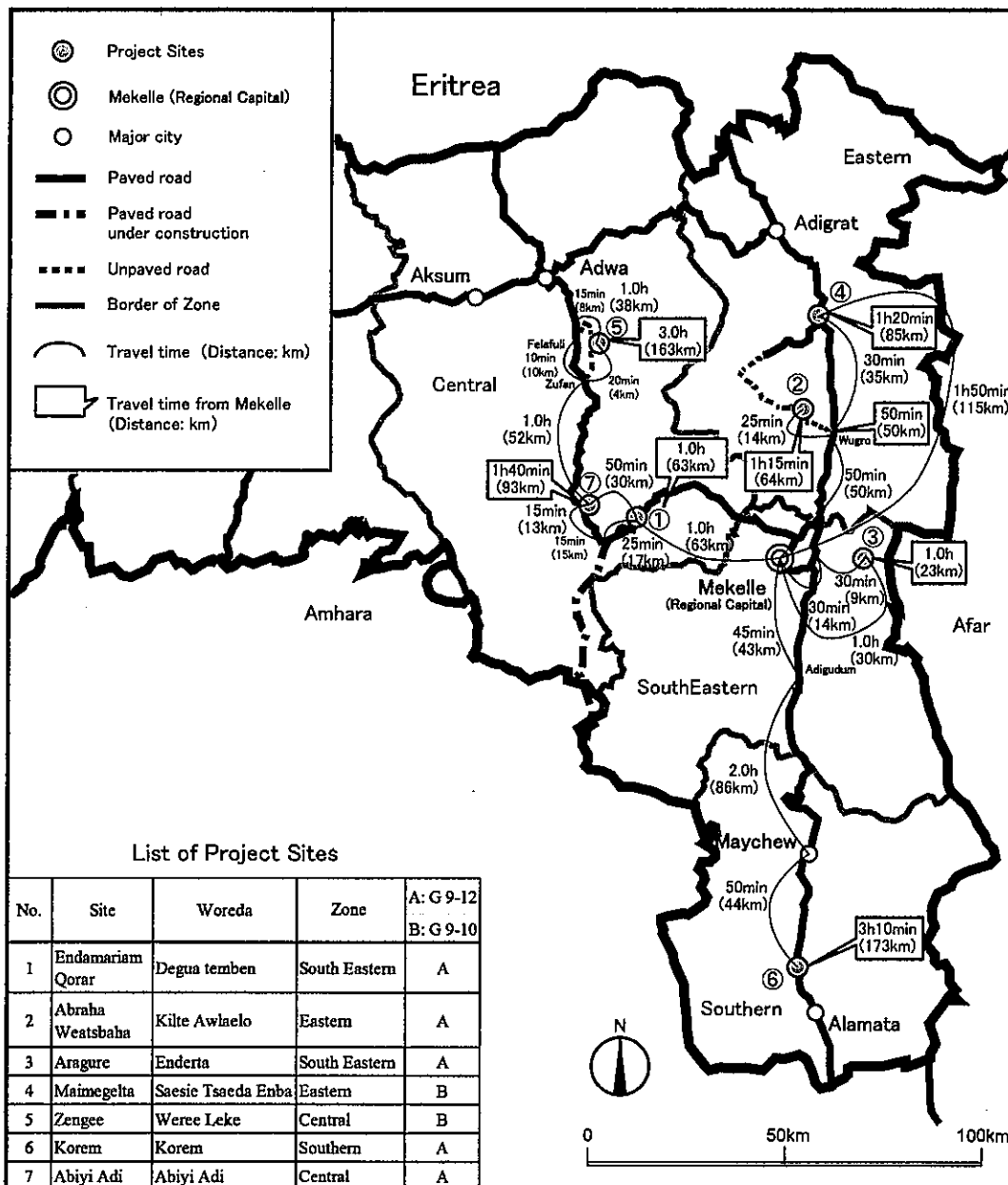
Annex 8 Project Monitoring Report (template)



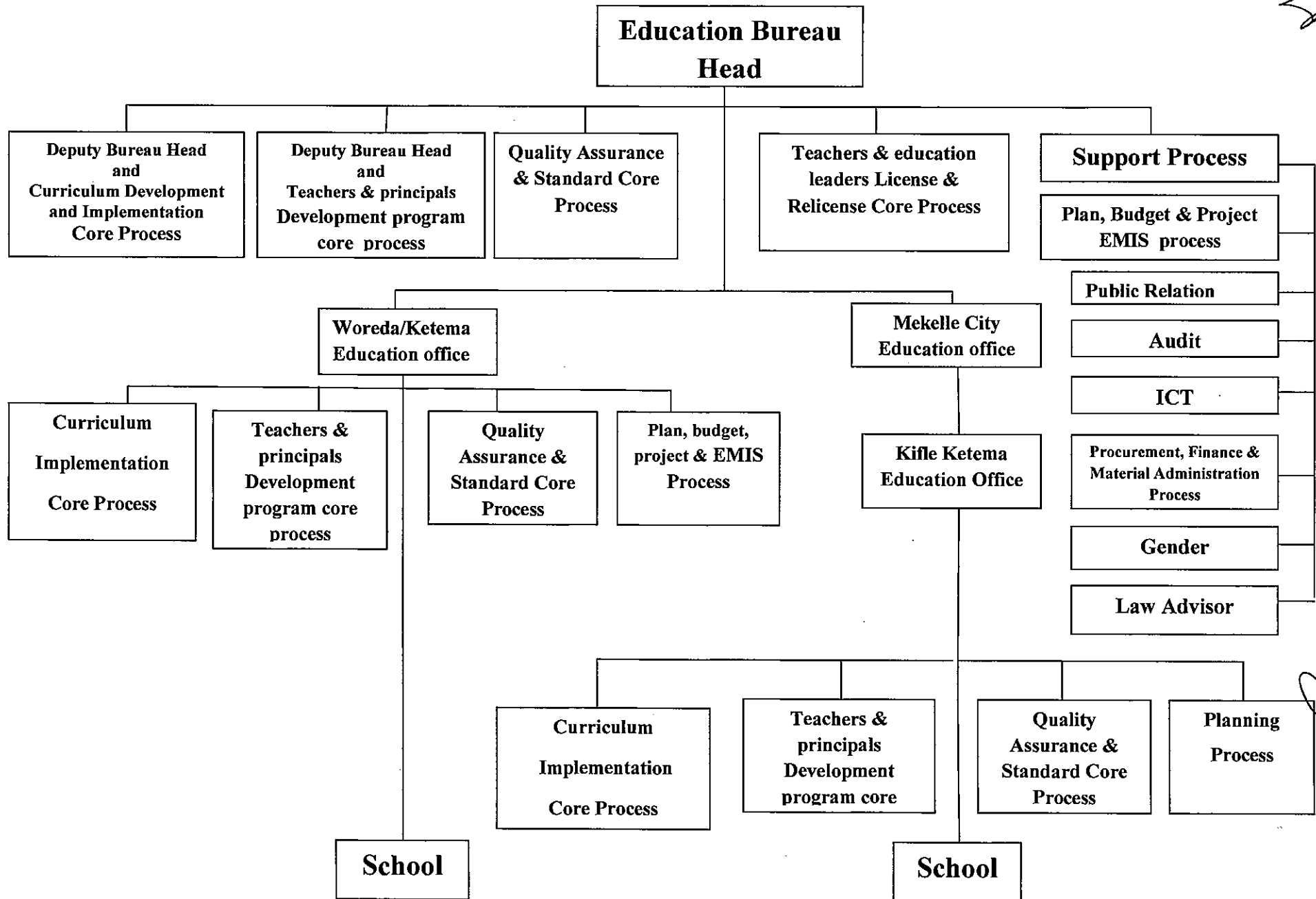
Location of the Recipient Country and Project Area



Site Location Map



Organizational Chart of Tigray Education Bureau



Project Scope

(1) Selection of the Project schools

The Project covers 7 schools.

ID No.	Site	Woreda	Zone	Grade
1	Endamariam Qorar	Degua temben	South Eastern	G9-12
2	Abraha Weatsbaha	Kilte Awlaelo	Eastern	G9-12
3	Aragure	Enderta	South Eastern	G9-12
4	Maimegelta	Saesie Tsaeda Enba	Eastern	G9-10
5	Zengee	Weree Leke	Central	G9-10
6	Korem	Korem	Southern	G9-12
7	Abiyi Adi	Abiyi Adi	Central	G9-12

(2) Project component

The following facilities and furniture are in scope of the Project. As for laboratories, a combined laboratory for Chemistry, Physics and Biology with 3 separate preparation rooms is planned. And, a library with a 100-persons accommodation capacity is planned.

<Project components>

Facility	Classrooms, Library, Laboratory with preparation rooms, Computer center, Toilets, Administration room (for the director, deputy directors finance/administrator and secretary), Record room/store and Teachers' room
Furniture	Furniture for classrooms, Furniture for laboratory, Furniture for administration room, Furniture for library/store, and Furniture for computer center

<Number of rooms to be built>

ID No	Site	Class rooms	Laboratory	Preparation room	Computer center	Library	Administration building			Toilet building
							Administration room	Record room/store	Teachers' room	
1	Endamariam Qorar	12	1	3	1	1	1	1	1	2
2	Abraha Weatsbaha	12	1	3	1	1	1	1	1	2
3	Aragure	10	1	3	1	1	1	1	1	2
4	Maimegelta	12	1	3	1	1	1	1	1	2
5	Zengee	12	1	3	1	1	1	1	1	2
6	Korem	10	1	3	1	1	1	1	1	2
7	Abiyi Adi	12	1	3	1	1	1	1	1	2
	Total	80	7	21	7	7	7	7	7	14

Major Undertakings to be taken by the Government of Ethiopia

1. Specific obligations of the Government of Ethiopia which will not be funded with the Grant**(1) Before the Tender**

NO	Items	Deadline	In charge	Estimated Cost (Birr in thousand)	Ref.
1	To open bank account (B/A)	within 1 month after the signing of the G/A	MoFEC /TBoPF		
2	To issue A/P to a bank in Japan (the Agent Bank) for the payment to the consultant	within 1 month after the signing of the agreement	MoFEC /TBoPF		
3	To bear the following commissions to a bank in Japan for the banking services based upon the B/A 1) Advising commission of A/P 2) Payment commission for A/P	1) within 1 month after the signing of the agreement 2) every payment	MoFEC TBoPF	1) 950 2) 9,100 (not in thousand)	
4	To obtain an approval of Environment Impact Assessment if applicable	Before the beginning of construction	TREB		
5	To secure and clear the following lands 1) remove obstructions at the project sites (surface and underground) 2) level the project sites (Cut, Filling) 3) construct access roads to the sites 4) remove any obstructions if those are at the project sites	before the commencement of detail design	TREB	1) 44 2) 1,700 3) 852	
6	To obtain the planning, zoning, building permit	before notice of the bidding document	TREB		
7	To submit Project Monitoring Report (with the result of Detail Design)	before preparation of bidding documents	TREB		

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

(2) During the Project Implementation

NO	Items	Deadline	In charge	Estimated Cost (Birr in thousand)	Ref.
1	To issue A/P to a bank in Japan (the Agent Bank) for the payment to the Supplier(s)	within 1 month after the signing of the contract(s)	MoFEC TBoPF		
2	To bear the following commissions to a bank in Japan for the banking services based upon the B/A 1) Advising commission of A/P 2) Payment commission for A/P	1) within 1 month after the signing of the contract(s) 2) every payment	MoFEC TBoPF	1) 950 2) 265,500 (not in thousand)	
3	To ensure customs clearance of the products in recipient country	during the Project	TREB		
4	To accord Japanese nationals and/or physical persons of third countries whose services may be required in	during the Project	TREB		

	connection with the supply of the products and the services such facilities as may be necessary for their entry into the country of the Recipient and stay therein for the performance of their work				
5	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 borne by its designated authority without using the Grant.	during the Project	TREB	41,000	
6	To bear all the expenses, other than those covered by the Grant, necessary for the implementation of the Project	during the Project	TREB		
7	1) To submit Project Monitoring Report 2) To submit Project Monitoring Report (final)	1) every month 2) within one month after signing of Certificate of Completion for the works under the contract(s)	TREB		
8	To submit a report concerning completion of the Project	within six months after completion of the Project	TREB		
9	To provide facilities for the distribution of electricity to the project sites. (Distributing line to the projects sites)	6 months after the commencement of the construction	TREB	650	
10	To construct gates, fences and guard rooms in the project sites	Before the completion of the Project	TREB	2,695	

(3) After the Project

NO	Items	Deadline	In charge	Estimated Cost (Birr in thousand)	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	TREB		

2. Other obligations of the Government of Ethiopia funded with the Grant

This part is closed due to the confidentiality.



Details of Obligations in each site

ID No.	Site	Woreda	Zone	Repair or construction of new access road	Leveling	Felling and removing obstruction	Connecting electricity	Construction of gate, fence and guard house
				Before construction	Before construction	Before construction	6 months prior to completion	6 months prior to completion
1	Endamariam Qorar	Degua temben	South Eastern	-	Cutting: 1701.9 m ³ Filling: 24.8 m ³	-	100m	Gate: 1 Fence: 1200m Guardhouse: 1
2	Abraha Weatsbaha	Kilte Awlaelo	Eastern	Repair: 80m New construction: 200m	Cutting: 265.5 m ³ Filling: 608.8 m ³	Stone fence 300m, Stone store, felling 2000 m ² , Backfilling hole	200m	Gate: 1 Fence: 650m Guard house: 11
3	Aragure	Enderta	South Eastern	Repair: 250m	Cutting: 0 m ³ Filling: 4416.5 m ³ (incl. removing stones)	-	25m	Gate: 1 Fence: 800m Guard house: 1
4	Maimegelta	Saesie Tsaeda Enba	Eastern	Repair: 60m	Cutting: 90.5 m ³ Filling: 1519.7 m ³	-	100m	Gate: 1 Fence: 1000m Guard house: 1
5	Zengee	Weree Leke	Central	Repair : 1.2km	Cutting: 3184.7 m ³ Filling: 36.3 m ³	Felling (2 trees)	25m	Gate: 1 Fence: 600m Guard house: 1
6	Korem	Korem	Southern	New construction (on black cotton soil): 550m	Cutting: 935.5 m ³ Filling: 86.7 m ³	-	500m	Gate: 1 Fence: 550m Guard house: 1
7	Abiyi Adi	Abiyi Adi	Central	New construction (on black cotton soil) 500m	Cutting: 1576 m ³ Filling: 861.8 m ³	-	350m	Gate: 1 Fence: 800m Guard house: 1

JAPANESE GRANT

The Japanese Grant is non-reimbursable fund provided to a recipient country (hereinafter referred to as “the Recipient”) to purchase the products and/or 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. Followings are the basic features of the project grants operated by JICA (hereinafter referred to as “Project Grants”).

1. Procedures of Project Grants

Project Grants are conducted through following procedures (See “PROCEDURES OF JAPANESE GRANT” for details):

(1) Preparation

- The Preparatory Survey (hereinafter referred to as “the Survey”) conducted by JICA

(2) Appraisal

- Appraisal by the government of Japan (hereinafter referred to as “GOJ”) and JICA, and Approval by the Japanese Cabinet

(3) Implementation

Exchange of Notes

- The Notes exchanged between the GOJ and the government of the Recipient

Grant Agreement (hereinafter referred to as “the G/A”)

- Agreement concluded between JICA and the Recipient

Banking Arrangement (hereinafter referred to as “the B/A”)

- Opening of bank account by the Recipient in a bank in Japan (hereinafter referred to as “the Bank”) to receive the grant

Construction works/procurement

- Implementation of the project (hereinafter referred to as “the Project”) on the basis of the G/A

(4) Ex-post Monitoring and Evaluation

- Monitoring and evaluation at post-implementation stage

2. Preparatory Survey

(1) Contents of the Survey

The aim of the Survey is to provide basic documents necessary for the appraisal of the 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 necessary for the implementation of the Project.

- Evaluation of the feasibility of the Project to be implemented under the Japanese Grant 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.
- Confirmation of Environmental and Social Considerations

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

JICA requests the Recipient to take 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 executing agency of the Project. Therefore, the contents of the Project are confirmed by all relevant organizations of the Recipient based on the Minutes of Discussions.

(2) Selection of Consultants

For smooth implementation of the Survey, JICA contracts with (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 feasibility of the Project.

3. Basic Principles of Project Grants

(1) Implementation Stage

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 to make a pledge for assistance, which is followed by the conclusion of the G/A between JICA and the Recipient to define the necessary articles, in accordance with the E/N, to implement the Project, such as conditions of disbursement, responsibilities of the Recipient, and procurement conditions. The terms and conditions generally applicable to the Japanese Grant are stipulated in the "General Terms and Conditions for Japanese Grant (January 2016)."



2) Banking Arrangements (B/A) (See “Financial Flow of Japanese Grant (A/P Type)” for details)

- a) The Recipient shall open an account or shall cause its designated authority to open an account under the name of the Recipient in the Bank, in principle. JICA will disburse the Japanese Grant in Japanese yen for the Recipient to cover the obligations incurred by the Recipient under the verified contracts.
- b) The Japanese Grant will be disbursed when payment requests are submitted by the Bank to JICA under an Authorization to Pay (A/P) issued by the Recipient.

3) Procurement Procedure

The products and/or services necessary for the implementation of the Project shall be procured in accordance with JICA’s procurement guidelines as stipulated in the G/A.

4) 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 to continue to work on the Project’s implementation after the E/N and G/A.

5) Eligible source country

In using the Japanese Grant disbursed by JICA for the purchase of products and/or services, the eligible source countries of such products and/or services shall be Japan and/or the Recipient. The Japanese Grant may be used for the purchase of the products and/or services of a third country as eligible, if necessary, taking into account the quality, competitiveness and economic rationality of products and/or services necessary for achieving the objective of the Project. However, the prime contractors, namely, constructing and procurement firms, and the prime consulting firm, which enter into contracts with the Recipient, are limited to "Japanese nationals", in principle.

6) Contracts and Concurrence by JICA

The Recipient will conclude contracts denominated in Japanese yen with Japanese nationals. Those contracts shall be concurred by JICA in order to be verified as eligible for using the Japanese Grant.

7) Monitoring

The Recipient is required to 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 to regularly report to JICA about its status by using the Project Monitoring Report (PMR).

8) Safety Measures

The Recipient must ensure that the safety is highly observed during the implementation of the Project.

9) Construction Quality Control Meeting

Construction Quality Control Meeting (hereinafter referred to as the “Meeting”) will be held for quality assurance and smooth implementation of the Works at each stage of the Works. The member of the Meeting will be composed by the



Recipient (or executing agency), the Consultant, the Contractor and JICA. The functions of the Meeting are as followings:

- a) Sharing information on the objective, concept and conditions of design from the Contractor, before start of construction.
- b) Discussing the issues affecting the Works such as modification of the design, test, inspection, safety control and the Client's obligation, during of construction.

(2) Ex-post Monitoring and Evaluation Stage

- 1) After the project completion, JICA will continue to keep in close contact with the Recipient in order to monitor that the outputs of the Project is used and maintained properly to attain its expected outcomes.
- 2) In principle, JICA will conduct ex-post evaluation of the Project after three years from the completion. It is required for the Recipient to furnish any necessary information as JICA may reasonably request.

(3) Others

1) Environmental and Social Considerations

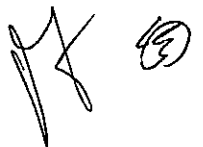
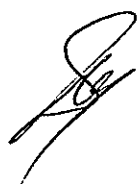
The Recipient shall carefully consider environmental and social impacts by the Project and must comply with the environmental regulations of the Recipient and JICA Guidelines for Environmental and Social Considerations (April, 2010).

2) Major undertakings to be taken by the Government of the Recipient

For the smooth and proper implementation of the Project, the Recipient is required to undertake necessary measures including land acquisition, and bear an advising commission of the A/P and payment commissions paid to the Bank as agreed with the GOJ and/or JICA. The Government of the Recipient shall ensure that customs duties, internal taxes and other fiscal levies which may be imposed in the Recipient with respect to the purchase of the Products and/or the Services be exempted or be borne by its designated authority without using the Grant and its accrued interest, since the grant fund comes from the Japanese taxpayers.

3) Proper Use

The Recipient is required to maintain and use properly and effectively the products and/or services under the Project (including the facilities constructed and the equipment purchased), to assign staff necessary for this operation and maintenance and to bear all the expenses other than those covered by the Japanese Grant.



4) Export and Re-export

The products purchased under the Japanese Grant should not be exported or re-exported from the Recipient.



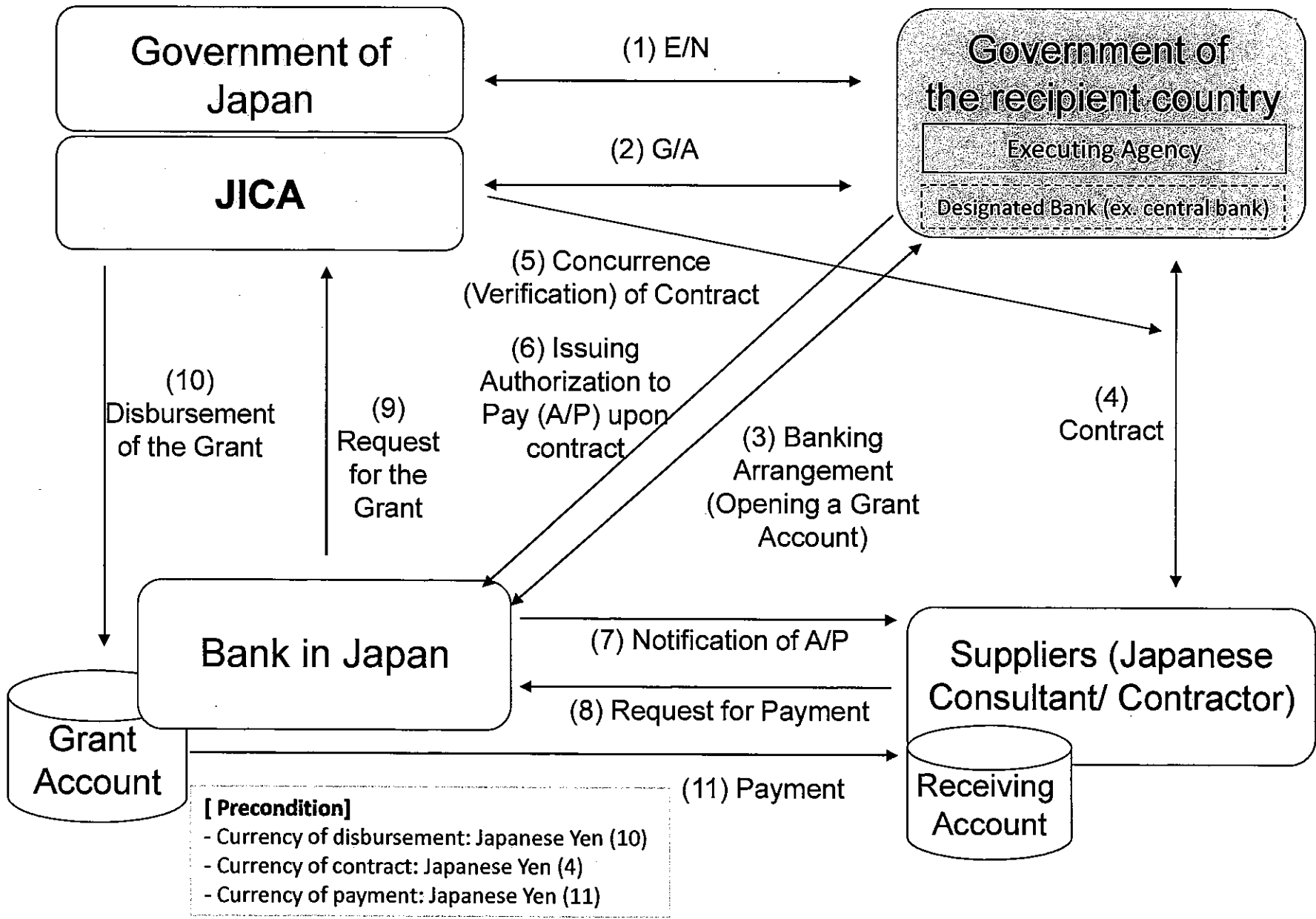
PROCEDURES OF JAPANESE GRANT

Stage	Procedures	Remarks	Recipient Government	Japanese Government	JICA	Consultants	Contractors	Agent Bank
Official Request	Request for grants through diplomatic channel	Request shall be submitted before appraisal stage.	x	x				
1. Preparation	(1) Preparatory Survey Preparation of outline design and cost estimate		x		x	x		
2. Appraisal	(2) Preparatory Survey Explanation of draft outline design, including cost estimate, undertakings, etc.		x		x	x		
	(3) Agreement on conditions for implementation	Conditions will be explained with the draft notes (E/N) and Grant Agreement (G/A) which will be signed before approval by Japanese government.	x	x (E/N)	x (G/A)			
	(4) Approval by the Japanese cabinet			x				
3. Implementation	(5) Exchange of Notes (E/N)		x	x				
	(6) Signing of Grant Agreement (G/A)		x		x			
	(7) Banking Arrangement (B/A)	Need to be informed to JICA	x					x
	(8) Contracting with consultant and issuance of Authorization to Pay (A/P)	Concurrence by JICA is required	x			x		x
	(9) Detail design (D/D)		x			x		
	(10) Preparation of bidding documents	Concurrence by JICA is required	x			x		
	(11) Bidding	Concurrence by JICA is required	x			x	x	
	(12) Contracting with contractor/supplier and issuance of A/P	Concurrence by JICA is required	x				x	x
	(13) Construction works/procurement	Concurrence by JICA is required for major modification of design and amendment of contracts.	x			x	x	
	(14) Completion certificate		x			x	x	
4. Ex-post monitoring & evaluation	(15) Ex-post monitoring	To be implemented generally after 1, 3, 10 years of completion, subject to change	x		x			
	(16) Ex-post evaluation	To be implemented basically after 3 years of completion	x		x			

notes:

1. Project Monitoring Report and Report for Project Completion shall be submitted to JICA as agreed in the G/A.
2. Concurrence by JICA is required for allocation of grant for remaining amount and/or contingencies as agreed in the G/A.

Financial Flow of Japanese Grant (A/P Type)



Project Implementation Schedule

Steps	FY 2016		FY 2017												FY 2018												2019					
	2016		2017												2018												2019					
	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3			
Cabinet meeting/approval				△																												
E/N, G/A					△																											
Construction supervision contract						△																										
Detailed design						[Bar: Model school]																										
Tender/contract										[Bar: Model school]																						
Construction schedule (Total)														[Thick bar: Total 16 months]																		
Preparation works													[Bar: Model school]	[Bar: Other schools]																		
Construction works																																
Delivery/ installation of furniture, Inspection, repair																																

Legend:

- : Work in Ethiopia
- : Work in Japan
- △—△ : Explanation of reports etc.
- : Rainy season
- : Model school
- : Other schools

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

Organizational Information

Signer of the G/A (Recipient)	Person in Charge (Designation) _____ Contacts Address: _____ Phone/FAX: _____ Email: _____
Executing Agency	Person in Charge (Designation) _____ Contacts Address: _____ Phone/FAX: _____ Email: _____
Line Ministry	Person in Charge (Designation) _____ Contacts Address: _____ Phone/FAX: _____ Email: _____

General Information:

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

1: Project Description

1-1 Project Objective

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1-2 Project Rationale

- Higher-level objectives to which the project contributes (national/regional/sectoral policies and strategies)
- Situation of the target groups to which the project addresses

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1-3 Indicators for measurement of "Effectiveness"

Quantitative indicators to measure the attainment of project objectives		
Indicators	Original (Yr)	Target (Yr)
Qualitative indicators to measure the attainment of project objectives		

2: Details of the Project

2-1 Location

Components	Original <i>(proposed in the outline design)</i>	Actual
1.		

2-2 Scope of the work

Components	Original* <i>(proposed in the outline design)</i>	Actual*
1.		

Reasons for modification of scope (if any).

(PMR)

2-3 Implementation Schedule

Items	Original		Actual
	<i>(proposed in the outline design)</i>	<i>(at the time of signing the Grant Agreement)</i>	

Reasons for any changes of the schedule, and their effects on the project (if any)

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2-4 Obligations by the Recipient

2-4-1 Progress of Specific Obligations

See Attachment 2.

2-4-2 Activities

See Attachment 3.

2-4-3 Report on RD

See Attachment 11.

2-5 Project Cost

2-5-1 Cost borne by the Grant(Confidential until the Bidding)

Components			Cost (Million Yen)	
	Original <i>(proposed in the outline design)</i>	Actual <i>(in case of any modification)</i>	Original ¹⁾²⁾ <i>(proposed in the outline design)</i>	Actual
	1.			
Total				

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

2-5-2 Cost borne by the Recipient

Components			Cost (1,000 Taka)	
	Original <i>(proposed in the outline design)</i>	Actual <i>(in case of any modification)</i>	Original ¹⁾²⁾ <i>(proposed in the outline design)</i>	Actual
	1.			
Total				

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

Reasons for the remarkable gaps between the original and actual cost, and the countermeasures (if any)

(PMR)

2-6 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 (at the time of outline design)

name:

role:

financial situation:

institutional and organizational arrangement (organogram):

human resources (number and ability of staff):

Actual (PMR)

2-7 Environmental and Social Impacts

- The results of environmental monitoring based on Attachment 5 (in accordance with Schedule 4 of the Grant Agreement).
- The results of social monitoring based on in Attachment 5 (in accordance with Schedule 4 of the Grant Agreement).
- Disclosed information related to results of environmental and social monitoring to local stakeholders (whenever applicable).

3: Operation and Maintenance (O&M)

3-1 Physical Arrangement

- Plan for O&M (number and skills of the staff in the responsible division or section, availability of manuals and guidelines, availability of spareparts, etc.)

Original (at the time of outline design)

Actual (PMR)

3-2 Budgetary Arrangement

- Required O&M cost and actual budget allocation for O&M

Original (at the time of outline design)

Actual (PMR)

4: Potential Risks and Mitigation Measures

- Potential risks which may affect the project implementation, attainment of objectives, sustainability
- Mitigation measures corresponding to the potential risks

Assessment of Potential Risks (at the time of outline design)

Potential Risks	Assessment
1. (Description of Risk)	Probability: High/Moderate/Low
	Impact: High/Moderate/Low
	Analysis of Probability and Impact:
	Mitigation Measures:
	Action required during the implementation stage:
2. (Description of Risk)	Probability: High/Moderate/Low
	Impact: High/Moderate/Low
	Analysis of Probability and Impact:
	Mitigation Measures:
	Action required during the implementation stage:
3. (Description of Risk)	Probability: High/Moderate/Low
	Impact: High/Moderate/Low
	Analysis of Probability and Impact:
	Mitigation Measures:
	Action required during the implementation stage:

	Contingency Plan (if applicable):
Actual Situation and Countermeasures	
(PMR)	

5: Evaluation and Monitoring Plan (after the work completion)

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 of 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.



Attachment

1. Project Location Map
2. Specific obligations of the Recipient which will not be funded with the Grant
3. Monthly Report submitted by the Consultant
- Appendix - Photocopy of Contractor's Progress Report (if any)
 - Consultant Member List
 - Contractor's Main Staff List
4. Check list for the Contract (including Record of Amendment of the Contract/Agreement and Schedule of Payment)
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) (PMR (final) only)
8. Pictures (by JPEG style by CD-R) (PMR (final) only)
9. Equipment List (PMR (final) only)
10. Drawing (PMR (final) only)
11. Report on RD (After project)



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)

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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%)	