

OFFICE OF THE PRIME MINISTER
THE REPUBLIC OF UGANDA

**THE PREPARATORY SURVEY REPORT
FOR THE PROJECT FOR REBUILDING COMMUNITY
FOR PROMOTING
RETURN AND RESETTLEMENT OF IDP
IN ACHOLI SUB-REGION IN NORTHERN UGANDA
IN
THE REPUBLIC OF UGANDA**

FEBRARY 2012

**JAPAN INTERNATIONAL COOPERATION AGENCY
NTC INTERNATIONAL CO., LTD.
ORIENTAL CONSULTANTS CO., LTD.**

EID
JR
12-011

Summary

1. Overview of the Country

(1) Location and Natural condition

Uganda is a landlocked located in Eastern Africa, bordering the Congo, Kenya, Rwanda, South Sudan, and Tanzania. The capital city Kampala is located at close to equator at 1°north and 32°east with average elevation of 1,300masl. The total land area is estimated to be 24.1 thousand sq. km with the total population of 32.36million (2009 estimate) having population growth rate of 2.7% per year.

The country belongs to tropical climate with rainy season lies between March and May and October and November. However, the northern region has dry season covering November through February. The annual average precipitation of the country is about 1,300mm with average temprature of 21°C.

The target area of this project is 5 districts of Northern Region which are Gulu, Kitgum, Pader, Agago and Lamwo District.

(2) Socio-economic Condition

The country has suffered from repeated coup d'etat since independent in 1962. However, since 1986 the current regime brings security and stability to the country and is working toward economic reconstruction of the country through the support of world bank, IMF and other international donor organizations. Under the comprehensive National Development Policy of the country the Poverty Eradication Action Plan (PEAP) was approved in 2000 as poverty eradication strategy and the country received debt reduction based on Heavily Indebted Poor Country (HIPC) initiative. In 2010a five year national development plan (NDP) was established to promot the development policy program emphasizing on socio-economic transformation through the growth of employment and prosperity.

Gross Domestic Product (GDP) of the country is 650USD in 2009. The contribution of product from primary industry is 23%, from secondary industry is 23% and from tertiary industry is about 48% in the same year. The GDP growth rate is between 5-10% and recently it regiuster the higher rate. Although the the number of people living below the poverty line is highly reducing in the last three years, the 2005/6 data estimates that 31.1% (8.4million) people were registered as people living below the poverty line of which the highest number, about 60.7%, lives in the northern regin of the country.

2. Background and Outline of the project

(1) Upper plan

Due to the prolonged decade of conflict, the development in the Northern Uganda remarkably lacks behind compared to other part of the country. Consequently, in 2007 the Government of Uganda (GOU) has formulated the Peace Recovery and Development Plan for Northern Uganda (PRDP). The overall goal of this plan (PRDP) is to promote stability in order to regain and consolidate peaceful environment and build the foundation for recovery and development in Northern Uganda. The PRDP document has been designed toward reconstruction and development of the Northern Region with four strategic objectives, i.e. 1) Strengthening of local government officials of government function, 2) Rebuilding and Empowerment of Communities, 3)

Revitalization of Economy and 4) Promotion of peace and Reconciliation through various developmental intervention that boost up the socio-economic indicator of the area toward the country average

And, this project proposes the improvement of basic social infrastructure through provision and rehabilitation of education, health facilities and access to the basic infrastructure in the target community.

(2) The present condition and problem of target sector

During the conflict, approximately 200 millions people were forced to live in the camp as the IDP, and 80% of them were women and children. After the conflict calmed, almost most IDP have returned to their original village. So their life re-establishments are needed urgently.

1) Present condition and problem of education sector in target area

The pupil classroom ratio is 97 for the target school. This figure is very high compared to country average of 71. In case of lacking the classrooms, the students are taking lesson in the hut or under th tree, especially in during rainy season, they sometimes should stop studying. And the retention rate of teachers are low in the remote area, so the working environment is also the problem should be improved urgently.

2) Present condition and problem of health sector in target area

The ministry of health have set the target that health center III should be for 20,000 people, and health center II for 5,000 ideally, but the present condition in the target area is under that standard considerably. Especially for a health center II is provided for 10,000 to 20,000 people, so it is very difficult for people to access the health services in this area lacking the public transport. In addition, the maternal and infant mortality iare 1.4 and 1.8 times higher than the country average respectively. Therefore, the accessibilities to the basic health service should be improved.

3) Community access to the related facilities in target area

In northern Uganda, the road is not paved with the expection of few, and the paved road ratio is low compared with other area. In acholi sub-region, almost all the trunk road is not paved but the road condition of the section which is laid the latellite properly on the surface is generally good. However , in generally other road condition is bad. Especially, event the trunk road can be muddy in rainy season, so the vehicles cannot pass there. Therefore, the culvert for river crossing and road drainage should be improved.

4) Project Objectives

The objectives of the project is to improve the primary school, health facilities and the access to those social facilities in five district of Gulu, Kitgum, Lamwo, Pader and Agago in Acholi sub-region. This project can contribute to the upper goal of the development of the northern Uganda

3. Summary of the field work and the project component

The first field work had been conducted from April to August in 2011. In the field work the proposed contents and the needs were confirmed and discussion with the ministries and district concerned were held, and the target communities (parishes) and component were selected.

(1) Target plan

This grant aid is planned to improve the community infrastructure in 5 districts of Gulu, Pader, Agago, Kitgum, and Lamwo of Acholi sub-region for contributing the implementation of PRDP which has the objectives of reconstruction. The plan was formulated based on the proposal from GoU and the result of the field works and discussions.

1) Selection of the target components

According to the request of Uganda Government, the education sector intervention, health center construction and provision of medical equipment, construction and rehabilitation of river crossing (bridges and culverts) and the provision of borehole was considered as community infrastructure to be supported. However, considering the urgency, capacity of the district for O&M, efficiency of construction and supervision of the local contractors, the project component to be supported in the project is fixed to be the provision of ① School infrastructure facilities, ② Health infrastructure facilities and medical equipment and ③ Community access road: improving accessibility to the basic social infrastructures, (installation of river crossing and drainage culvert for enabling access during rainy season). In addition, the component of water facilities (boreholes) in this project is considered as supplementary facilities for school and health center depending on the need and requirement

2) Selection of the target communities

The target community for this project is identified through comparative analysis of the situation of each parish related to the backwardness of development and priority of the identified sector project component with the parish.

(2) Target plan for improvement of the primary school

1) Content of the plan

The content of facility construction in education sector includes the provision of education facilities for primary school and community school which is confirmed to be registered as primary school. The facilities to be supported are classroom, teachers' quarter, toilet and borehole if not available. However, primary school in the target parish which has the minimum standard classroom or more shall not be considered as a target school to be supported in this project.

2) Basis of the Design

Based on the standard design prepared by the Ministry of Education and Sport and in reference to the condition of the existing primary school under utilization, the required component, the size of classroom and specification was determined.

3) Set up of the number of classroom needed

The country standard of pupil per classroom (which is 54) will be followed. Additional classroom needed to have one classroom per grade (P1 to P7) at every primary school (including desk and chair), and the required latrine will be provided. In the community school which shall be upgraded into primary school, four classrooms will be provided.

(3) Target plan for health improvement and equipments supply

1) Content of the plan

The content of construction in the health sector is focused on HCIII and HCII which the community in the target parishes utilizes. The support component shall be general ward and outpatient department (OPD) for HCIII and OPD for HCII. In addition to OPD and ward, the component shall also include toilet, incinerator, borehole and medical equipments. However, if there need for OPD and/or Ward in the target health center is not confirmed the health center shall be excluded from the project.

2) Design Criteria

With reference to the standard design prepared by the Ministry of Health and considering the existing health facility in use, the required component, the size of the facilities and specification was determined. In addition, since the location of the health centers are out of the country's electric grid, a solar light will be provided mainly for emergency night delivery.

3) Selection of equipments to be supplied

This project will provide the equipment needed for the primary health care based on the equipment list of MoH except for the equipments which is not needed urgently or requires the consumable items cannot get easily.

(4) Target plan for access improvement to the community related facilities

1) Content of the plan

The river crossing and drainage culverts used by the community to access the supported primary schools and health center shall be rehabilitated to smooth access to these special infrastructures by the community.

2) Basis of design

In case that the culvert with less than 900mm diameter is suitable, this type will be applied as the standard culvert. If the size of the crossing requires a pipe of larger than 900mm diameter, the culvert should be designed for each site following the "Road Design Manual" published by the MoWT and the Japanese standard. And the 5.0m river bank was included in the plan for preventing the damage to the structures during the flood.

(5) Contents of component to be supported

The components to be supported by the project are shown in the following table.

Table content of component to be supported

Component	Items	Content of facilities	Remark
Education	Primary school: 37sites	Classrooms(with desk and chair): 121 room Staff Houses; 65 block Latrines: 124 block Borehole: 22 site	Construction
Health	HCII: 2 sites HCIII: 3 sites	General Ward: 2 block OPD: 2 block Incinerator: 3 set Latrines: 4 block Bore hole :2 set Others: Basic Medical Equipments	Construction Equipment
Access improvement	River crossing: 7 sites Road crossing: 22 sites		Civil Work

4. Implementation Schedule and Cost Estimation

(1) Implementation Schedule

This project components were divided in 5 lots of 3 of ① building and civil work, 1 of ② water supply, and 1 of ③ equipment supply, because of the considering that the target area is large and scattered and the expertness is needed for ② and ③.

After signing of the contract between the Procurement Management Agent and the Japanese Consultant, the work will be awarded to the local Construction Companies through bidding process. Tender evaluation, contractual negotiation and approval by relevant organization shall be made according to the bidding process of the country. This procedure is expected to take about 6 months.

The construction period is to be decided based on the experience of other NGOs and donor organization. Basically 6 months is considered enough to complete a school construction. Assuming a minimum of 5 construction units to be made available by a Construction Company at a time; a total of 18 months will be required to complete the construction of the project.

The construction of culverts and rehabilitation of road shall not be conducted during rainy season.

Table Implementation Schedule

Year		2012												2013												2014				
Month		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	4	
Period						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
Ministerial meeting			▲																											
E/N・G/N					▲																									
Agreement with Procurement Management Agent and Outsource				(6 months)	▲																									
LOT 1, 2, 3	Bidding/ Agreement																													
	Construction		(18 months)																											
LOT 4 (Water Supply)				(6 months)																										
LOT 5 (Equipment)																														
Bidding/ Agreement																														
Supplying																														

(2) Project Cost Estimation

1) Conditions of Estimation

- 1) Time of Cost Estimation : July 2011
- 2) Exchange rate : 1US\$ =83.00 JPY
 1US\$= 2,373.86UGX
 (Average rate from January to June, 2011)
- 3) Construction Period : It is indicated in Table 2-2-33.
- 4) Others : The project shall be implemented in accordance with the rules of the Grant Aid of the Government of Japan.

The exchange rate can be reviewed by the GOJ.

2) Costs to be borne by the Ugandan Side

- ① Charge of bank services: 35 million Uganda Shillings

5. Project evaluation

(1) Relevance

Implementation of the project through Japanese Grant Aid Scheme shall be considered to be reasonable, because of the following reasons.

1) Targeted beneficiaries of the Project

This project is intended to improve education, health facilities and the access road to these social facilities. The beneficiaries of improving the schools will be the people living in the targeted school areas. Similarly, the beneficiaries of the health centers will be the residents of the target community. And, the improvements of the access road enable the people to access to the social facilities even in the dry season. In addition, improvements are also expected in transporting of agricultural inputs, agricultural products, and the access to the market, and a wide range of the benefits are expected to be achieved from this project.

2) Goal and Urgency of the Project

After the conflict was settled, most of the IDPs have returned to their original sites. However, the promotion of the IDPs who are still living in the former IDP camps and reconstruction of their life in the return sites are needed urgently. This project is intended to improve the education, health facilities and the access road to these social facilities which is absolutely necessary for life reconstruction of IDPs. This means that this project is urgently required for the region, and has a high priority for implementation.

3) Contributions for achievement of middle and long term goals

GOU formulated PRDP in 2007 with the overall goal of promoting stabilization in order to regain and consolidate peace environment and to build the foundation for recovery and development in Northern Uganda. The overall strategy is to improve the parameters of social and economic indexes in the Northern Region to reach the level of national average. PRDP document has been designed with four strategic objectives, i.e. 1) Consolidation of State Authority, 2) Rebuilding and Empowerment of Communities, 3) Revitalization of Economy and 4) Peace Building and Reconciliation.

The objectives of the project are improving the community related facilities such as education and health facilities for reconstructing and developing of Northern Uganda as a part of PRDP, and contributing to the goal of PRDP.

4) Consistence with Japanese strategy and policy

The basic policy of ODA of Government of Japan towards Uganda is “Poverty reduction through economic growth”, and there are four prioritized areas of assistance including ① developing human resources (education, vocational training, etc), ② Improvement of basic life (health facilities, water supply, etc.), ③ Agricultural Development such as promotion of the rice cultivation and value-added farm products, etc), and ④ Improvement of basic economic infrastructure (road, electricity, etc). This project can contribute to the area of developing human resources, improving basic life, and the basic economic infrastructure through improving the educational and health facilities and access to these services in the community in Northern Uganda.

(2) Effectiveness

The expected effects of this project are as follows.

1) Quantitative effects

- ① The number of classrooms of the target primary schools will be increased from 132 to 253 through the construction of 121 classrooms in this project.
- ② The receiving capacity of the pupils will be increased by 6,534 from 7,127 to 13,662 through the expanding of the classrooms.
- ③ The capacity of hospitalized patients will be 960 by constructing the general wards in this project.

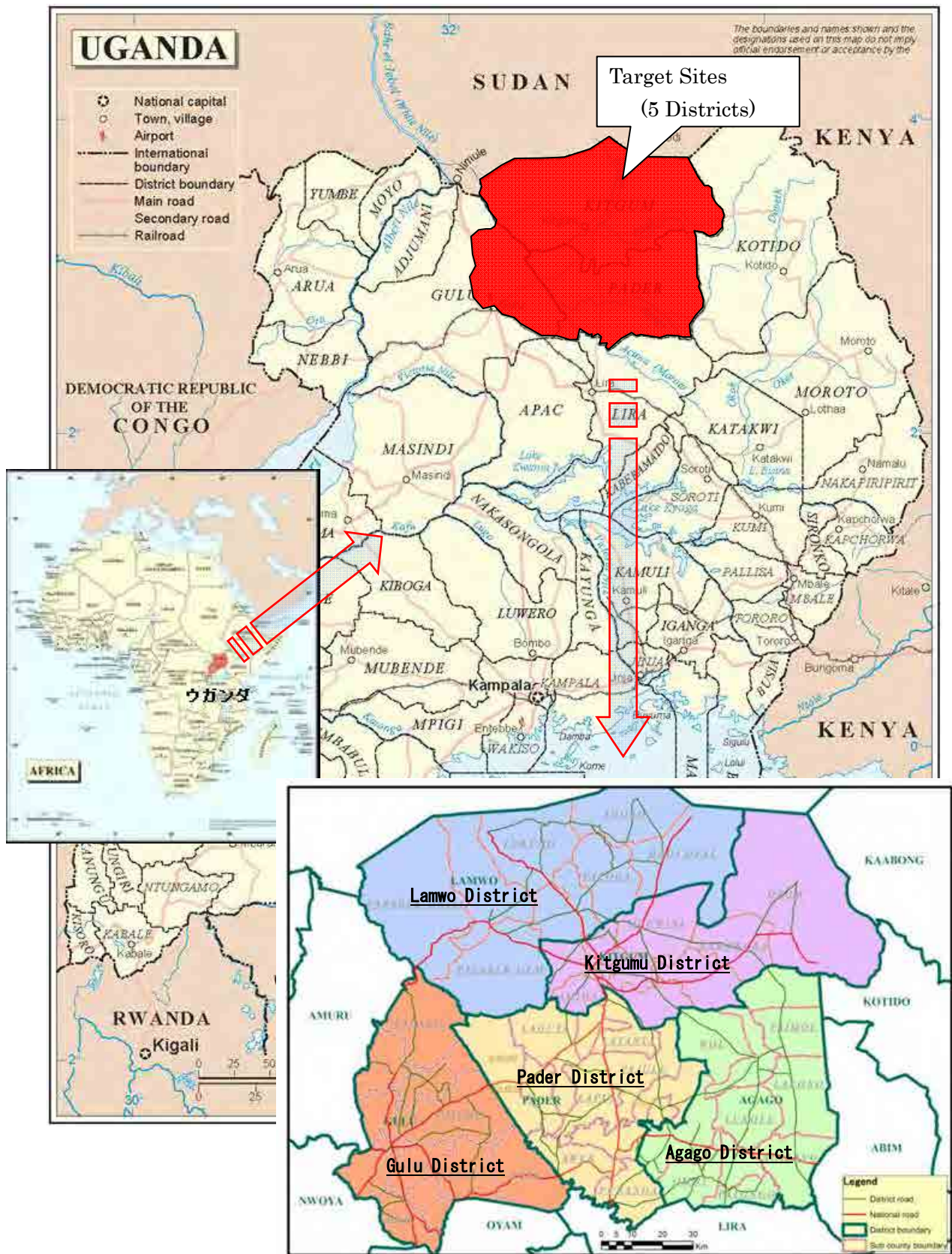
2) Qualitative Effects

- ① Improvement of community related facilities such as primary schools and health centers will promote resettlement in the return sites for the IDPs.
- ② Safety of access to the community related facilities will be ensured by constructing culverts.
- ③ Improvement of study environment through construction of primary schools will improve the educational quality.
- ④ Recovering the units of outpatient and emergency through improving the health facilities and equipments will improve contents and quality of medical services.

Contents

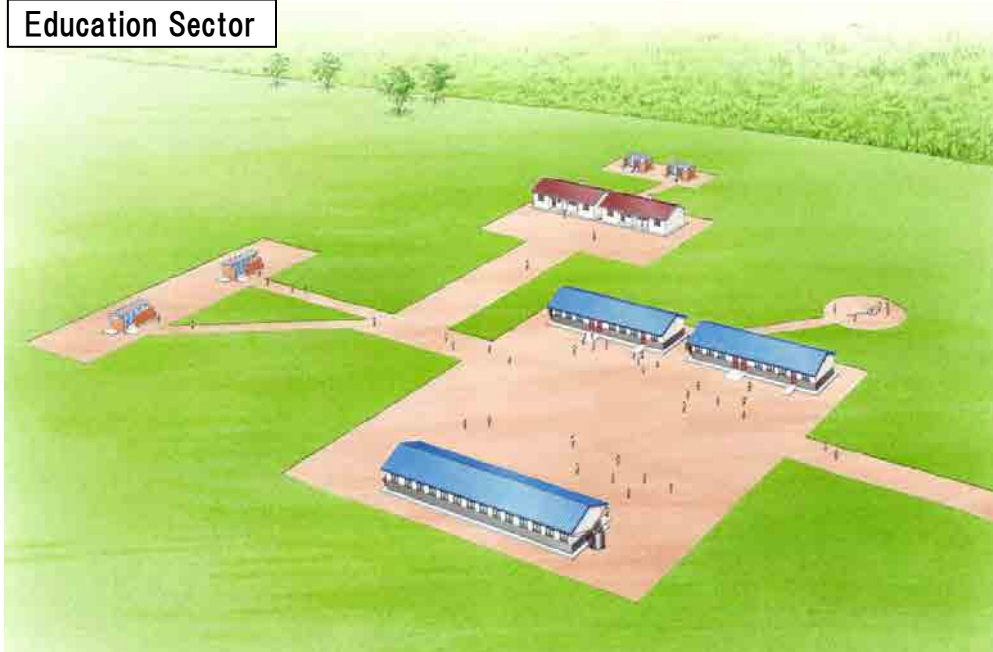
Summary	
Contents	
Location Map/Perspective	
List of Table & Figure	
Abbreviation	
	Page
Chapter 1 Background of the Project.....	1-1
1-1 Overview of the Project.....	1-1
1-2 Background of the Project.....	1-2
1-3 Environmental and Social Considerations.....	1-6
1-3-1 Summary of the Environmental and Social Consideration.....	1-7
1-3-2 Impact Assessment.....	1-8
1-3-3 Mitigation Measures.....	1-10
1-3-4 Implementation of the Mitigation Measures.....	1-11
1-3-5 Environmental Management Plans and Monitoring Plan.....	1-11
1-3-6 Necessity of Land Acquisition and Involuntary Resettlement...	1-12
Chapter 2 Contents of the Project.....	2-1
2-1 Project outline.....	2-1
2-2 Outline Design of the Japanese Assistance.....	2-3
2-2-1 Design Policy.....	2-3
2-2-1-1 Basic Policy.....	2-3
2-2-1-2 Policy for Natural Condition.....	2-4
2-2-1-3 Policy on Socio-Economic Condition.....	2-5
2-2-1-4 Policy for Construction and Procurement.....	2-5
2-2-1-5 Local Contractor.....	2-6
2-2-1-6 Standard of Facilities.....	2-6
2-2-1-7 Quality Control.....	2-6
2-2-1-8 Policy for Operation and Maintenance of the Facilities.....	2-7
2-2-1-9 Construction Schedule.....	2-8
2-2-2 Basic Plan (Construction Plan / Equipment Plan).....	2-9
2-2-2-1 Content of Request.....	2-9
2-2-2-2 Selection of Target Community (Parish).....	2-9
2-2-2-3 The Scale of the Plan.....	2-13
2-2-2-4 Scale of Plan.....	2-17
2-2-2-5 Prioritization of the Selected Parish.....	2-19
2-2-2-6 Facilities Plan.....	2-21

2-2-3	Basic Design	2-34
2-2-4	Implementation Plan.....	2-55
2-2-4-1	Implementation Policy	2-55
2-2-4-2	Implementation Condition	2-62
2-2-4-3	Scope of Works	2-62
2-2-4-4	Consultant Supervision	2-63
2-2-4-5	Quality Control Plan	2-63
2-2-4-6	Procurement Plan.....	2-64
2-2-4-7	Implementation Schedule.....	2-65
2-3	Obligations of Recipient Country.....	2-68
2-4	Project Operation Plan.....	2-69
2-4-1	Education Facility.....	2-69
2-4-2	Health Facility	2-70
2-4-3	Access Improvement	2-70
2-4-4	Water Supply	2-71
2-5	Project Cost Estimation	2-71
2-5-1	Initial Cost Estimation	2-71
2-5-2	Operation and Maintenance Cost	2-72
2-6	Other Relevant Issues	2-74
Chapter 3	Obligation of Recipient Country.....	3-1
3-1	Precondition of the Project	3-1
3-1-1	Preconditions for Project Implementation.....	3-1
3-1-2	Preconditions and External Conditions for the Achievement of Overall Plan.....	3-2
3-2	Project Evaluation.....	3-3
3-2-1	Relevance	3-3
3-2-2	Effectiveness.....	3-4
[Appendices]		
1	Member List of the Study Team	A-1
2	Study Schedule	A-2
3	List of Parties Concerned in the Recipient Country	A-11
4	Minutes of Discussions.....	A-15
5	Reference	A-41

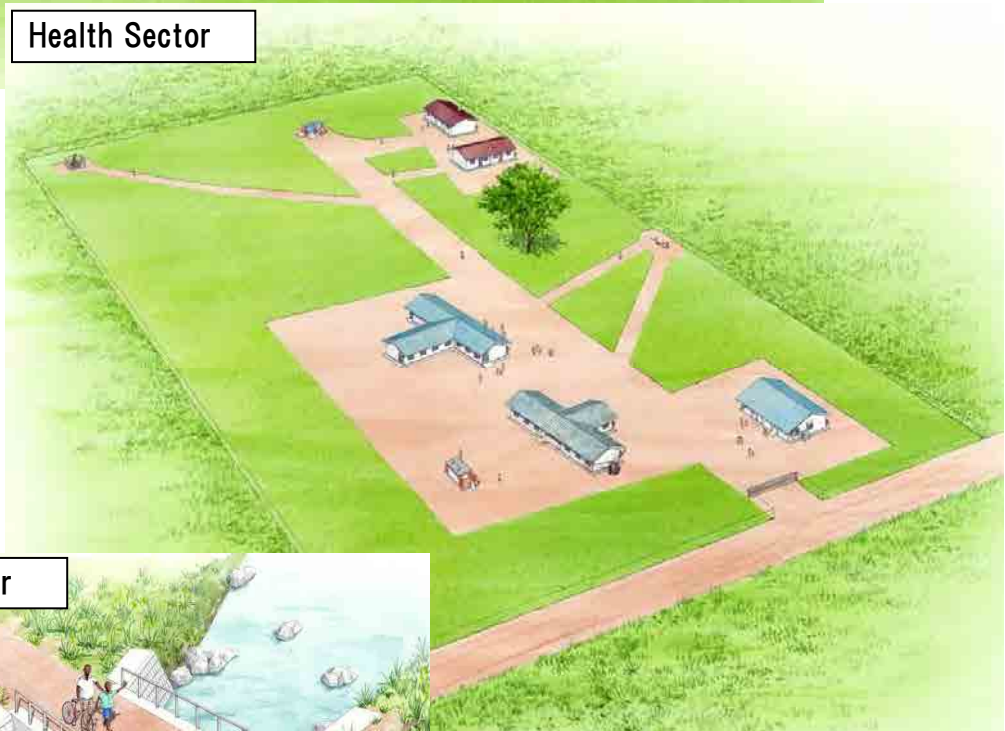


Location Map

Education Sector



Health Sector



Road Sector



Perspective

Picture



Pupil learning under temporary structure because of lack of classroom



Pupil learning under the tree because of lack of classroom



Crowded classroom due to lack of enough classroom



Patient sitting outside due to lack of waiting space



Temporary river crossing made by the community



Washed out culvert due to poor construction

List of Figure & Table

<Table>

Table 1-2-1	Process of selection of the target sites	1-3
Table 1-2-2	Target community, support needs and population	1-3
Table 1-3-1	List of Impacts on the Natural Environment	1-8
Table 1-3-2	List of Impacts on the Social Environment	1-9
Table 1-3-3	Overviews of Mitigation Measures	1-10
Table 1-3-4	Implementing Agencies of Mitigation Measures	1-11
Table 1-3-5	Monitoring Plan	1-12
Table 2-1-1	Outline of the project.....	2-2
Table 2-2-1	Content of Final Project Component.....	2-9
Table 2-2-2	List of Component to be supported by this Project	2-11
Table 2-2-3	Second priority target community (parishes)	2-12
Table 2-2-4	Content of component to be supported.....	2-12
Table 2-2-5	Number of facilities to be supported per District (schools facilities).....	2-14
Table 2-2-6	Number of facilities to be supported per District (health facilities)	2-14
Table 2-2-7	List of medical equipment for HC III.....	2-15
Table 2-2-8	List of medical equipment for HC II	2-16
Table 2-2-9	Equipment lists to be supported by the project	2-18
Table 2-2-10	Access improvement per District	2-18
Table 2-2-11	Prioritized parishes and components to be supported	2-20
Table 2-2-12	Floor area and the number of block per classroom block	2-23
Table 2-2-13	Floor area and the number of each block per Health Center.....	2-23
Table 2-2-14	Target P/S to be improved by the Project.....	2-23
Table 2-2-15	Target H/C to be improved by the Project.....	2-24
Table 2-2-16	Location of 12 sites	2-25
Table 2-2-17	Finishing.....	2-26
Table 2-2-18	Proposed drilling depth per project site.....	2-27
Table 2-2-19	Content of Water quality	2-29
Table 2-2-20	The number of culverts by district and length of temporary roads for construction	2-30
Table 2-2-21	Current situation and construction level.....	2-31
Table 2-2-22	Components for access improvement by each site	2-33
Table 2-2-23	Allocation of staffs of the Procurement Management Agent	2-57
Table 2-2-24	Demarcation of activities between JICS and Consultant	2-57
Table 2-2-25	Main roles of the Consultants of the project	2-61
Table 2-2-26	Major items of quality control, method and frequency of inspection	2-64
Table 2-2-27	Main construction materials and countries of origin.....	2-64

Table 2-2-28 Lot 1	2-66
Table 2-2-29 Lot 2	2-66
Table 2-2-30 Lot 3	2-66
Table 2-2-31 Lot 4	2-67
Table 2-2-32 Lot 5	2-67
Table 2-2-33 Implementation Schedule.....	2-68
Table 2-3-1 Undertakings of Ugandan Side.....	2-69
Table 2-4-1 Plan for employment of teachers by districts	2-69
Table 2-4-2 Budget of O&M for P/S by districts in 2011	2-70
Table 2-4-3 Plan for employment of staffs for health centers by districts	2-70
Table 2-4-4 Costs of O&M for H/C by districts in 2011	2-70
Table 2-4-5 Costs of O&M for road by districts in 2011	2-71
Table 2-5-1 Amount to be covered by the Uganda Side	2-71
Table 2-5-2 Summarizing of cost of O&M after the project implemented.....	2-72
Table 2-5-3 O&M Cost after the project implemented and District budget	2-72
Table 2-5-4 O&M cost and frequency after the project implemented	2-72
Table 2-5-5 Summary of cost of O&M after the project implemented (education)...	2-73
Table 2-5-6 O&M cost and frequency after the project implemented (health).....	2-73
Table 2-5-7 Summary of cost of O&M after the project implemented.....	2-73
Table 2-5-8 Main activities of O&M for culverts	2-74
Table 2-5-9 Summarizing of cost of O&M after the project implemented (road)	2-74
Table 3-2-1 Quantitative Effects	3-4

<Figure>

Figure 1-2-1 Annual Average Precipitation and Temperature	1-2
Figure 2-1-1 Main structure of Community Development Plan.....	2-1
Figure 2-1-2 Image of output by the project	2-2
Figure 2-2-1 Typical borehole (Casing)	2-28
Figure 2-2-2 Top view of platform.....	2-29
Figure 2-2-3 Sites Map.....	2-33
Figure 2-2-4 Implementation Structure	2-55
Figure 2-2-5 Structure of Working group	2-56

Abbreviation

A/M	: Agreed Minutes
AfDB	: African Development Bank
AfDF	: African Development Fund
AIDS	: Acquired Immune Deficiency Syndrome
BHN	: Basic Human Needs
BQ	: Bill of Quantity
CAO	: Chief Administrative Officer
CEC	: Commission of the European Communities
COMESA	: Common Market for Eastern and Southern Africa
CPAE	: Consumption Per Adult Equivalent
DAC	: Development Assistance Committee
DANIDA	: Danish International Development Agency
DDP	: District Development Plan
DE	: District Engineer
DEO	: District Education Officer
DHO	: District Health Officer
DOTS	: Direct Observed Treatment, Short-course
DPM	: Damp Proofing Membrane
DPT	: Diphtheria/Pertussis/Tetanus
DUCAR	: District, Urban and Community Access Roads
DUCARIP	: The Ten-Year District, Urban and Community Access Roads Investment Plan
E/N	: Exchange of Notes
EIA	: Environmental Impact Assessment
EIStudy	: Environmental Impact Study
EMIS	: Education Management Information System
ESIP	: Education Strategic Investment Plan
ESSP	: Education Sector Strategic Plan
EU	: European Union
EVI	: Extremely Vulnerable Individual
FAO	: Food and Agriculture Organization
G/A	: Grant Agreement
GDP	: Gross Domestic Product
GFATM	: Global Fund to Fight AIDS, Tuberculosis and Malaria
HC	: Health Center
HDI	: Human Development Index
HIPC	: Heavily Indebted Poor Countries
HIV	: Human Immunodeficiency Virus
HPI	: Human Poverty Index
HSSIP	: Health Sector Strategic and Investment Plan

HSSP1	: Health Sector Strategic Plan I
HSSP2	: Health Sector Strategic Plan II
ID	: Inside Diameter
IDA	: International Development Association
IDPs	: Internally Displaced Persons
IEE	: Initial Environmental Examination
IMF	: International Monetary Fund
JICA	: Japan International Cooperation Agency
JICS	: Japan International Cooperation System
L/A	: Loan Agreement
LC	: Local Council
LRA	: Lord's Resistance Army
M/M	: Minutes of Meeting
MoES	: Ministry of Education and Sports
MoH	: Ministry of Health
MoWT	: Ministry of Works and Transport
MTEF	: Medium Term Expenditure Framework
NDP	: National Development Plan
NEMA	: National Environmental Management Authority
NGO	: Non-Governmental Organizations
NWSC	: National Water and Sewerage Corporation
ODA	: Official Development Assistance
OECD	: Organization for Economic Co-operation and Development
OPM	: Out Patient Department
OPM	: Office of Prime Minister
P/S	: Primary School
PCR	: Pupils Classroom Ratio
PEAP	: Poverty Eradication Action Plan
PHC	: Primary Health Care
PLR	: Pupils Latrine Ratio
PRDP	: Peace Recovery and Development Plan for Northern Uganda
PRSP	: Poverty Reduction Strategy Papers
PTA	: Parent-Teacher Association
PTR	: Pupils Teacher Ratio
PVC	: Polyvinyl Chloride
SMC	: School Management Committee
SWAps	: Sector Wide Approaches
TDMS	: Teacher Development and Management System
TICAD	: Tokyo International Conference on African Development
UBOS	: Uganda Bureau of Statistics

UGX	:	Uganda Shilling
UNICEF	:	United Nations Children's Fund
UNOCHA	:	United Nation Office for the Coordination of Humanitarian Affairs
UNRA	:	Uganda National Road Authority
UPE	:	Universal Primary Education Policies
uPVC	:	Un Plasticized Polyvinyl Chloride
USAID	:	U. S. Agency for International Development
WFP	:	World Food Programme
WHO	:	World Health Organization

Chapter 1 Background of the Project

Chapter 1 Background of the Project

1-1 Overview of the Country

(1) Location and Natural condition

Uganda is a landlocked located in Eastern Africa, bordering the Congo, Kenya, Rwanda, South Sudan, and Tanzania. The capital city Kampala is located at close to equator at 1°north and 32°east with average elevation of 1,300masl. The total land area is estimated to be 24.1 thousand sq. km with the total population of 32.36million (2009 estimate) having population growth rate of 2.7% per year.

The country belongs to tropical climate with rainy season lies between March and May and October and November. However, the northern region has dry season covering November through February. The annual average precipitation of the country is about 1,300mm with average temperature of 21°C.

The target area of this project is 5 districts of Northern Region which are Gulu, Kitgum, Pader, Agago and Lamwo District.

(2) Socio-economic Condition

The country has suffered from repeated coup d'etat since independent in 1962. However, since 1986 the current regime brings security and stability to the country and is working toward economic reconstruction of the country through the support of world bank, IMF and other international donor organizations. Under the comprehensive National Development Policy of the country the Poverty Eradication Action Plan (PEAP) was approved in 2000 as poverty eradication strategy and the country received debt reduction based on Heavily Indebted Poor Country (HIPC) initiative. In 2010a five year national development plan (NDP) was established to promot the development policy program emphsizing on socio-economic transformation through the growth of employment and prosperity.

Gross Domestic Product (GDP) of the country is 650USD in 2009. The contribution of product from primary industry is 23%, from secondary industry is 23% and from tertiary industry is about 48% in the same year. The GDP growth rate is between 5-10% and recently it regiuster the higher rate. Although the the number of people living below the poverty line is highly reducing in the last three years, the 2005/6 data estimates that 31.1% (8.4million) people were registered as people living below the poverty line of which the highest number, about 60.7%, lives in the northern regin of the country.

(3) Natural Conditions

The climate of the country is tropical climate with annual rainfall reaching about 1,300mm. Although there are two peak rainy seasons that lies between March and May and September and October, about 50% of the precipitation falls in the period known as the period of light rain resulting in many rainfall periods throughout the year. However, the amount of rainfall in the

Northern Region is minimal followed by complete dry season between November and February.

The average precipitation in the target area is between 1,000mm and 1,500mm. The rainy seasons lies between April and October followed by dry season between November and March. Generally, the amount of rain is higher in the month of April, May, August and October. In addition, the average monthly maximum temperature ranges between 27 and 33C and the minimum is about 20C and is constant throughout the year. The following figure shows the precipitation of Gulu District.

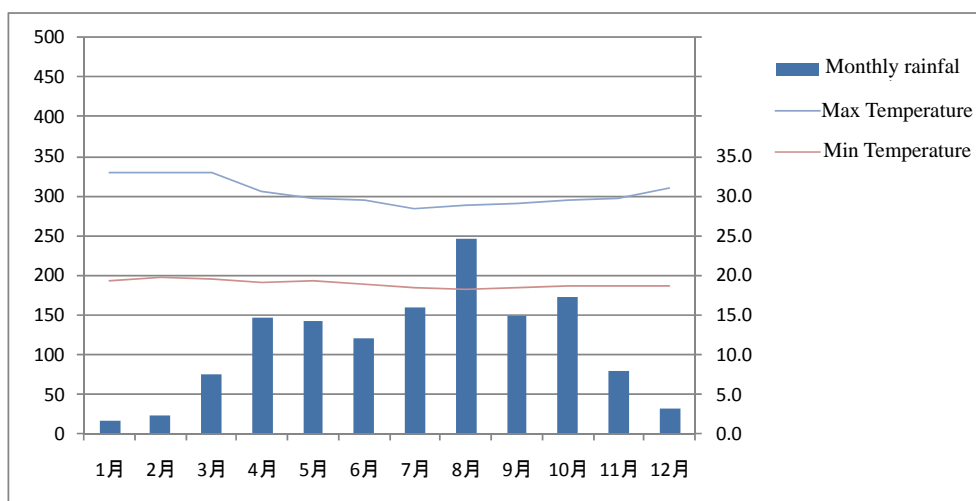


Figure 1-2-1 Annual average precipitation and temperature

1-2 Background of the Project

Initially the preparatory project was proposed on the premise of “area approach” for the community development in the five districts of Acholi Sub-region, namely Gulu, Kitgum, Pader, Agago and Lamwo. The proposed projects are:

- 1) Road: 21 sites
- 2) Bridges and culverts: 22 sites
- 3) School facilities and appurtenant structures (including teachers’ houses, Latrine, Borehole): 16sites
- 4) Health facilities, appurtenant structures and equipments (including accommodation for medical staff, Latrine, Borehole): 9 sites
- 5) Water supply facilities: installation of hand-pumped: 18 sites

Based on the request from the government of Uganda, and considering the urgency, capacity of the district for O&M, efficiency of construction and supervision of the local contractors, the project components were fixed as follows

1. School Facilities
2. Health Facilities/ Equipments Supply
3. Community Access Road i.e. improving accessibility to the basic social infrastructures (installation of river crossing and drainage culvert for enabling access during rainy season)

In addition, the component of water facilities (boreholes) in this project is considered as supplementary facilities for school and health center depending on the need and requirement. After the project components were fixed, the Study Team conducted field survey to identify parishes as the target communities where the development is prominently delayed.

Table 1-2-1 Process of selection of the target sites

Site selection Process	
Step 1	Selection of candidate Sub-county by the District: Through the involvement of the district officials of five Districts, a total of five (5) sub counties were selected based on the back-wardness of development, and the highest need to be supported.
Step 2	Selection of 2 (two) candidate Parish per Sub-county: Candidate Parish was identified from the selected five (5) sub counties based on current condition of education and health infrastructure, and parish population.
Step 3	Confirm current condition of the existing facilities: Based on the field survey in the selected parish, current conditions of the targeted parishes are confirmed and agreed with the Government of Uganda as target Parish.

(1) Target Communities

Lists of selected parish are shown in the following table.

Table1-2-2 Target community, support needs and population

District	S/C	Priority	Community (Parish)	Education needs	Health needs	Access Needs	Population	
Gulu	Odek	1	Binya	o	x	x	8,600	
		2	Paloro	o	x	x	6,300	
	Patiko	1	Pugwinyi	o	x	x	4,100	
		2	Pawel	o	x	x	2,400	
	Lalogi	1	Lukwir	o	x	x	3,500	
		2	Jaka	o	x	x	4,200	
	Paloro	1	Owalo	o	x	o	2,500	
		2	Mede	o	x	o	2,900	
	Koro	1	Lapainat East	o	o	x	4,744	
		2	Pageya	o	x	x	2,300	
	Kitgum	Orom	1	Okuti	o	x	x	3,474
			2	Lolwa	o	x	x	4,936
Amida		1	Koch	o	x	o	5,842	
		2	Oryang	o	x	x	1,974	
Lagoro		1	Lakwor	o	o	o	4,400	
		2	Lalano	o	x	x	4,000	
Layamo		1	Paibwor	o	x	x	3,200	
		2	Pamolo	o	x	x	2,800	
Mucuwini		1	Akara	o	x	x	2,500	
		2	Ogwapoke	o	x	x	1,400	
Pader	Angagura	1	Bulobo	o	x	o	2,164	
		2	Kalawinya	o	x	x	1,272	
	Awere	1	Bolo	o	o	o	8,130	
		2	Racikoko	o	x	x	4,588	
	Latanya	1	Ngeekidi	o	x	o	4,915	
		2	Latigi	o	x	x	2,776	
	Lapul	1	Ogore	o	x	x	3,782	
		2	Koyo	o	x	x	3,541	

District	S/C	Priority	Community (Parish)	Education needs	Health needs	Access Needs	Population
	Laguti	1	Pakeyo	○	×	×	3,700
		2	Paibwor	○	×	×	4,400
Lamwo	Padibe West	1	Ywaya	○	×	×	4,600
		2	Lagwel	○	×	×	3,600
	Agoro	1	Potika	○	×	×	4,800
		2	Pawach	○	×	×	4,600
	Palabek Ogili	1	Apyeta	○	×	×	3,100
		2	Padwat	○	×	×	4,400
	Palabek Gem	1	Gem	○	×	×	2,100
		2	Cubu	○	×	×	3,500
	Paloga	1	Bungu	○	×	○	5,200
		2	Paloga	○	×	×	5,400
Agago	Paimol	1	Pacabol	○	×	×	4,702
		2	Ngora	○	×	×	5,900
	Omiya Pachwa	1	Laita	○	○	○	4,042
		2	Lamoi	○	×	×	3,061
	Kotmor	1	Apobo	○	×	×	3,255
		2	Lukee	○	×	×	3,322
	Lokole	1	Kiteny	○	×	×	4,000
		2	Ladere	○	×	×	4,000
	Wol	1	Atut	○	×	×	5,333
		2	Paluti	○	×	×	4,138

Note: ○: Support needed; ×: Support not needed.

(2) Project Component

In the selected target communities, the components to be supported were confirmed through conducting field survey to assess the current condition of existing facilities. A standard condition was set for the intervention of improving the current condition of each sector.

- School facilities: Since many students were not attending school during the civil war, after the peace the enrollment in the target area is high compared to other parish. However, the number of classrooms and teachers are not enough for the number of students. Besides the students are taking lessons in a crowded classroom or in a temporary structure, or even under the tree and the teachers' retention rate is very low. Therefore, to improve this condition in the target community classroom should be extended and teachers' house be constructed.
- Health facilities: In the target area where especially health center II is lacking, the accessibility is half the national standard which is 1:5,000 for health center II. Therefore, the existing health facilities would be improved in this project to better the condition of the target community.
- Access improvement: The accessibility by the community to schools and health centers should be improved.

1) Education component

- Classrooms for Primary Schools: Additional classrooms will be constructed to meet the national minimum quality standard, which states that each primary school should have at least seven classrooms, P1 to P7.
- Classrooms for Community schools: The community schools which have been registered as public school on or before July 2011 and where teachers will be allocated are considered as the target project. The Project will provide a total of four classrooms for the community school.
- Teachers' House: Two blocks of four family staff houses is the minimum standard. In case that the target schools lack the minimum standard the project will fill the gap.
- Latrine: If the selected school doesn't meet the minimum standard, the gap will be filled by this Project.
- Borehole: In case the target school lacks water supply facilities, a borehole will be installed.

2) Health component

- Improvement of Health Center II: The existing health center II, which the target communities are accessing to, will be considered as target of the project. In case that the target health centers lack any one of outpatient department (OPD), general ward, and maternity ward the project will provide the gap.
- Improvement of Health Center III: The existing health center III, which the target communities utilize will be considered as target of the project. If the target health centers lack any one of the OPD and maternity ward it will be provided by this project.
- Staff house for health center II: Maximum target in this Project is 1 block, and the gap will be filled if the need arises.
- Staff house for health center III: Maximum target in this Project is 2 blocks, and the gap will be filled if the need arises.
- Latrine: If the target health centers lack latrines, this project will provide latrine for patients and health staffs separately.
- Borehole: If the target health centers lack water supply facilities, a borehole will be installed.
- Incinerator: For the target health centers which have no waste disposal facilities, an incinerator will be installed.

3) Access improvement

- Construction of river crossing and road drainage culverts: To improve access to basic social infrastructure bottle-neck river crossing and drainage culverts will be provided

1-3 Environmental and Social Considerations

In Uganda, National Environmental Management Authority (NEMA) is in charge of the survey, adjustment and management of Environmental Impact Assessment (EIA). The Study Team conducted the environmental and social consideration based on “Guidelines for EIA in Uganda”, “EIA Guideline for Road Projects” and “the JICA Guidelines for the Environmental and Social Considerations” which came into force in April 2010.

According to the guidelines in Uganda, the developer of the project, the districts in present project, prepares the Project Brief and submit to NEMA. The Project Brief describes the area, size, design of the project, prediction and evaluation of the environmental impacts, mitigation measures, and so on. NEMA goes through the Project Brief and may direct the developer for additional environmental process if necessary.

In these guidelines, the EIA is divided in to three level of project as follows.

- ①. Projects which is small in scale and easy to identify its’ negative impacts and mitigation measures for the environmental condition. These projects will be conducted by operating mitigation measures. It requires no detail investigation such as Environmental Impact Study (hereinafter referred to as EISStudy) including the field survey.
- ②. Projects which will have uncertain impacts and need the environmental impact review to identify the mitigation measures. EISStudy will be done if needed. In case suitable mitigation measure could be identified during the environmental impact reviewing, and measures involved in the project design, the project will be implemented without the detail EISStudy. Environmental impact review will be done at this stage and alternative solution will be done.
- ③. Projects which will have significant impact to environmental condition and mitigation measures cannot be identified without EISStudy. In case alternative strategy is effective and the negative impacts are considered very small, the project will be implemented. Big scale community participation should be required for the EISStudy.

The guideline in Uganda mentions that area covered with water resources, and historically, culturally, archaeologically, scientifically, topographically, and biologically important area should be given special considered.

According to the discussion made with the staffs of NEMA and environmental unit in MOWT, judging from the point of view of the project components and project scale, this project is assumed to be categorized as ϕ above; small scale projects. Through the discussion with the District Environmental Officers of each district, it is found that the target sites do not need further EISStudy. Therefore, the process of the EIA will deemed to be complete with the submission of the Project Brief.

In addition, compared to other similar projects conducted by JICA, this project can be categorized as B or C according to the JICA guideline. Based on the JICA guideline,

category-B project requires only Initial Environmental Examination (IEE) level study which is more or less similar to the preparation of the Project Brief. In IEE, the survey for environmental and social consideration should be done and the Project Brief should be prepared which include the mitigation measurement, implementation structure of monitoring and environmental and social consideration.

1-3-1 Summary of the Environmental and Social Consideration

(1) Main Sources of Impacts

Under the implementation of this project the environmental impacts are expected to occur from the following sources. These can be considered as the exhaust gases caused by trucks and the outflow of the construction materials to the river.

a) Trucks during Construction Works

Most construction work will be conducted by human power. The trucks will be used only for the transportation of necessary materials to the project area. The frequency of the transportation will be low. Hence the impacts by the trucks on environment will also be minor.

b) Construction Works of Culverts

The project sites cover both seasons i.e. dry and rainy season. There is little water flow during the dry season, and the construction period will be limited to the dry season, therefore, there will not be diffusion of the construction materials to the rivers which might affect the down streams water discharge.

(2) Main Impacts on the Natural Environment

The project will induce a limited vegetation clearance in and around the project sites. The construction works of the project is focused on areas of existing facilities and plan the installation of the new facilities to avoid cutting the existing trees. Therefore, the impacts on the natural environment will be minor.

(3) Main Impacts on the Social Environment

The main impacts of the project on the social environment are positive impacts induced by the improvement of basic social infrastructures especially for the children and women. The design of facilities also considers easy access to the physically disabled person based on the standard design of Uganda.

There is no major negative impact such as involuntary resettlement or displacement of the community. However, there are few significant negative impacts which are related to the risk of traffic accident.

1-3-2 Impact Assessment

(1) Impact Assessment on the Natural Environment

Impacts are caused during the period of construction and operation. The following is the list of the summary of positive and negative impacts of the project.

Table 1-3-1 List of Impacts on the Natural Environment

Environmental Items	Impacts	Ranking	
		Construction	Operation
1. Air Quality	▪ Exhaust gases from trucks and heavy machines during construction can be the sources of air pollution. Especially it will happen along the access road.	-/C	*
2. Water Quality	▪ During the construction period, discharged water from construction sites, trucks, and vehicles can be assumed.	-/B	*
3. Wastes	▪ During the construction period, the waste soil and waste materials can be assumed.	-/B	*
4. Soil Contamination	▪ During the construction period, soil contamination can be caused from oils and fuels.	-/C	*
5. Noise and Vibration	▪ The traffic of trucks and machines can significantly affect the residents by temporary nuisance and vibration.	-/B	*
6. Subsidence	▪ No works affect subsidence in this project.	-/C	*
7. Odor	▪ No resource of odor will occur in by this project.	*	*
8. Residual Material	▪ No works produce residual material in this project.	*	*
9. Protected Areas	▪ There is no protected area in the project sites.	*	*
10. Ecosystem	▪ There is no site of ecologically valuable habitat in the project sites.	*	*
11. Hydrology	▪ Water intake from the boreholes is likely to drop the water level. However, site selection of borehole specially distances between boreholes follows the regulation.	*	-/C
12. Topography and Geology	▪ The new constructions of culverts are likely to modify the morphology of the rivers banks at the crossing points. After restoration of the working sites, this morphological will not affect the stability of the river banks.	-/C	*

Remarks: Left Side of Ranking: +: Positive Impact, -: Negative Impact, =: Neutral Impact
Right Side of Ranking: A: Relatively Significant, B: Relatively Medium-Size,
C: Relatively Small, D: Unknown so far,
*: No Impact or No Corresponding

(2) Impacts on the Social Environment

The following table shows the impacts on the social environment.

Table 1-3-2 List of Impacts on the Social Environment

Environmental Items	Impacts	Ranking	
		Construction	Operation
1. Resettlement	▪ The project will not induce any resettlement of the population.	*	*
2. Poverty	▪ Positive impacts are expected for poor people by making easy access to schools and health centers.		
3. Ethnic Minorities and Indigenous Peoples	▪ There is no people like ethnic minorities and indigenous peoples.	*	*
4. Area economy and livelihood	▪ Creation of employment during construction period; in addition the project will increase literacy level and reduce disease rate after the implementation of the project	*	+A
5. Land use and local resource utilization	▪ During the implementation of the project neither the land use or resource utilization is affected	*	*
6. Water supply	▪ During construction of river crossing, river water dirtiness is expected	-/C	*
7. Existing social infrastructure and social service	▪ The social infrastructure and social service will be improved and is not expected to be affected negatively	*	+/A
8. Constitutions of society, such as social capital and a decision-making body of the area	▪ The project will improve the existing institution and it is not expected to affect negatively	*	*
9. Uneven distribution of damage and benefit	▪ This project improves access to basic social infrastructure, and negative influence is not expected	*	*
10. Conflict of interest in the target area	▪ This project improves access to basic social infrastructure, and negative influence is not expected	*	*
11. Cultural Heritage	▪ There is no heritage in the project area	*	*
12. Landscape	▪ Landscape doesn't change under the implementation of this project	*	*
13. Gender	▪ Since the target of this project is school and health, it will have positive influence	*	+/A
14. Child right	▪ Since the target of this project is school and health, it will have positive influence	*	+/A
15. Infection of HIV/AIDS	▪ Although the scale of construction is small, there is fear of the spread of HIV by workers coming from the town or other area	-/C	*
16. Working environment	▪ Long term work force might face with poor housing and working environment	-/C	*
17. Accident	▪ Risk of traffic accident might raise during the construction period	¥/B	-/C
18. Impact on cross-border and climate change	▪ The project is small scale, hence no effect is expected	*	*

Remarks: Left Side of Ranking: +: Positive Impact, -: Negative Impact, =: Neutral Impact
Right Side of Ranking: A: Relatively Significant, B: Relatively Medium-Size,
C: Relatively Small, D: Unknown so far,
*: No Impact or No Corresponding

1-3-3 Mitigation Measures

Table 1-2-3 provides an overview of the measures to be undertaken for mitigating the impacts of the project.

Table 1-3-3 Overviews of Mitigation Measures

	During Construction	After Construction
Mitigation Measures for Impacts on the Natural Environment	<ul style="list-style-type: none"> ▪ In the village, slow driving, reducing exhaust air and controlling noise generation. ▪ Provision of sedimentation pond and filter for extra water produced during the preparation of concrete mix. ▪ In order to minimize the dispersal of fuel and oil, manage them in specific place. During the selection of management site involve the community and district officials ▪ Disposal of extra construction material far from rivers and wetland in order to avoid surface and groundwater contamination. The disposal site shall be selected with the involvement of the community and local officials ▪ Detour road and temporary crossing shall be removed immediately after the construction until the original natural status is recovered 	<ul style="list-style-type: none"> ▪ Restoring the project sites. ▪ Maintenance of the facilities. ▪ Planting trees wherever possible around schools and health centers.
Mitigation Measures for Impacts on the Social Environment	<ul style="list-style-type: none"> ▪ Putting traffic signs on area where there is many people using the road ▪ Implementing road safety campaigns in the project sites. It minimizes the risk of traffic accidents. ▪ Sensitization and continuous information to the local communities about the project and the progress of works. ▪ Sensitization and training of infectious to the laborer 	<ul style="list-style-type: none"> ▪ Maintenance of the facilities.
Environmental Compliance and Improvement Measures	<ul style="list-style-type: none"> ▪ Make sure the contractor comply with safety measure; Provision of safety shoes and helmet, avoid long working hours etc ▪ Give priority for using the local labor in the project sites. ▪ Sensitization of the local communities about the job opportunities and application & recruitment procedure. ▪ Formation of a monitoring team at district and sub-county level to control the application of measures 	<ul style="list-style-type: none"> ▪ Site meeting involving the district environment officer for inspection of site and reporting to NEMA.

1-3-4 Implementation of the Mitigation Measures

Table 1-2-4 presents the agencies demarcated for each mitigation measures. Most of the measures to be undertaken during the construction period will be done by the contractors.

Table 1-3-4 Implementing Agencies of Mitigation Measures

Mitigation Measures	Responsible Persons for Implementation
1. In the village, slow driving, reducing exhaust air and controlling noise generation.	Contractor
2. Provision of sedimentation pond and filter for extra water produced during the preparation of concert mix.	Contractor
3. In order to minimize the dispersal of fuel and oil, manage them in specific place.	Contractor
4. Disposal of extra construction material far from rivers and wetland in order to avoid surface and groundwater contamination.	Contractor in collaboration with the community
5. Detour road and temporary crossing shall be removed immediately after the construction until the original natural status is recovered	Contractor
6. Putting traffic signs on area where there is many people using the road to minimize traffic accident	Contractor in collaboration with the community
7. Implementing road safety campaigns in the project sites.	Contractor in collaboration with the community
8. Sensitization and training of infectious to the laborer	Contractor
9. Management to comply with safety and health of workers	Contractor in collaboration with the community
10. Give priority for using the local labor in the project sites.	Contractor
11. Sensitization of the local communities about the job opportunities and application & recruitment procedure.	Contractor in collaboration with the community
12. Formation of a monitoring team at district and sub-county level to control the application of measures	District Environmental Officer in collaboration with NEMA
13. To recover the site	Contractor in collaboration with the community
14. To maintain the facility	District with the collaboration of the community
15. Planting of trees around the facilities (School and Health Center)	Local community
16. Monitoring of site by environmental officer of each district and reporting to NEMA	District Environmental Officer in collaboration with NEMA

1-3-5 Environmental Management Plan and Monitoring Plan

The impact of the project on the environment and social consideration is limited. However, routine monitoring will be conducted during the supervision of the project. The district environmental officer will gather the information from the consultants and conduct the necessary monitoring in the project sites once a month. The monitoring points are shown in the following table.

Table 1-3-5 Monitoring Plan

Environmental Item	Content	Location	Frequency	Responsible agency
【During construction】				
Air quality	On site Visual confirmation	Construction sites and the surrounding	Once a month	Contractor, supervisor, district environmental officer
Water quality	For the content of water quality refer sub-section (2) “water supply facility” under section “Facility design”	Borehole site	During well drilling	Contractor, supervisor, district environmental officer
Waste	On site Visual confirmation	Construction sites	Once a month	Contractor, supervisor, district environmental officer
Soil contamination	On site Visual confirmation	Construction sites	Once a month	Contractor, supervisor, district environmental officer
Noise and Vibration	On site confirmation	Construction sites and the surrounding	Once a month	Contractor, supervisor, district environmental officer
Landscape and geology	On site Visual confirmation	Construction sites	Once a month	Contractor, supervisor, district environmental officer
Water use	On site Visual confirmation	Construction sites and the surrounding	Once a month	Contractor, supervisor, district environmental officer
Infectious disease	Confirmation through on-site interview	Construction sites	Once a month	Contractor, supervisor, district environmental officer
Working environment	Confirmation through on-site interview	Construction sites	Once a month	Contractor, supervisor, district environmental officer
Accident	Visual Confirmation and onsite interview	Construction sites and the surrounding	Once a month	Contractor, supervisor, district environmental officer
【During use】				
Water contamination (e-coli)		Borehole	When necessary	District water officer and district environmental officer

1-3-6 Necessity of Land Acquisition and Involuntary Resettlement

In this Project, the improvement works focused on existing facilities such as classroom expansion, culvert rehabilitation, and so on. Therefore, land acquisition and involuntary resettlement will not be needed in the target sites. The project target community schools which is planning to be upgraded within this financial year in Gulu district have already prepared the land agreement between land owners, communities and districts before district sent the application for upgrading to the ministry. In fact, this project confirms all the agreement for all target sites.

Chapter 2 Content of the Project

Chapter 2 Content of the Project

2-1 Project Outline

(1) Overall Goal and Project Objective

Due to the prolonged decade of conflict, the development in the Northern Uganda remarkably lacks behind compared to other part of the country.. Consequently, in 2007 the Government of Uganda (GOU) has formulated the Peace Recovery and Development Plan for Northern Uganda (PRDP). The overall goal of this plan (PRDP) is to promote stability in order to regain and consolidate peaceful environment and build the foundation for recovery and development in Northern Uganda. The PRDP document has been designed toward reconstruction and development of the Northern Region with four strategic objectives, i.e. 1) Strengthening of local government officials of government function, 2) Rebuilding and Empowerment of Communities, 3) Revitalization of Economy and 4) Promotion of peace and Reconciliation through various developmental intervention that boost up the socio-economic indicator of the area toward the country average

On the other hand, the Government of Japan carried out “the Project for Community Development for Promoting Return and Resettlement of IDP in Amuru District” under JICA’s “Technical Cooperation Development Plan” between 2009 and 2011. In this community development plan, the short term development goal was set as achievement of “Self-sufficiency by improving agriculture production” and “Assuring access to minimum basic infrastructure” for settlement of IDP until 2015 and as a long term development goal “Stable Income Generation” and “Sustainable use of the Basic Infrastructure” until 2030. In the same development model, to achieve the goals the development project of four (4) sectors such as education, health, water, and livelihood and production sector project is proposed. (See Fig 3.1.1)

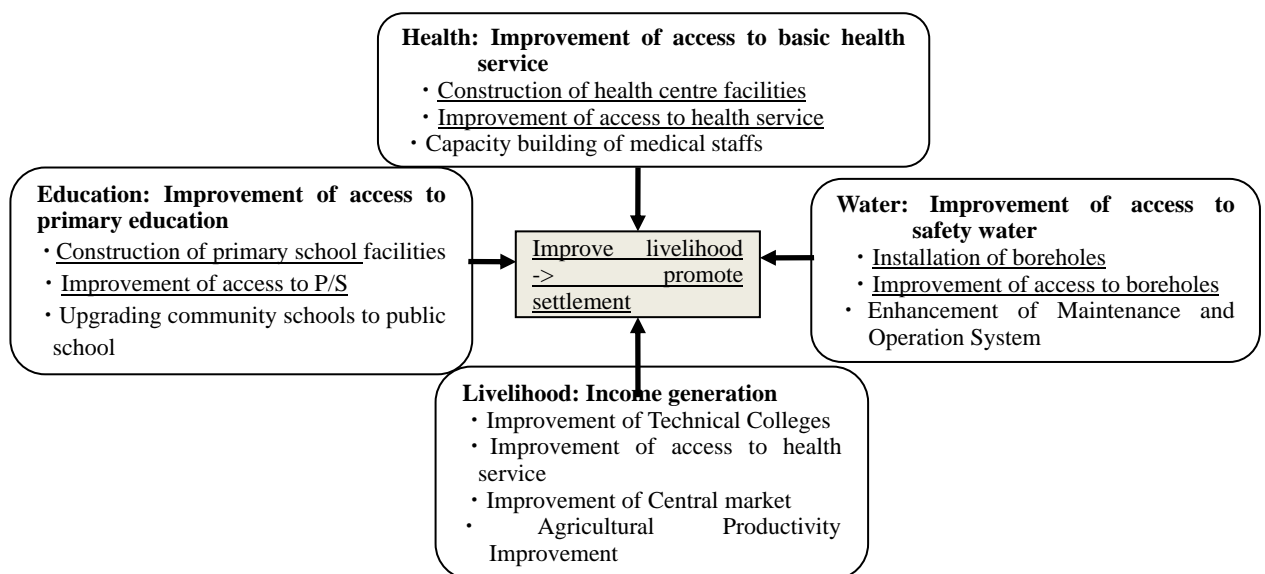


Figure 2-1-1 Main structure of Community Development Plan

Accordingly, this project proposes the improvement of basic social infrastructure through provision and rehabilitation of education, health facilities and access to the basic infrastructure in the target community. The figurative image of the project is depicted in the Figure 2-1-2.

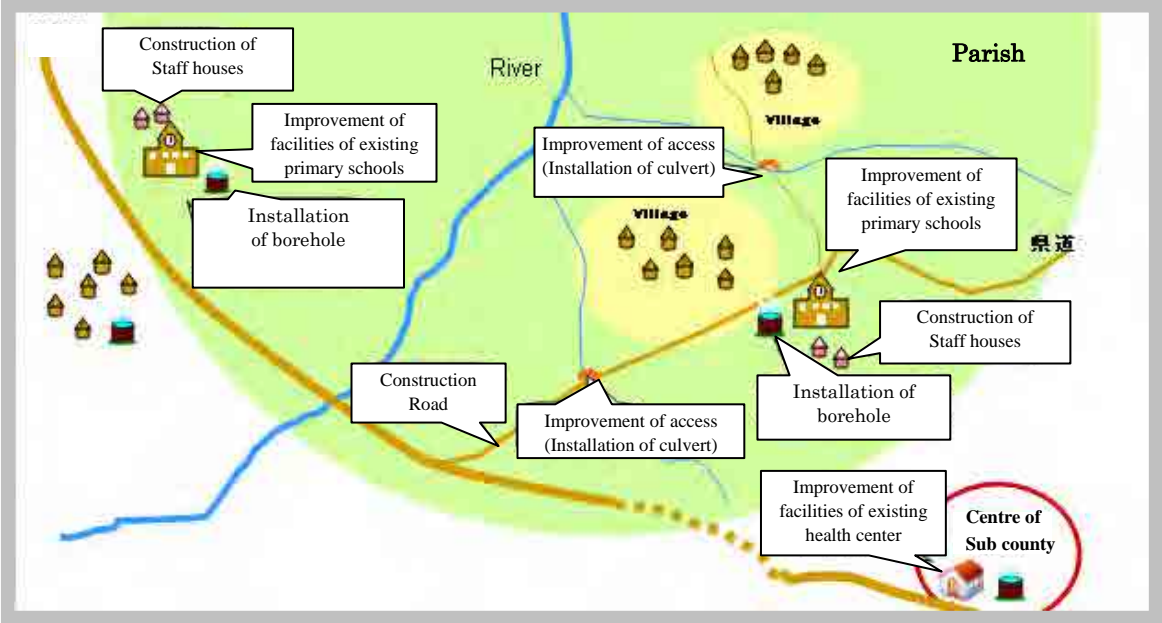


Figure 2-1-2 Image of outputs by the project

(2) Outline of the Project

As described above, this project is focused on the improvement of access to basic social infrastructure such as health and education facilities to the target community. The content of specific support proposed is the improvement of primary school and health center and provision of river-crossing structures to improve access to these facilities. The items are illustrated in the following table.

Table 2-1-1 Outline of the Project

Item	Contents		
Overall Goal	In North Uganda, access to basic social infrastructure will be achieved and settlement of IDP in their original village will be promoted until 2015		
Project Objective	Improvement of access to basic community infrastructure in Gulu, Kitgum, Pader, Lamwo and Agago District in Acholi sub region		
Target Area	The priority community (parish) in the following Sub-counties Gulu District: Odek, Patiko, Lalogi, Palaro, Koro Sub County Kitgum District: Orom, Amida, Lagoro, Layamo, Mucuwini Sub County Pader District: Angagura, Awere, Latanya, Lapul, Laguti Sub County Lamwo District: Padibe West, Agoro, Palabek Gem, Paloga, Palabek Ogili Sub County Agago District: Paimol, Omiya Pachwa, Kotmor, Wol Sub County		
Sector	Education Sector	Health Sector	Road Sector
Target Facilities	Primary School Classroom, Latrine Staff houses, Borehole Others: Desks and Chairs	HCIII : 2, HCII General Ward, OPD, Latrine Incinerator, Borehole Others: supply of basic medical equipment	Standard Culvert Designed Culvert

Item	Contents		
Expected Outcomes	Improvement of the environment for primary education in community	Improvement of the environment for health centre in community	Improvement in access to primary school and health centre in community
Outcome Indexes	<ul style="list-style-type: none"> • Pupils Classroom Ratio (PCR) 1:70 • Pupils Latrine Ratio (PLR) 1:40 	<ul style="list-style-type: none"> • Each sub county has one HCIII which meets to national standard • Each parish has one HCII which meets to national standard 	-

2-2 Outline Design of the Japanese Assistance

2-2-1 Design Policy

2-2-1-1 Basic Policy

(1) Target Plan

According to the request of Uganda Government, the education sector intervention, health center construction and provision of medical equipment, construction and rehabilitation of river crossing (bridges and culverts) and the provision of borehole was considered as community infrastructure to be supported. However, considering the urgency, capacity of the district for O&M, efficiency of construction and supervision of the local contractors, the project component to be supported in the project is fixed to be the provision of ① School infrastructure facilities, ② Health infrastructure facilities and medical equipment and ③ Community access road: improving accessibility to the basic social infrastructures, (installation of river crossing and drainage culvert for enabling access during rainy season). In addition, the component of water facilities (boreholes) in this project is considered as supplementary facilities for school and health center depending on the need and requirement

The target community for this project is identified through comparative analysis of the situation of each parish related to the backwardness of development and priority of the identified sector project component with the parish. (For the list of selected parish refer Table 1-2-2).

(2) Content of the Plan

a. Education Component

The content of facility construction in education sector includes the provision of education facilities for primary school and community school which is confirmed to be registered as primary school. The facilities to be supported are classroom, teachers' quarter, toilet and borehole if not available. However, primary school in the target parish which has the minimum standard classroom or more shall not be considered as a target school to be supported in this project.

b. Health Component

The content of construction in the health sector is focused on HCIII and HCII which the community in the target parishes utilizes. The support component shall be general ward and outpatient department (OPD) for HCIII and OPD for HCII. In addition to OPD and ward, the

component shall also include toilet, incinerator, borehole and medical equipments. However, if there need for OPD and/or Ward in the target health center is not confirmed the health center shall be excluded from the project.

c. Road Component

The river crossing and drainage culverts used by the community to access the supported primary schools and health center shall be rehabilitated to smooth access to these special infrastructures by the community.

(3) Scale of the Facilities

Size of facilities will be designed according to the guidelines for standard design prepared by each Ministry which is shown in chapter 2-2-2-5.

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

(1) Weather Condition

The average annual precipitation of the area is between 1,000~1,500mm. The rainy season is between April and October and dry season lies between November and March. Almost 80% of the precipitation occurs during the rainy season.

In the proposed project component only the water supply and river crossing project will be affected by the rainy season. Hence, the implementation of these facilities shall be carried out during dry season.

(2) Terrain

The target area is situated generally in flat or gentle slope terrain with no significant problem on the landscape of the area. In addition, the size of the land for the existing primary school is more than the standard 4acres (1.6ha). Therefore, there will be no land constraint for the construction of the facilities by this project

(3) Soil/ground

In general, the target area is covered with soil from hilly land and is covered with fertile soil, including clay, sand, silt and organize matter. The foundation in the construction sites is observed to have firm clay silt soil that can carry the structure directly on its' ground. Therefore, foundation at 1.2m depth provided with reinforced concrete and brick wall foundation, will be provided. However, in areas where the District Engineer considers the soil as soft soil, cone penetration test was conducted to measure the soil hardens. It is found that the soil in the construction sites has good foundation

(4) Earthquake

Structural calculation is performed based on seismic zone division presented in the standard of the country.

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

(1) Safety and Security

Presently the environment of the region is relatively safe compared to the period of the conflict. However there are some reports that LRA still continue guerilla warfare in Central Africa and North Sudan. In addition, the succession of South Sudan on September 2011 might have a possibility to influence the security of the region. Besides, there are some reports that armed groups from Karamoja sub region have been engaged in disrupting the peace in Acholi sub region.

In addition, there are reports of few cases of ordinary crime such as stealing and robbery particularly around town like Gulu Municipality. Therefore, it is imperative that the Study Team shall continuously take into account and pay attention to the safety and security of the area through information sharing with NGO

(2) Religion and Gender

Since more than 90% of the population of Uganda is Catholic, there is separation of sex is not seen too much. Even the trend in elementary school shows that the enrollment ratio is bigger for women than men, however, the enrolment of men to secondary school is observed to be higher. In the National development Plan and District Development Plan consideration for gender equality has been given due emphasis so that enrolment of female student can increase by promoting employment of female teachers. As a tangible plan, the provision of staff house for female teachers is considered. Similarly, in this project the provision of staff house for four families per primary school will encourage female teachers since one of the staff house is expected to be assigned for female teachers.

(3) EVI

To provide an easy access to public facilities by disabled person, the design of primary schools, health centers and all accessories are designed to create barrier free environment. Therefore, entrance to classroom, health center and latrines are provided with facilities for easy access by the use of wheelchair.

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

(1) Standard and Approval

In Uganda “Road Design Manual” which was formulated by Ministry of Works and Transportation (MoWT) is used for civil works, and “Structural Design Manual by MoWT” is used for the architectural work. The ministry of Education and Sport has also prepared the standard design for classroom, statehouse and auxiliary facilities. This project will basically follow those design manuals of GOU, and where necessary the structural calculation will be referred to Japanese standard. In addition, the school facilities, health center facilities and health equipment with respect to its construction and usage shall be approval by the District

(2) Construction Material and Equipments

The major construction equipment and material such as cement, reinforcement bar and timber are available in Uganda. The main components of the project are construction of one-stories building for classrooms, OPDs and general wards and installation of culvert. The construction will be carried out using conventional methods and prevailing equipment and materials. Therefore provision of the construction material and construction equipment will be not a problem.

2-2-1-5 Local Contractor

In Uganda, many of the contractors specialized both in civil and architectural work and who owns machineries for both field with many years of experience are based in Kampala. On the other hand, the contractors in Gulu (Northern Uganda) are small scale and are involved in the business with hired engineer and equipments. These small size contractors do not have sufficient budgets and hence, unable to manage their works at their full capacity. Therefore, some of the construction works were forced to stop because of lack of budget before the interim payment. Many cases were reported that the construction schedule was delayed for projects commissioned to those small sized contractors.

In this project, due to the urgency of the provision of basic social infrastructure for the improvement of livelihood of the return community, the construction shall be completed within shortest possible time. Therefore, the contractor shall have the capacity to implement as many as possible construction site simultaneously. Since the project site is scattered the contractor shall have good construction management skill and experience and it shall be of large scale. Therefore, the selected contractor shall have large capacity to run many sites simultaneously and have good reputation of quality construction.

2-2-1-6 Standard of the Facilities

The qualities of facilities including primary schools and health centers shall follow the national standard formulated by MoES and MoH, respectively. In addition, the quality of culvert should follow the national standard formulated by MoWT.

2-2-1-7 Quality Control

The construction of the project component, classrooms, general ward, OPD and river crossing are designed with common structure which do not require any special technique and construction methods. However, during the implementation of Pilot Project under “The Project for Community Development for Promoting Return and Resettlement of IDP in Northern Uganda”, it was observed that maintenance of materials and management of qualities were properly carried out by local contractors, however, there are many cases that the contractor fails to follow the design properly. Strict supervision system shall be installed especially during casting of reinforced concrete structures.

Since the project aimed at construction of the facilities within the shortest possible time frame, the controversy that might be created with the contractor during correction of construction according to the design drawing (mistake in size of structure or reinforced bar arrangement) will result in the delay of the construction. In addition, improper management of materials will affect the quality of work and it will delay the construction period. On the other hand, it should be very important to keep the same level of qualities of construction among all the contractors (three different contractors will be contracted for construction work clustered in to three lots)

On this background, in this project one local engineer will be allocated to each district and supervise the work of construction for education, health and road sectors on daily basis.. In addition, for water sector, two local engineers will be allocated to supervise all the sites. These local engineers will regularly make inspection and supervision under the direction of Japanese engineers. In addition, to keep the quality and timing of the construction, the construction plan will have to consider following issues:

- Consensus with the contractors by prior explanation and confirmation: Before the commencement of the construction work, a meeting will be hold with all the contractors to explain the contents of works, construction and management methods to maintain the quality of work;
- Inspection and supervision: Japanese engineers will regularly visit all sites and figure out the issues and difficulties at the ground.
- Sharing information of the inspection and supervision: The Japanese engineers will share information from the three lots, analyze gaps of qualities and schedule of construction, and give directions for improvement to contractors.

2-2-1-8 Policy for Operation and Maintenance of the Facilities

(1) Primary School Facilities

For education sector, operation and maintenance (O&M) of facilities is the responsibility of school administrative committee (SMC: School Management Committee) which is established at each school. For this purpose, the budget will be allocated from the district and part of the money collected from school fee shall also be utilized for O&M of the facilities.

Basically the plan of construction of education facilities will take in to account the reduction in cost of O&M in such a way that the facilities will not require too much expense for O&M a couple years from the date of completion of the construction. In addition, for the small rehabilitation needed the Project Team will give prior explanation to relevant staffs of schools to keep the budget for maintenance of facilities.

Moreover, in the community school SMC will be established similar to the primary school for the operation and maintenance of the facilities.

(2) Health Facilities

In the case of health sector, O&M of facilities will be carried out by each health centre and its cost will be allocated by the district. Similar to the education sector, the health facilities also does not require much expense for O&M during the first two years after the completion of the construction. In addition, similar to education sector for the small rehabilitation needed the Project Team will give prior explanation to relevant staffs of health center to keep the budget for maintenance of the facilities. Moreover, medical equipments that don't require O&M cost will be provided to each target health centers. Consumable medical equipment shall not be included in this project.

In this project, the provision of water supply facilities is attached with schools and health centers to be supported by the project. The water point in each primary school should be maintained by School Management Committee (SMC). Fund shall be allocated for the O&M of the borehole through discussion with head teachers and SMC. Similarly, the O&M of borehole at each health centers shall be the responsibility of the health center and a budget shall be assigned by the district.

(3) Access Improvement

The operation and maintenance of river crossing structure installed, the main structure of access improvement component, shall be the responsibility of the district as it connects to the community access road. Activities such as the maintenance of access road, side clearing; mowing, pothole rehabilitation and clearing of culverts are the responsibility of the district. However, the activities for O&M are not regularly carried out. Most of the existing culverts are not covered well with soil and hence, resulting in the breakaway of the culvert by trucks and side drains are totally absent resulting in excessive erosion of the road. In the project, the culvert will be covered with proper amount of soil and side drains will be provided in order to reduce the cost of O&M.

2-2-1-9 Construction Schedule

In Uganda, experience showed that construction work frequently delayed due to many reason. This is mostly because many contractors do not have sufficient budgets to manage the works at their full capacity. In many cases, the contractors don't properly organize the process of works and management of materials and working staffs.

In the project, the Study Team will set the practical construction schedule which local contractors can carry out, and hold monthly meeting to check the progress and performance for each activity. In addition, to avoid the delay in the construction work, weekly meeting will be held with the contractors to share the progress of works, discuss the problems and the mechanism to move a way forward.

Moreover, the target area receives annual precipitation of 1,000-1,500mm of which 80% is observed between April and October. Accordingly, borehole drilling and construction of river crossing shall be scheduled to be constructed during dry season. Where access to schools and health centers is difficult during construction, priority shall be given to the provision of river crossing and culverts

2-2-2 Basic Plan (Construction Plan/ Equipment Plan)

2-2-2-1 Content of Request

(1) Target Community (Parish)

Based on the discussion with Uganda Government, a total of Fifty (50) parishes were selected from Five (5) Districts as a target community to be supported by this project. The selection process is shown in Table 1.1.1 and the lists of selected community (Parishes) are shown in Table 1.1.2

(2) Content of Facility and Equipment for Support

From the field survey at the target parish, the need for additional classroom, general ward and OPD in the existing school and health center has been confirmed. The confirmed facilities are considered as the main component of the project. In addition, the needs for additional facilities such as latrines and boreholes at schools and health centers has been confirmed and included in the project component. The project components by sector is presented below

Table 2-2-1 Content of Final Project Component

Component	Content
School	Classrooms, staff houses, latrines, boreholes (hand pump), furniture (desks & chairs) and water tank (rain water harvest)
Health Center	HCII: OPD, incinerator, medical equipment, water tank, solar system and latrines HCIII: General Ward, incinerator, medical equipment, water tank, solar system and latrines
Access Improvement	River crossing and road drainage (culvert, rehabilitation of bridge)

2-2-2-2 Selection of Target Community (Parish)

(1) Selection of Support Component

1) School Component

Investigation on the need for additional classroom was conducted in the primary school of target community. The content of the target of this project is summarized as follow:

- ① Elementary school, especially in the return site, lacks the proper learning environment of classroom. Many schools have insufficient classrooms. It is common to observe lesson being conducted under tree or under temporary shelter. To improve this situation, at least one classroom shall be secured for each grade (P1 to P7) per primary school. Moreover, the Government of Uganda aims to attain PCR (Pupil Classroom Ration) at 54
- ② Community schools which have been registered as public school on or before July 2011 and where teachers had been allocated are considered as the target project. In such school a total of four classrooms will be constructed.
- ③ In those primary school that fits the above criteria, staff houses, latrines and borehole will be constructed as additional facilities, where the need arise.

2) Health Component

- ① A health center where the community of the target parish utilizes (HCII & HCIII)
- ② Where health facilities are insufficient; for HCII an OPD, for HCIII an OPD and ward shall be considered
- ③ In those health center, in addition to the medical equipment auxiliary facilities such as staff house, latrine, borehole, incinerator shall be provided if needed.

3) Access Improvement Component

- ① Culverts for river crossing and road drainage on the access roads to the social basic infrastructure such as primary schools and health facilities for the community in the selected parish are taken as the target of project.
- ② The width of culverts and bridges shall be suitable for foot or bicycle crossing. However, considering the case that vehicles need to pass through the culvert during the construction period, the trafficable specification of the road should be taken in to account.

The target communities and the project components are summarized in Table 2.2.2 below. To ensure fair distribution among each district, the prioritization for the target communities were done within the district. The first prioritized communities were selected by corresponding to the needs for health sector, education sector. At last, the communities which have more number of classrooms should be considered followed by number of beneficiaries (parish population) as selection criteria. Table 2-2-3 shows the second prioritized communities. Based on the bidding result, in case there is possibility of supporting additional communities the target will be decided from the second priority list.

Table 2-2-2 List of Component to be Supported by this Project

District	Sub County	Parish	Pop	Education								Health								Access							
				Name of P/S	Facilities needed								Name of HC	Facilities needed								Culvert		Road (km)			
					CR	TH	TL	BL	GL	BH	F	OPD		Ward	IL	SL	PL	BH	Solar	SC	DC						
Gulu	Koro	Lapainat East	4,744	Laminadera P/S	2	2	2	1	1	0	2	Lapainat HCIII	0	1	1	1	0	1	1	0	0	0					
	Patiko	Pugwinyi	4,100	Awoo Nyim P/S	3	2	2	1	1	1	3									0	2	0					
				Kulu Opal P/S	5	1	2	1	1	1	5										0	0	5.0				
	Lalogi	Lukwir	3,500	Awal Kok P/S	5	2	2	1	1	0	5										1	3	0				
				Idure P/S	3	2	2	1	1	1	3											0	0	0			
	Odek	Binya	8,600	Wii Aceng P/S	3	2	2	1	1	1	3											0	0	0			
				Lukoto C/S	4	2	2	1	1	1	4												0	0	2.1		
	Palaro	Owalo	2,500	Pok Ogali P/S	1	1	0	0	0	0	1												0	0	0		
Kiteny Owalo C/S				4	2	2	1	1	1	4													0	0	6.0		
Pader	Awere	Bolo	8,130	Bolo P/S	3	1	2	1	1	0	3	Bolo HCII	1	0	1	1	1	0	1	1	0	1.5					
				Bolo Agweng P/S	3	2	2	1	1	1	3												0	0	0		
	Angagura	Burlobo	2,164	Acholi Ranch P/S	3	2	0	0	0	0	3												2	0	0		
				Aswa Bridge P/S	3	1	2	1	1	1	3													0	0	8.0	
	Latanya	Ngekidi	4,915	Akelikongo P/S	3	1	2	1	1	1	3													0	0	1.5	
				Wang Opok P/S	3	2	2	1	1	1	3													2	0	1.2	
	Lapul	Ogore	3,782	Latayi P/S	3	2	2	1	1	0	3														0	0	2.0
				Papaa P/S	5	2	2	1	1	1	5													3	0	0	
	Laguti	Pakeyo	3,700	Pajule Lacani P/S	1	1	2	1	1	0	1														0	0	0
				Wipolo P/S	3	2	2	1	1	0	3														5	0	7.0
				Larego P/S	1	2	2	1	1	1	1													0	0	1.5	
Agago	Omiya Pachwa	Laita	4,042	Laming Onen P/S	4	2	2	1	1	1	4	Laita HCII	1	0	1	1	0	1	1	2	0	5.0					
	Paimol	Pacabol	4,702	Lokapel P/S	4	2	2	1	1	1	4												0	0	0		
				Kokil P/S	5	2	2	1	1	0	5													0	0	0	
	Kotmor	Apobo	3,473	Kotmor P/S	3	2	0	0	0	0	3													0	0	5.0	
	Paimol	Ngora	5,900	Gotatongo P/S	1	2	2	1	1	1	1													0	0	1.5	
Kitgum	Lagoro	Lakwor	4,400	Lakwor P/S	4	2	2	1	1	1	4	Akuna Laber HCIII	0	1	0	0	0	0	1	1	0	3.0					
	Orom	Lolwa	4,936	Agoromin P/S	5	1	2	1	1	0	5												1	1	0		
	Orom	Lolwa	4,936	Lunganyura P/S	5	2	0	0	0	1	5													0	0	5.0	
	Amida	Koch	5,842	Alero P/S	1	2	0	0	0	1	1														1	0	7.0
				Gweng Pamon P/S	3	2	2	1	1	1	3														0	0	0
	Layamo	Pamolo	2,800	Ayoma P/S	3	2	2	1	1	1	3													0	0	0	
	Mucuwini	Akara	2,500	Akara P/S	3	0	2	1	1	0	3													1	0	0	
Lamwo	Agoro	Pawach	4,600	Lomwoka P/S	7	2	2	1	1	1	7													0	1	7.0	
	Paloga	Bungu	5,200	Jamula P/S	3	2	0	0	0	0	3													1	0	1.0	
	Palabek Gem	Gem	2,100	Gem Mede P/S	4	2	2	1	1	0	4													0	0	3.0	
	Padibe West	Ywaya	4,600	Ogwang Can P/S	3	2	2	1	1	1	3													1	0	0	
	Palabek Ogili	Apyeta	3,100	Apyeta P/S	2	2	2	1	1	0	2													0	0	0	

CR: Classroom, TH: Teacher's House, TL: Teacher's Latrine, BL: Boy's Latrine, GL; Girl's Latrine, F: Furniture, IL: Incinerator, SL: Staff's Latrine, PL: Patient Latrine,
 SC: Standard Culvert, DC: Designed Culvert

Table 2-2-3 Second Priority Target Community (Parish)

District	Sub county	Selected Parish
Gulu	Patiko	Pawel
	Palaro	Mede
	Odek	Palaro
	Lalogi	Jaka
	Koro	Ibakara
Kitgum	Amida	Oryang
	Lagoro	Lalano
	Layamo	Paibwor
	Mucuwini	Oguwapoke
	Orom	Okuti
Pader	Angagura	Kalawiya
	Awere	Rackoko
	Laguti	Paibwor
	Lapul	Koyo
	Latanya	Latigi
Lamwo	Paloga	Paloga
	Palabek Ogili	Padwat
	Palabek Gem	Cubu
	Padibe West	Lagwel
	Agoro	Potiko
Agago	Kotmor	Lukee
	Lokole	Kiteny
	Omiya Pachwa	Ladere
	Paimol	Lomoi
	Wol	Ngora
		Atut
	Paluti	

The content of the facilities of the project component is shown below

Table 2-2-4 Content of component to be supported

Component	Items	Content of facilities	Remark
Education	Primary school: 37sites	Classrooms(with desk and chair): 121 room Staff Houses; 65 block Latrines: 124 block Borehole: 22 site	Construction
Health	HCII: 2 sites HCIII: 3 sites	General Ward: 2 block OPD: 2 block Incinerator: 3 set Latrines: 4 block Bore hole :2 set Others: Basic Medical Equipments	Construction Equipment
Access improvement	River crossing: 7 sites Road crossing: 22 sites		Civil Work

(1) School Component

To improve the environment of the primary school, classroom, teachers' house, latrine, furniture (desk and chair) and borehole (hand pump) shall be installed as education sector facility

(2) Health Component

As health center component, outpatient department (OPD), general ward, latrine, incinerator, borehole will be provided. In addition, basic medical equipment will be provided

(3) Access Improvement Component

To improve access to education and health facilities by the target community, river crossing, and drainage culverts will be installed.

2-2-2-3 The Scale of the Plan

(1) School Component

1) Number of classroom

In the project, maximum number of the classrooms for a primary school was set as 7 covering from grade P1 to P7. In some target sites, pupils get lessons in the dilapidated or temporary classrooms or under trees. The number of existing available classrooms will be decided from field survey and number of target classrooms shall be fixed by subtracting available ones from the target 7 classrooms.

2) Staff house

Two blocks of four family staff houses is the minimum standard. In case, the target schools lack the minimum standard the gap will be filled by the project

3) Latrine

(i) Pupils

The minimum standard of latrine is 1:40 (one stance for 40 pupils). If the selected school doesn't meet this minimum standard, the gap will be filled by this project. According to the field survey, the number of latrine to be supported is decided by subtracting the number of existing available latrines from the minimum standard

(ii) Teachers

If the selected school doesn't have teacher latrines, 2 blocks of 2 stances latrine will be constructed.

4) Water supply facility

In case the target school lacks water supply facilities, a borehole will be installed

5) Number of facilities for the target school

The number of classrooms, staff houses, latrines and boreholes by districts are shown in Table 2-2-5.

Table 2-2-5 Number of facility to be Support per District (School Facilities)

District	School	Classroom	Staff house	Latrine	Borehole
Gulu	9	30	16	32	6
Pader	11	31	18	40	6
Agago	5	17	10	16	3
Kitgum	7	24	11	20	5
Lamwo	5	19	10	16	2
Total	37	121	65	124	22

(2) Health Component**1) General Ward and OPD**

If the existing health center lacks these facilities (OPD or ward), it will be provided by the project

2) Latrine

There are 14 beds in the general ward and 30 to 50 patients are visiting OPD on a daily basis at each health center. Considering the standard design of latrine for schools as 40 pupils per a stance, 4 stances which are the national standard for health center is believed to be enough for a health center for both men and women. Therefore, a target health centers that lacks latrines will be provided with 4 stances latrine with this project.

3) Water supply

If the target health center lacks water supply facilities, a borehole will be installed

4) Incinerator

In case the target health center lacks incinerator, it will be installed by this project

5) Number of facilities for the target health center

The number OPD, General Wards, latrines, boreholes and incinerator per districts are shown below

Table 2-2-6 Number of facility to be Support per District (Health Facilities)

District	Site	OPD	Ward	Latrine	Borehole	Incinerator
Gulu	1	0	1	1	1	1
Pader	1	1	0	2	0	1
Agago	1	1	0	1	1	1
Kitgum	1	0	1	0	0	0
Lamwo	0	0	0	0	0	0
Total	4	2	2	4	2	3

6) Medical Equipment

The major services provided at HCII are basic outpatient procedure, emergency delivery and primary health care to the community. On the other hand the main services provided at HCIII are outpatient procedure, admission for maternity and pediatric patient and general health check.

Ideally, a total of 17 staffs including two clinical officers and four nurses should be allocated for

HCIII, and total 8 staffs including two nurses should be allocated for HCII. The nurses are certified staffs graduated from 2 years national medical collages, and they should have enough skills and knowledge to provide basic internal medical care, vaccination and treatment for injuries.

However, in the target sites of this project, the existing facilities do not meet the minimum standard even if staffs such as clinical officers and nurses who conduct medical activities have been already allocated in all targeted health centers. Therefore, it might be not so difficult to operate and manage the equipments which will be supplied in this project.

The type of medical equipments to be supplied to the health centers are basically the list which is provided by MoH, but the following equipments will be excluded in this project.

- Less urgent equipments (ex. Bedsides locker, etc)
- Duplicative equipments
- Equipments requiring consumption of other material which are difficult to obtain
- Equipments which need electricity, because the target health centers are out of the national grid.

But in case the equipments can be operated with alternative energy such as gas, charcoal and solar, it will be included in the list.

The following list shows the request and the plan of medical equipment for HCII and HCIII

Table 2-2-7 List of medical equipment for HCIII

Name of equipment	Request QYT	Plan QYT	Validity
Autoclave, External Heated, 21 Liters	1	1	Use for sterilizing instruments, and essential for medical activities. Autoclave using external heat (charcoal) should be provided.
B.P. Machine	4	2	Basic medical equipment and essential for checking health condition.
Bed, Adult Patient	11	10	Patients who are staying at the centers will use the beds (two beds for men, 4 beds for women and 4 beds for maternity), and it is necessary.
Bed, Pediatrics	4	4	Pediatrics uses the bed, and it is necessary.
Bedside Locker	11	0	Low urgency and necessity, and out of the target.
Bowl Stand	2	0	Low urgency and necessity, and out of the target.
Cupboard, Instrument	1	1	Used for storage of instruments, and it is necessary.
Cupboard, Steel, Lockable	2	2	Used for storage of equipments and medicines, and it is necessary.
Delivery Bed	1	1	Used for delivery, and it is necessary.
Delivery Bed for Disabled Mothers	1	0	The number of target patients is not much, and it is less urgency and necessity.
Drip Stand	6	3	Used for fixing drips, and essential for medical activities.
Examination Couch	1	1	Used for medical examination, and essential for medical activities.
Examination Light	1	0	Needs electricity and less urgency. Out of the target.
Height Meter	1	0	Less urgency and duplicative equipment with OPD. It is out of the target.
Instrument Trolley	2	2	Used for transportation and storage of equipments and instruments, and it is necessary.
Ophthalmoscope	1	1	Used for ophthalmologic examination, and essential for basic medical activities.
Otoscope	1	1	Used for otological examination, and essential for basic medical activities.
Oxygen Therapy Apparatus	2	1	Used for resuscitating patients, and essential for medical activities.
Patient Screen	2	1	Used for partition of delivery room or examination room, and essential for medical activities.

Name of equipment	Request QYT	Plan QYT	Validity
Refrigerator	1	1	Used for preserving vaccines and drugs, and essential for health centers. Refrigerator using by gas should be provided.
Resuscitator, Manual, Adult	1	1	Used for resuscitating patients, and essential for medical activities.
Resuscitator, Manual, Infant	1	1	Used for resuscitating patients, and essential for medical activities.
Solar Lighting System For Ward	1	1	Used for delivery during night time, and essential for medical activities.
Sterilizer Drum, Medium	4	1	Used for sterilizing instruments, and essential for medical activities.
Sterilizing Drum, Small	4	1	Used for sterilizing instruments, and essential for medical activities.
Stethoscope	4	1	Basic medical instrument and essential for checking health condition.
Stool, Surgeon	1	0	Low urgency and necessity, and out of the target.
Stove, Charcoal	1	0	Low urgency and necessity, and out of the target.
Suction Apparatus, Foot	1	1	Used for suctioning fluid, and essential for medical activities.
Tape Measure	2	0	Low urgency and necessity, and out of the target.
Thermometer, Adult	5	3	Used for measuring body temperature, and essential for checking health condition.
Torch, Examination	2	0	Low urgency and necessity, and out of the target.
Vaccine Carrier	1	1	Used for transporting vaccines and it is necessary.
Weighing Scale, Adult	1	1	Used for measuring weight of patients and pregnant women, and it is necessary.
Weighing Scale, Infant	2	2	Used for measuring weight of infants and babies, and it is necessary.
Wheel Chair	1	1	Used for patients and pregnant women moving, and it is necessary.
Cold Box Insulated Vaccine Storage 27L	3	3	Used for preserving and transporting vaccines and it is necessary.

Table 2-2-8 List of Medical Equipment for HC II

Name of equipment	Request QYT	Plan QYT	Validity
Autoclave, External Heated, 20 Liters	1	1	Needed for sterilizing instruments, and essential for medical activities. Autoclave using by charcoal will be provided.
B.P. Machine	2	1	Basic medical equipment, and essential for checking health condition
Bed, Adult Patient	2	1	Mothers before and after delivery use the beds, and it is necessary.
Bedside locker	2	0	Low urgency and necessity, and out of the target.
Bowl Stand	2	0	Low urgency and necessity, and out of the target.
Bowl, Kick	2	0	Low urgency and necessity, and out of the target.
Cold Box Insulated Vaccine Storage	1	1	Used for preserving and transporting vaccines and it is necessary.
Cupboard, Instrument	1	1	Used for storage of instruments, and it is necessary.
Cupboard, Steel, Lockable	1	0	Low urgency and necessity, and out of the target.
Delivery Bed	1	1	Used for delivery, and it is necessary.
Delivery bed, for disabled mothers	1	0	The number of target patients is not much, and it is less urgency and necessity.
Drip Stand	1	0	Absence of a supply of drips for HCII, and out of the target.
Examination Couch	2	1	Used for medical examination, and essential for medical activities.
Examination Light	1	0	Needs the electricity and less urgency. Out of the target.
Eye Chart	1	0	Low urgency and necessity, and out of the target.

Name of equipment	Request QYT	Plan QYT	Validity
Glucometer	1	0	Necessary for checking diabetes, but it requires regularly supply of batteries and test slips. Out of the target.
Height Meter	1	1	Used for measuring height of patients, and it is necessary.
Instrument Trolley	1	0	Low urgency and necessity, and out of the target.
Otoscope	1	0	Low urgency and necessity, and out of the target.
Patient Screen	2	1	Used for partition of delivery room or examination room, and essential for medical activities.
Refrigerator, Vaccine	1	0	Vaccines and drugs are not preserved for a long time in HCII, and out of the target.
Solar Lighting System	1	1	Used for delivery during night time, and essential for medical activities.
Stethoscope	2	1	Basic medical instrument and essential for checking health condition.
Stop Watch	1	0	Low urgency and necessity, and out of the target.
Stretcher	2	1	Used for patient transportation and it is necessary.
Suction Apparatus, foot	1	0	HCII doesn't accept admitted patients, and it is not necessary.
Torch, Examination	5	0	Low urgency and necessity, and out of the target.
Vaccine Carrier	2	0	Cold Box Insulated Vaccine Storage is substitutable.
Weighing Scale, Adult	1	1	Used for measuring weight of patients and pregnant women, and it is necessary.
Weighing Scale, Infant	1	1	Used for measuring weight of infants, and it is necessary.
Weighing Scale, Toddler	1	1	Used for measuring weight of toddlers, and it is necessary.
Diagnostic Equipment Set for MCH	1	0	The instruments are duplicative with "Instrument Set, Delivery"
Diagnostic Equipment Set for OPD	1	1	Used for basic medical treatment. The set includes hammer, tape measure, thermometer and tourniquet.
Hollow Ware Set, Treatment	1	0	Low urgency and necessity, and out of the target.
Instrument Set, ENT Basic for HCII	1	0	Low urgency and necessity, and out of the target.
Instrument Set, Delivery	2	1	Used for treatment of delivery. The set includes forceps, scissors, bowls, speculums and kidney dish.
Instrument Set, Dressing	2	0	The instruments are duplicative with "Instrument Set, Delivery"
Instrument Set, Stitch Removing	2	0	The instruments are duplicative with "Instrument Set, Suture"
Instrument Set, Suture	2	1	Used for treatment of injury. The set includes forceps, scissors and needle holder.

The summary of the selected equipment noted above is shown in the following table.

Table 2-2-9 Equipment lists to be supported by the project

No.	Name of equipment	No. for HCIII	No. for HCII
1	Stethoscope	2	1
2	Ophthalmoscope	1	0
3	Otoscope	1	0
4	Thermometer, Adult	3	0
5	B.P. Machine	2	1
6	Weighing Scale, Adult	1	1
7	Weighing Scale, Toddler	0	1
8	Weighing Scale, Infant	2	1
9	Height Meter	0	1
10	Examination Couch	1	1
11	Delivery Bed	1	1
12	Bed, Adult Patient	10	1
13	Bed, Pediatrics	4	0
14	Oxygen Therapy Apparatus	1	0
15	Resuscitator, Manual, Adult	1	0
16	Resuscitator, Manual, Infant	1	0
17	Suction Apparatus, Foot	1	0
18	Drip Stand	3	0
19	Wheel Chair	1	0
20	Stretcher	0	1
21	Patient Screen	1	1
22	Autoclave, External Heated	1	1
23	Sterilizer Drum, Medium	1	0
24	Sterilizing Drum, Small	1	0
25	Refrigerator	1	0
26	Cold Box Insulated Vaccine Storage 27L	3	1
27	Vaccine Carrier	1	0
28	Cupboard, Instrument	1	1
29	Cupboard, Steel, Lockable	2	0
30	Instrument Trolley	2	0
31	Diagnostic Equipment Set for OPD	0	1
32	Instrument Set, Delivery	0	1
33	Instrument Set, Suture	0	1

(3) Access Improvement Component

1) River Crossing and Road Drainage Culvert

In area where access to the school and health center by the target community is difficult, river crossing and road drainage structure will be provided by the project. The width shall be fixed at 3.0m. The number of culvert structure to be installed per district is listed below

Table 2-2-10 Access improvement per District

District	Number of Parish	Standard Culvert (Site)	Designed Culvert (Site)
Gulu	5	1	5
Pader	5	13	0
Agago	3	2	0
Kitgum	4	4	1
Lamwo	4	2	1
Total	21	22	7

2-2-2-4 Prioritization of Selected Parish

Prioritization of Parishes were made giving consideration to the following points

- ① Avoid biasness during the selection of parishes from five districts.
- ② The need for health sector (lack of OPD or Ward) to be given highest priority among all four sectors.
- ③ The number of classrooms to be supported within a parish is considered the second criteria for prioritization.
- ④ Among the parishes with the same number of classrooms needed, the one with more population is considered as high priority parish

The order of prioritized communities (parishes) according to the procedure mention above is shown in Table 2.2-11. If the assigned total budget is not enough, the lower ranked parishes shall be excluded from the project. On the other hand, if there is an extra fund left from the assigned total budget, the support to second priority parishes shall be considered.

Table 2-2-11 Prioritized Parish and components to be supported

	District	Sub County	Parish	Pop	Education								Health							Access					
					Name of P/S	Facilities needed								Name of HC	Facilities needed							Culvert		Road (km)	
						CR	TH	TL	BL	GL	BH	F	OPD		Ward	IL	SL	PL	BH	Solar	SC	DC			
A-1	Lamwo	Agoro	Pawach	4,600	Lomwoka P/S	7	2	2	1	1	1	7										0	1	7.0	
A-2	Pader	Awere	Bolo	8,130	Bolo P/S	3	1	2	1	1	0	3	Bolo HCII	1	0	1	1	1	0	1	1	0	1	0	1.5
					Bolo Agweng P/S	3	2	2	1	1	1	3													
A-3	Kitgum	Lagoro	Lakwor	4,400	Lakwor P/S	4	2	2	1	1	1	4	Akuna Laber HCIII	0	1	0	0		0	1	1	0	0	3.0	
A-4	Agago	OmiyaPachwa	Laita	4,042	Laming Onen P/S	4	2	2	1	1	1	4	Laita HCII	1	0	1	1		1	1	2	0	0	5.0	
A-5	Gulu	Koro	Lapainat East	4,744	Laminadera P/S	2	2	2	1	1	0	2	Lapainat HCIII	0	1	1	1		1	1	0	0	0	0	
B-1	Kitgum	Orom	Lolwa	4,936	Agoromin P/S	5	1	2	1	1	0	5										1	1	0	
					Lunganyura P/S	5	2	0	0	0	1	5												0	0
B-2	Agago	Paimol	Pacabol	4,702	Lokapel P/S	4	2	2	1	1	1	4										0	0	0	
					Kokil P/S	5	2	2	1	1	0	5											0	0	0
B-3	Pader	Angagura	Burlobo	2,164	Acholi Ranch P/S	3	2	0	0	0	0	3										2	0	0	
					Aswa Bridge P/S	3	1	2	1	1	1	3											0	0	8.0
					Akelikongo P/S	3	1	2	1	1	1	3												0	0
B-4	Gulu	Patiko	Pugwinyi	4,100	Awoo Nyim P/S	3	2	2	1	1	1	3										0	2	0	
					Kulu Opal P/S	5	1	2	1	1	1	5												0	0
B-5	Lamwo	Paloga	Bungu	5,200	Jamula P/S	3	2	0	0	0	0	3										1	0	1.0	
C-1	Gulu	Lalogi	Lukwir	3,500	Awal Kok P/S	5	2	2	1	1	0	5											1	3	0
					Idure P/S	3	2	2	1	1	1	3												0	0
C-2	Pader	Latanya	Ngeekidi	4,915	Wang Opok P/S	3	2	2	1	1	1	3											2	0	1.2
					Latayi P/S	3	2	2	1	1	0	3												0	0
C-3	Kitgum	Amida	Koch	5,842	Alero P/S	1	2	0	0	0	1	1											1	0	7.0
					Gweng Pamom P/S	3	2	2	1	1	1	3												0	0
C-4	Lamwo	Palabek Gem	Gem	2,100	Gem Mede P/S	4	2	2	1	1	0	4										0	0	3.0	
C-5	Agago	Kotmor	Apobo	3,473	Kotmor P/S	3	2	0	0	0	0	3										0	0	5.0	
D-1	Gulu	Odek	Binya	8,600	Wii Aceng P/S	3	2	2	1	1	1	3											0	0	0
					Lukoto C/S	4	2	2	1	1	1	4												0	0
D-2	Pader	Lapul	Ogore	3,782	Papaa P/S	5	2	2	1	1	1	5											3	0	0
					Pajule Lacani P/S	1	1	2	1	1	0	1												0	0
D-3	Lamwo	Padibe West	Ywaya	4,600	Ogwang Can P/S	3	2	2	1	1	1	3										1	0	0	
D-4	Kitgum	Layamo	Pamolo	2,800	Ayoma P/S	3	2	2	1	1	1	3										0	0	0	
D-5	Agago	Paimol	Ngora	5,900	Gotatongo P/S	1	2	2	1	1	1	1										0	0	1.5	
E-1	Gulu	Palaro	Owalo	2,500	Pok Ogali P/S	1	1	0	0	0	0	1											0	0	0
					Kiteny Owalo C/S	4	2	2	1	1	1	4												0	0
E-2	Pader	Laguti	Pakeyo	3,700	Wipolo P/S	3	2	2	1	1	0	3											5	0	7.0
					Larego P/S	1	2	2	1	1	1	1												0	0
E-3	Kitgum	Mucuwini	Akara	2,500	Akara P/S	3	0	2	1	1	0	3										1	0	0	
E-4	Lamwo	Palabek Ogili	Apyeta	3,100	Apyeta P/S	2	2	2	1	1	0	2										0	0	0	
Total						121	65	62	31	31	22	121		2	2	3	3	1	2	4	22	7	73.3		

CR: Classroom, TH: Teacher's House, TL: Teacher's Latrine, BL: Boy's Latrine, GL: Girl's Latrine, F: Furniture, IL: Incinerator, SL: Staff's Latrine, PL: Patient Latrine, SC: Standard Culvert, DC: Designed Culvert

2-2-2-5 Facilities Plan

(1) Education and Health

1) Layout Plan

Concerning the design of layout, there are existing facilities within each target site, and the layout should be taken into account the following points.

- The blocks to be constructed at the target P/S and H/C are to be located in a flat land with no obstruction / obstacle such as big trees and other facilities.
- The target classroom block and teacher's houses for the P/S and general ward and OPD for the H/C are to be put with the orientation that their gable sides should face towards the direction of strong wind. It helps to prevent from blowing their roofs off by strong wind. The gap between blocks should be at least 5m in order to install water tank.
- Teacher's house should be located away from classroom block to provide quite environment, and it would be near to an existing hut for teacher's accommodation.
- The general ward and OPD are to be located at the place which patients can access easily from the entrance of the H/C. Staff houses are to be built behind the location of the general ward and OPD.
- The latrine should be located 150m far from borehole in case of upstream, and 33m of downstream. And it should be away from classroom block, OPD and general ward in considering odor. In case that the existing latrines are located away from any facilities and boreholes, the latrine would be constructed near the existing one. While, in case that the existing latrines are located near the facilities or boreholes, or there is no existing latrines in the site, the latrines should be laid out far from the facilities.

2) Floor Plan

Based on the design policy mentioned above, the floor plans of the target blocks are considered as follows. All of the blocks are of one story building.

According to the District Engineers, the cracks on buildings caused by difference in temperature are to be observed, and the maximum 1 block with 2 classrooms should be set for the standard. But as a result of investigation for impact of the difference in temperature on the materials, it was confirmed that the materials have less damages by increasing moment due to the gap of temperature between 2 and 3 classrooms. Therefore, in the project, the maximum limit shall be 1 block with 3 classrooms, and defect such as cracks on the buildings shall be prevented by quality control in supervision. In terms of cost efficiency, 1 block with 3 classrooms will be set as the higher priority, but 1 block with 2 or 1 classrooms shall be applied if the size of sites and layout is limited.

i) Primary School

The classroom block is consists of classroom unit and a teachers' office and a store unit.

a) Classroom Unit

The size of the classroom unit is 8 m by 8 m width following the standard design in the country. Desks will be installed in the classroom facing toward the blackboard. An in-swing door is provided in the room and a slope-way will be constructed for convenience of wheelchair users. A one meter width verandah will be provided.

b) Teachers' room & store unit

The size of teachers' room & store unit is 4 m by 6 m width and the two rooms are divided by wall. An in-swing door is installed at the teachers' room and a slope-way will be provided and the stretch of the verandah of the classroom unity will continue to the teacher room for wheelchair users. Teachers' room & store unit will be adjacent with each classroom. Wooden shelves will be set in the store room.

c) Teachers' House

One block of teachers' house has two units for two families which consist of 2 bed rooms, a sitting room and kitchen/store.

d) Latrine

The latrines are drainable pit provided with ventilation facility which release out smell and heat from inside the pit. The latrine for teachers is composed of one block divided by a wall to separate between female teacher and male teacher. It also has a stance for disabled users and a bath room. The latrine for boy is composed of one block of five stances including one for disable users and a urinal unit. Latrine for girl is also composed of similar to the one for boys with one block of five stances including one for disabled person and a washing unit.

ii) Health Facilities

a) General Ward for HCIII

General ward has T shape floor plan consists of three zones such as: zone 1 is for delivery, zone 2 is for pediatric ward and male ward, and zone 3 is maternity and female ward.

b) OPD for HCII

OPD for HCII has the major rooms such as examination room, treatment room, emergency delivery, waiting area and drug dispensary.

c) Latrine for Patients

The latrine for patients is the type with ventilation facility and composed of female section and male section divided by wall. Each section has 2 stances and bath room.

d) Latrine for Staff

Latrine for staff is of same design as teachers in the P/S.

e) Incinerator for rubbish

The incinerator for rubbish has a combustion chamber with 0.9 m wide, 0.9 m long and 0.9 m high. According to the information from MOH, the health care waste should be safely transported to an incinerator located at the nearest Hospital.

The following table indicates the floor area and the number of each block to be improved for the target P/S and H/C.

Table 2-2-12 Floor area and the number of block per classroom block

Primary School	Component						
	1 classroom block	2 classroom block	3 classroom block	Staff house	Latrine for teachers	Latrine for boys	Latrine for girls
Floor area (m ²)	77.6	128.9	180.2	89.6	5.6	17.2	17.2
No. of blocks	11	28	18	65	62	31	31

* each classroom block has teachers' room and store unit

* floor area: within the building wall without apron

Table 2-2-13 Floor area and the number of block per health center

Health Center	Component				
	HCIII General Ward	HCII OPD	Latrine for patients	Latrine for staffs	Incinerator for rubbish
Floor area (m ²)	235.6	115.2	20.0	14.8	—
No. of blocks	2	2	1	3	3

Source) The preparatory Study for the Project for Rebuilding Community for Promoting Resettlement of Internally Displaced Persons in Acholi Sub-region in Northern Uganda, 2011, JICA study team

* floor area: within the building wall without apron

3) List of facilities to be improved by the Project

Target P/S and HC to be improved by the Project are shown as below.

Table 2-2-14 Target P/S to be improved by the Project

District	Sub County	Parish	Primary School	No. of CR	1 CR	2 CR	3 CR	SH	TL	BL	GL
Gulu	Koro	Lapainat East	Laminadera P/S	2	0	1	0	2	2	1	1
Gulu	Patiko	Pugwinyi	Awoo Nyim P/S	3	1	1	0	2	2	1	1
Gulu	Patiko	Pugwinyi	Kulu Opal P/S	5	0	1	1	1	2	1	1
Gulu	Lalogi	Lukwir	Awal Kok P/S	5	0	1	1	2	2	1	1
Gulu	Lalogi	Lukwir	Idure P/S	3	0	0	1	2	2	1	1
Gulu	Odek	Binya	Wii Aceng P/S	3	1	1	0	2	2	1	1
Gulu	Odek	Binya	Lukoto C/S	4	0	2	0	2	2	1	1
Gulu	Palaro	Owalo	Pok Ogali P/S	1	1	0	0	1	0	0	0
Gulu	Palaro	Owalo	Kiteny Owalo C/S	4	0	2	0	2	2	1	1

District	Sub County	Parish	Primary School	No. of CR	1 CR	2 CR	3 CR	SH	TL	BL	GL
Pader	Awere	Bolo	Bolo P/S	3	0	0	1	1	2	1	1
Pader	Awere	Bolo	Bolo Agweng P/S	3	0	0	1	2	2	1	1
Pader	Angagura	Burlobo	Acholi Ranch P/S	3	0	0	1	2	0	0	0
Pader	Angagura	Burlobo	Aswa Bridge P/S	3	1	1	0	1	2	1	1
Pader	Angagura	Burlobo	Akelikongo P/S	3	0	0	1	1	2	1	1
Pader	Latanya	Ngeekidi	Wang Opok P/S	3	0	0	1	2	2	1	1
Pader	Latanya	Ngeekidi	Latayi P/S	3	0	0	1	2	2	1	1
Pader	Lapul	Ogore	Papaa P/S	5	1	2	0	2	2	1	1
Pader	Lapul	Ogore	Pajule Lacani P/S	1	1	0	0	1	2	1	1
Pader	Laguti	Pakeyo	Wipolo P/S	3	1	1	0	2	2	1	1
Pader	Laguti	Pakeyo	Larego P/S	1	1	0	0	2	2	1	1
Agago	Omiya Pachwa	Laita	Laming Onen P/S	4	0	2	0	2	2	1	1
Agago	Paimol	Pacabol	Lokapel P/S	4	0	2	0	2	2	1	1
Agago	Paimol	Pacabol	Kokil P/S	5	1	2	0	2	2	1	1
Agago	Kotmor	Apobo	Kotmor P/S	3	0	0	1	2	0	0	0
Agago	Paimol	Ngora	Gotatongo P/S	1	1	0	0	2	2	1	1
Kitgum	Lagoro	Lakwor	Lakwor P/S	4	0	2	0	2	2	1	1
Kitgum	Orom	Lolwa	Agoromin P/S	5	0	1	1	1	2	1	1
Kitgum	Orom	Lolwa	Lunganyura P/S	5	0	1	1	2	0	0	0
Kitgum	Amida	Koch	Alero P/S	1	1	0	0	2	0	0	0
Kitgum	Amida	Koch	Gweng Pamon P/S	3	0	0	1	2	2	1	1
Kitgum	Layamo	Pamolo	Ayoma P/S	3	0	0	1	2	2	1	1
Kitgum	Mucuwini	Akara	Akara P/S	3	0	0	1	0	2	1	1
Lamwo	Agoro	Pawach	Lomwoka P/S	7	0	2	1	2	2	1	1
Lamwo	Paloga	Bungu	Jamula P/S	3	0	0	1	2	0	0	0
Lamwo	Palabek Gem	Gem	Gem Mede P/S	4	0	2	0	2	2	1	1
Lamwo	Padibe West	Ywaya	Ogwang Can P/S	3	0	0	1	2	2	1	1
Lamwo	Palabek Ogili	Apyeta	Apyeta P/S	2	0	1	0	2	2	1	1

CR: Classroom, TH: Teacher's House, TL: Teacher's Latrine, BL: Boy's Latrine, GL; Girl's Latrine

Table 2-2-15 Target HC to be improved by the Project

District	Sub County	Parish	Health Center	ODP	Ward	In	SL	PL	Solar
Pader	Awere	Bolo	Bolo HCII	1	0	1	1	1	1
Kitgum	Lagoro	Lakwor	Akuna Laber HC III	0	1	0	0	0	1
Agago	Omiya Pachwa	Laita	Laita HCII	1	0	1	1	0	1
Gulu	Koro	Lapainat East	Lapainat HCIII	0	1	1	1	0	1

In: Incinerator, SL: Staff's Latrine, PL: Patient Latrine

4) Elevation and Cross-section Plan

A height of the floor from the ground level (except latrine) should be at least 30 to 40 cm high in order to prevent moisture from coming into the room. Damp proof membrane (DPM) is also to be installed between hard core and floor concrete. The bottom of foundation should be set at minimum of 120cm below the ground beam considering sloping ground terrain. The height of the ceiling above the floor level for general ward and OPD as well as the height from the floor level to the bottom of tie beam in a classroom block should be set at 3.0m so that the high temperature in the room is reduced.

5) Structure Planning

i) Structure

In the target area, although the effect of earthquake and the nature of ground are not confirmed well, and since the target facilities are of public structure, the structural design is made in accordance with the standard design code for different type of seismic region of the country. Consequently, the framework structure is consists of column, ring-beams and ground beams made up of reinforced concrete. In addition, the outer wall, partition walls are made up of brick and block. Roof shall be made up of colored corrugated iron sheet fixed on timber made truss, tie beam and raft. Tight connection between the ring beam, tie beam and truss should be secured to prevent the blow of roof by strong wind.

ii) Foundation

The target area has good foundation soil made of silt clay under the top soil. Since it has comparatively firm nature the foundation should be made to be constructed on top of these soils. The foundation is made of reinforced concrete strip footing of 1.2m depth provided with reinforced column structure and brick wall. However, some 12 sites, listed in table 2-2-16, were suggested to have poor soil condition by the district engineer. The soil hardness test (Cone Penetration Test) was conducted on these sites. The result in general suggests that there is no problem at the bottom of the foundation except the occurrence of cohesive soil on top of the ground on some of the sites resulting in poor drainage. The provision of proper drainage facility on such ground is necessary. In addition, the excavated foundation shall be treated with anti-termite

Table 2-2-16 Location of 12 sites

District	Sub County	Parish	P/S
Pader	Angagura	Burobo	Acholi Ranch P/S
		Burobo	Akelikongo P/S
	Lapul	Ogore	Papaa P/S
	Laguti	Pakeyo	Wipolo P/S
Pakeyo		Larego P/S	
Agago	Omiya Pachwa	Laita	Laming Onen P/S
	Paimol	Pacabol	Kokil P/S
	Kotmor	Apobo	Kotmor P/S
Kitgum	Lagoro	Lakwor	Lakwor P/S
	Mucuwini	Akara	Akara P/S
Lamwo	Agoro	Pawach	Lomwoka P/S
	Palabek Ogili	Apyeta	Apyeta P/S

iii) Design Loads and External Forces

In the design of the structure external forces, live-load, earthquake force and wind force are taken into consideration.

- Live-load : The weight of the material use is considered
- Earthquake force: According to the 2003 seismic code of practice for the seismic zone factor and type of building under consideration the seismic coefficient of 0.10 is adopted
- Wind force: The design wind force reference velocity was set at 30m/s.

6) Electricity planning

Since there is no electricity in the target area, a solar system will be provided to the proper function of general ward and OPD of health center. The main purpose of the solar system will be to provide adequate light in the delivery room during night time emergency delivery.

7) Water supply and drainage system

A rain water harvesting tank will be provided near each block of classroom, general ward and OPD. The collected water will be used for washing and cleaning.

8) Construction material to be used

Major construction materials for the project are sand, gravel, hardcore, cement and steel bar. Those can be procured locally because this project followed the Ugandan standard design and used common materials.

The following items indicate additional important construction materials.

- Floor: Welded mesh wire, anti termite liquid, DPM
- Wall: brick, filler block, paint
- Fittings for opening : Steel window, steel door, steel frame
- Ceiling: soft board
- Roof: timbers for truss, galvanized and pre-painted iron sheets, round bar for connection of ring beam and tie beam of truss, and rubber washer for roofing nails

9) Finishing

Finishing schedule of the project is indicated below.

Table 2-2-17 Finishing

Item		Primary school			Health Center		
		Classroom	Staff house	Latrine	Ward OPD	latrine	incinerator
Inside	Ceiling	Nil (Open wooden truss)	Soft board ceiling	Nil (Open wooden truss)	Soft board ceiling	Nil (Open wooden truss)	Nil
	Wall	Cement and sand mortar trowelled finish					Brick finish
	Floor edge strip	Cement and sand mortar trowelled finish		Nil	Cement and sand mortar trowelled finish	Nil	Nil
	Floor	Cement and sand mortar trowelled finish					Concrete finish
Outside	Roof	Pre-coated (blue) gauged roofing zinc iron sheet					Open chimney
	Wall	Cement and sand mortar trowelled finish		Nil	Cement and sand mortar trowelled finish	Nil	Cement and sand mortar trowelled finish

Fittings are carried out as follows:

- Primary school: gloss painted steel door and window panel fixed on steel frame.
- Health center: two opening leaves steel door finished with gloss paint on steel frame

(2) Water supply plan

1) Borehole sitting plan

The borehole will be constructed within the site of primary school and health centers. The sitting place of borehole should be considered as follows.

- ✓ Sitting place shall be made within 200 to 500m radius of the existing institution (walk-able distance for pupil).
- ✓ The selected drilling site must be over 150m far from downstream of an existing pit latrine or over 33m far from upstream of the latrine to protect contamination from the pit.

2) Drilling depth

In terms of easiness of maintaining, this project has chosen the most common hand pump of Indian Mark II in Uganda. According to the practice in the region, this pump is believed to raise water as deep as 80m however, the effective capacity of the pump is about 45m.

In this project, depending on the potential of each project sites, the drilling depth ranges between 55 to 140 m (see Table 2-2-18). Areas with low groundwater potential, such as Lamwo, Agago and some part of Gulu districts are found to have deeper drilling depth. Therefore, the sites with low potential should be paid special attention to the discharge test during the implementation period.

Table 2-2-18 Proposed drilling depth per project site

District	Name of School	Depth of drilling				uPVC casing pipe (No.)	Gravel pack needed (Bags)
		Overburden soil (mbgl)	Fractured rock (mbgl)	Hard rock (mbgl)	RDD (mbgl)		
Gulu	Lukoto PS*	25	50	45	120	17	12
	Wii Acen PS*	25	50	45	120	17	12
	Idure PS	12	52	16	80	5	9
	Kiteny CS	20	52	8	80	7	12
	Awoo Nyim PS	9	58	3	70	7	9
	Kulu Opal PS	18	52	0	70	7	9
Pader	Bolo Agweng PS	10	65	0	75	10	9
	Aswa Bridge PS	6	64	0	70	8	9
	Akelikongo PS	10	53	7	70	5	12
Agago	Gotatongo PS	0	25	100	125	9	19
	Lokapel PS	15	40	0	55	6	10
	Lamin Onen PS*	25	50	45	120	17	12
	Laita HC	27	53	0	80	17	12
Kitgum	Lunganyura PS	25	15	90	130	15	12
	Gwen Pamon PS	25	33	82	140	20	12
	Alero PS	25	23	72	120	17	12
	Ayoma PS	15	5	100	120	8	12
	Lakwor PS	25	10	65	100	12	12
Lamwo	Lomwoka PS	25	10	48	83	12	12
	Ogwan Can PS	25	10	48	83	14	12

Note: ¹RDD = Recommended drill depth; ²mbgl = meter below ground level

A 5” inside diameter uPVC (Unplasticized polyvinyl chloride) casings and screenings shall be installed over the borehole until it reaches the hard rock where casing is not necessary as the competent rock is strong enough to support itself. Typically, for 50m depth borehole a total of 15 uPVC pipe and two screen pipe shall be installed. Cement grout shall be casted at the bottom of the casing, and the entire water bearing layer will be gravel packed with 2-6mm diameter gravel up to 3m above the top-most screen. Then a clay sanitary seal, followed by backfill material and a 3m thick concrete made sanitary seal shall be casted up to the ground level. The typical design of borehole is shown below.

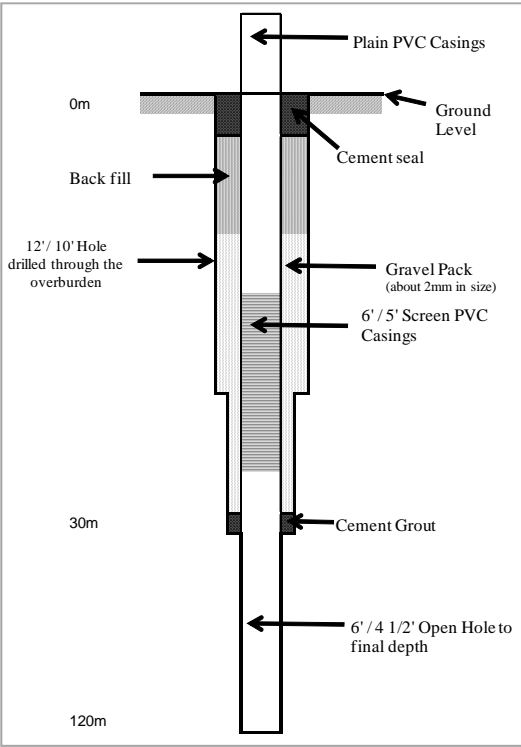


Figure 2-2-1 Typical borehole (Casing)

3) Test Pumping

MoWE specifies the minimum discharge for hand pump as 500 liters per hour. However, in case that discharge cannot be reached up to 500 liters per hour in the low potential sites, a less discharge such as 300 liter per hour can be acceptable through discussion with district and MoWE. Hence, in case the discharge is between 300 and 500 liters per hour after two trials, the decision shall be made in consultation with the district and MoWE.

4) Water Quality

At the end of each test pumping, water sample shall be collected and taken to the laboratory of the National Water and Sewerage Corporation (NWSC). In the laboratory, color, turbidity, residual, alkalinity, hardness, calcium, magnesium, chloride, fluoride, iron, sulfate, and nitrate will be examined.

In addition, insitu coli form test shall also be done with field kit in each site. According to the information from MoWE, there is no special water quality standard of the country for the primary schools and health centers, and they follow the general water quality standard.

The water quality standard of the country is stated based on W.H.O. standard as follow.

Table 2-2-19 Content of Water quality

Parameter	Unit	Government Standard	WHO standard
PH		5.5 – 8.5	6-8
EC	μS/cm	2500	
Color, apparent	TCU	15	<15
Turbidity	NTU	10	5
TDS	mg/l	1000	600
TSS	mg/l	0.0	
Hardness	mg/l	600	500
Calcium	mg/l	75	100-300
Magnesium	mg/l	50	
Bi-Carbonate	mg/l	500	600
Chloride (Cl)	mg/l	250	250
Fluoride (Fe)	mg/l	2	1.5
Iron total (Fe)	mg/l	1	2
Sulphate	mg/l	250	250
Nitrate (NO ₃)	g/l	0	50
E. Coli	count/100 ml	0	0

Note: NTU = Nephelometric turbidity unit; TCU = true color unit

5) Selection of Hand Pump

Various types of the hand pumps were introduced in Uganda. However, the MoWE under the advice of UNICEF has focused in standardizing the type of pump in order to enable easier maintenance. This project also shall adopt the major type of hand pump which is modified Indian Mark II hand pump for which the spare parts can be found easily.

6) Casting and Installation

The ground parts shall be set up in concrete slab so that it will be easier for the people to clean the borehole, and it can be prevented from surface water penetration. In addition, a soak pit shall be provided for ease of drainage. The canal between hand pump and soak pit will be concrete canal of 6 meter long.

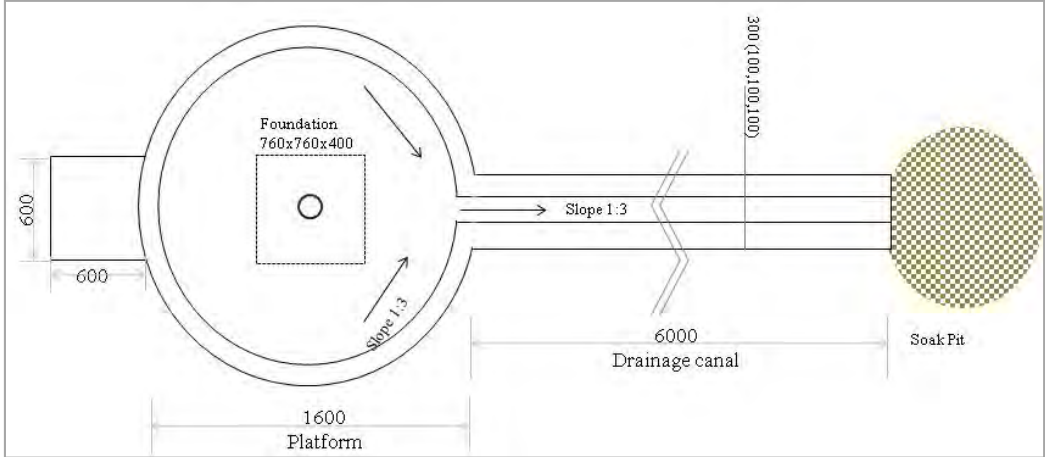


Figure 2-2-2 Top view of platform
2-29

7) Success rate and borehole attempt

From the result of groundwater investigation made in the region, the success rate is found to be about 70%. A second attempt of drilling will be made when the first drilling site in a target primary school or health center is failed. The borehole to be improved in this project will be for the pupils and patients in the targeted schools and health centers. Therefore, it should not be more than 500m far from the facilities and if both the attempts failed, there will not be any third attempt to be made on that particular project site because of the accessibilities for beneficiaries.

On the other hand, it is confirmed that there is no significant groundwater quality problem in the region. However, in case that water quality is not fit for consumption, the second attempt will be made on a site 200m away from the first one. The same approach applies for quantity of water from the borehole. If poor water quality will be discovered, borehole will be backfilled and sealed with concrete so that the community could not use it.

As pointed out above, there is a possibility that the borehole construction might be failed, because of the less discharge or poor quality. Therefore, it is very important that the district engineers should explain to the community on the possibility of failures in drilling boreholes, before starting of the borehole drilling.

(3) Access Road

Culverts for river crossing and road drainage will be constructed by this project for improving access to schools and health centers.

1) Target Sites

In case that the culvert with less than 900mm diameter is suitable, this type will be applied as the standard culvert. If the size of the crossing requires a pipe of larger than 900mm diameter, designed culvert will be installed.

The lists of culverts and road to be rehabilitated are presented in the following table.

Table 2-2-20. The number of culverts by district and length of temporary roads for construction

Name of district	The number of culverts		Temporary roads for construction (km)
	Standard culvert	Designed culvert	
Gulu	1	5	13.1
Kitgum	4	1	15.0
Pader	13	Nil	22.7
Lamwo	2	1	11.0
Agago	2	Nil	11.5
Total	22	7	73.3

2) Culvert

i) Basic consideration of design

The basic consideration in the design of culvert are given below

- The road to be rehabilitated is a construction road which will be accessed by vehicle. The main purpose of improving the culverts is for bicycle and pedestrian to be able to pass the river. In addition, accessibility by vehicle in case of emergency should be considered.
- The culvert will be used as construction road; hence the cross-section shape shall be made the same level as the approach road.
- Where the road surface is susceptible to be broken during overflow of river water, the approach road surface will be provided with concrete pavement for overflow water to pass easily. According to the field investigation, the frequency of overflow river is very few within a year, and the maximum water level is usually less than 1.0m above the top of the road. Based on this, the design section shall be fixed.
- The river bank shall also be protected for 5.0m along the stream to prevent damage to the structures from over flooding and progressive erosion. River bank protection will be arranged in such a way that river flow direction will not be change during flooding.
- Basically the diameter of culvert shall be 900mm, since it is available in the project area and easily procured locally.

ii) Plan of culvert installation/maintenance

There are 7 sites where designed culvert is needed. The current situation and construction level per sites are shown in the following table. The locations of these culverts are shown in Figure 2-2-3.

Table 2-2-21 Current situation and construction level

Site	Current situation	Construction level
1	The road is narrowed by scouring and erosion, however, it is observed that cars are passing through the narrow lane	<ul style="list-style-type: none"> • Width of road : The width of the culvert shall be made the same as the existing approach road. • The existing culverts will be used, and additional pipe culverts will be constructed as needed. The additional culverts should have the same size with the existing pipe culverts • The abutment and river bank will be rehabilitated to protect the structures from flood. • The surface of the approach road for river crossing should be concrete pavement for preventing scouring during over flooding. The depth of water during flooding is about 1.0m from the top of the culvert.
2	The community installed hand-made wooden bridge in the scoured and eroded parts of river bank and pedestrian and bicycles are passing.	<ul style="list-style-type: none"> • Road width: presently the road is mainly used by pedestrian and bicycle; the width will be made 3.0m for vehicle to access during construction • The size of the culvert shall be kept the same as box culvert. • The abutment and river bank will be rehabilitated to protect the structures • The surface of the approach road for river crossing will be finished with concrete pavement to prevent scouring of side bank during over flooding. The depth of water during flooding is about 1.0m from the top of the culvert.
3	There is existing pipe culverts, but the pipes are not fixed properly. Only pedestrian and bicycle can use the road during	<ul style="list-style-type: none"> • Road width: Although presently the road is mainly used by pedestrian, access to the site by vehicle during construction shall be taken into consideration and the width shall be made 3.0m • The size of the culvert shall be kept the same as the existing pipe

Site	Current situation	Construction level
	dry season.	culvert. <ul style="list-style-type: none"> • The abutment and river bank will be rehabilitated to protect the structures • The surface of the road will be finished with concrete pavement to prevent scouring of side bank during over flooding. The depth of water during flooding is about 1.0m from the top of the culvert.
4	Presently the road is used by pedestrian and bicycle. Wide area is easily flooded and the water remains for long time due to lack of drainage way. There is no perennial river around this area.	<ul style="list-style-type: none"> • Road width: Although presently the road is used by pedestrian, access to the site by vehicle during construction shall be taken into consideration and the width shall be made 3.0m • The size of the culvert shall be kept the same as the existing pipe culvert. • The surface of the road will be finished with concrete pavement to prevent scouring of side bank during over flooding. The depth of water during flooding is about 1.0m from the top of the culvert.
5	Presently the approach parts of the bridge are totally washed away. Therefore community installed narrow wooden crossing between one part of the bridge and the river bank, and pedestrian and bicycles can pass. The structure of the bridge has enough strength.	<ul style="list-style-type: none"> • Road width: the width of the road shall be similar to the width of the existing bridge. • The abutment and river bank will be rehabilitated and the approach road shall be constructed with compacted marrum
6	There is handmade wooden bridge used by pedestrian and bicycle and the river bank is scoured and eroded.	<ul style="list-style-type: none"> • Road width: Although presently the road is used by pedestrian, access to the site by vehicle during construction shall be taken into consideration and the width shall be made 3.0m • The size of the culvert shall be kept the same as box culvert. • The abutment and river bank will be rehabilitated to protect the structures during over flooding. • The surface of the approach road for river crossing will be finished with concrete pavement to prevent scouring of side bank during over flooding. The depth of water during flooding is about 1.0m from the top of the culvert.
7	The pedestrian is using but after rainfall, the road will be over flooded and pedestrian forced to pass under water. The topography of this site is low-lying area and is prone to collect rainwater during rainy season. There is no perennial river around this area.	<ul style="list-style-type: none"> • Road width: Although presently the road is used by pedestrian, access to the site by vehicle during construction shall be taken into consideration and the width shall be made 3.0m • Pipe culverts shall be installed because there is no difference of crossing parts in height. • The surface of the approaching part of river crossing will be finished with concrete pavement to prevent scouring of side bank during over flooding. The depth of water during flooding is about 1.0m from the top of the culvert.

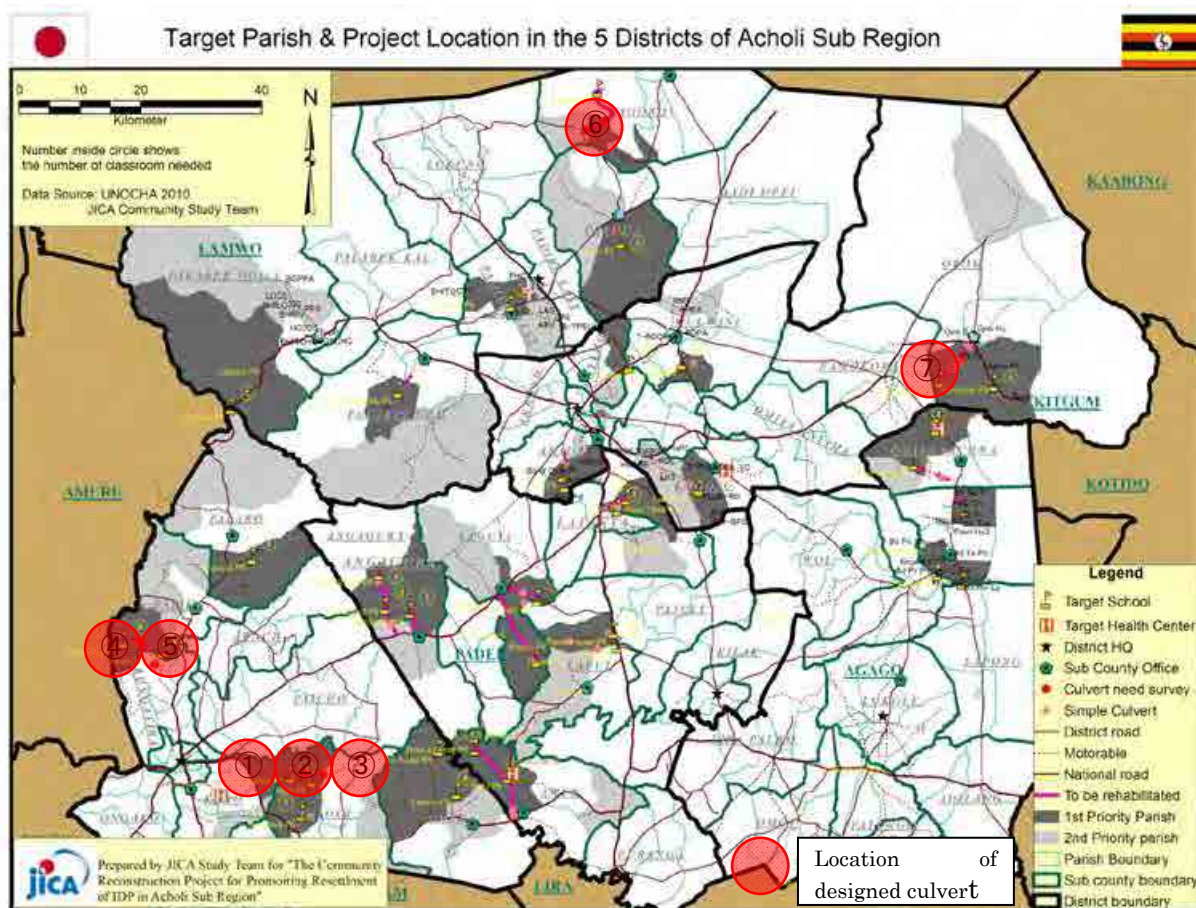


Figure2-2-3 Sites Map

iii) Component of each site

The component of rehabilitation at each site to be supported by this project is shown below.

Table 2-2-22 Components for access improvement by each site

site	Component	Remarks
1	Crossing <ul style="list-style-type: none"> • Pipe culvert :900mm 3 row • Abutment works :20m long (upstream and downstream of the left and right bank) • Approach road pavement with concrete of 32.8m long Temporary diversion <ul style="list-style-type: none"> • Corrugated pipe:900mm×1 	After removing the existing pipe culvert, the rehabilitation will be implemented.
2	Crossing <ul style="list-style-type: none"> • Pipe culvert :900mm x 7 row (the existing 5 row culvert will be utilized) • Abutment works :20m (upstream and downstream of the left and right bank) • Approach road : pavement with concrete of 38.7m long 	Existing 5 row Culvert is utilized. A temporary diversion is not necessary, because one side passage is possible.
3	Crossing <ul style="list-style-type: none"> • Box culvert : 3.1 x 2.9 m • Abutment works :20m long (upstream and downstream of the left and right bank of the river) • Approach road :pavement with concrete of 35m long Temporary diversion <ul style="list-style-type: none"> • Corrugated pipe:900mm×1 	

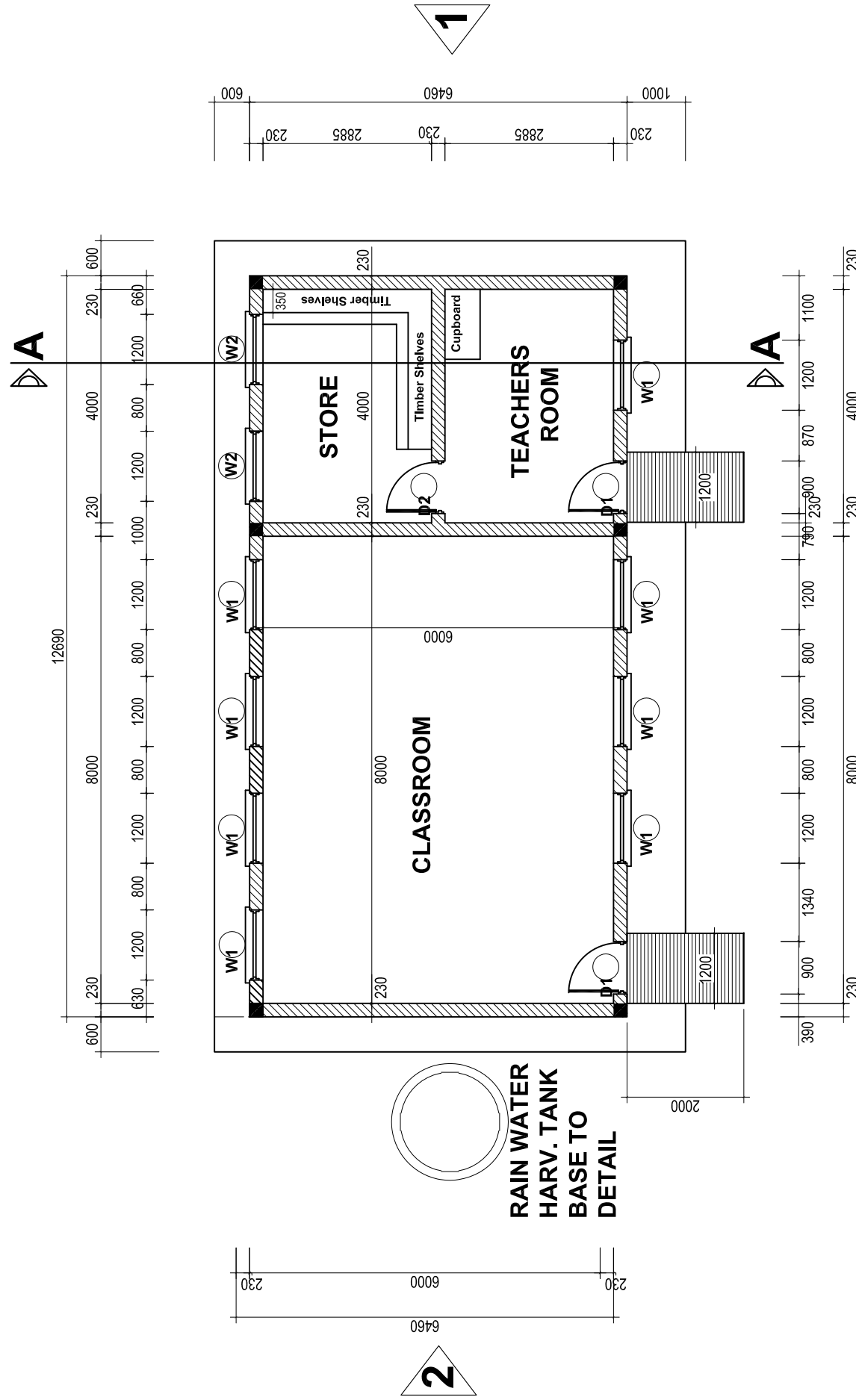
site	Component	Remarks
4	Crossing <ul style="list-style-type: none"> • Pipe culvert :900mm 4 rows (Existing culvert is 2 rows), 900mm×2 sites • Abutment works: None • Approach road :pavement with concrete of 116m long 	It is a flat plain crossing point, and abutment works is not possible.
5	Crossing <ul style="list-style-type: none"> • Pipe Culvert: None • Abutment works :20m long (upstream and downstream of the left and right bank of the river) • Approach road :pavement with concrete of 66m long 	Only the rehabilitation of approach road is needed
6	Crossing <ul style="list-style-type: none"> • Box culvert : 4.0 x 2.0 m • Abutment works :20m long (upstream and downstream of the left and right bank) • Approach road :pavement with concrete of 40m long Temporary diversion <ul style="list-style-type: none"> • Corrugated pipe: 900mm×1 	
7	Crossing <ul style="list-style-type: none"> • Pipe culvert :900mm ×3 rows • Abutment works :20m (upstream and downstream of the left and right bank) • Approach road :pavement with concrete of 52m long 	
Standard	Crossing <ul style="list-style-type: none"> • Pipe culvert :900mm×1 row (Reinforcement by concrete is included) 	It will be reinforced with concrete because there is a possibility that the culverts will be damaged during passage of construction vehicle due to lack of enough earth cover.

2-2-3 Basic design

The lists below shows the basic design drawing for the project component

Component	Item	
(1) Education	1) 1 Class Room Block	Floor Plan Elevation
	2) 2 Class Room Block	Floor Plan Elevation
	3) 3 Class Room Block	Floor Plan Elevation
	4) Teachers House	Floor Plan Elevation
	5) Latrine for pupils	Floor Plan
(2) Health	1) HC III- General Ward	Floor Plan Elevation
	2) HC II - OPD	Floor Plan Elevation
(4) Access Improvement	1) River Crossing 1	Floor Plan and Cross-Sectional Plan
	2) River Crossing 2	Floor Plan and Cross-Sectional Plan
	3) River Crossing 3	Floor Plan and Cross-Sectional Plan
	4) River Crossing 4	Floor Plan and Cross-Sectional Plan
	5) River Crossing 5	Floor Plan and Cross-Sectional Plan
	6) River Crossing 6	Floor Plan and Cross-Sectional Plan
	7) River Crossing 7	Floor Plan and Cross-Sectional Plan

The design drawings are shown in the following pages



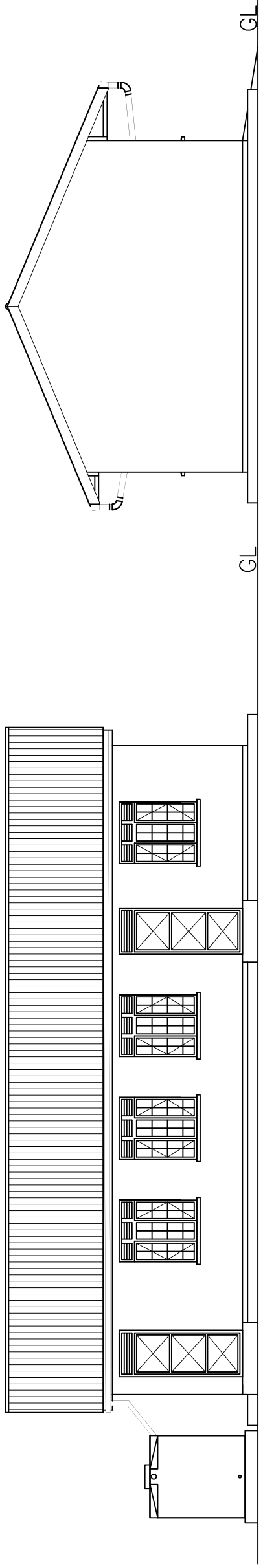
FLOOR PLAN

The Project For Rebuilding Community for Promoting Return & Resettlement of Internally Displaced Persons in Acholi Sub-Region in Northern Uganda

JOB TITLE	1 CLASS ROOM BLOCK	1-1
-----------	--------------------	-----

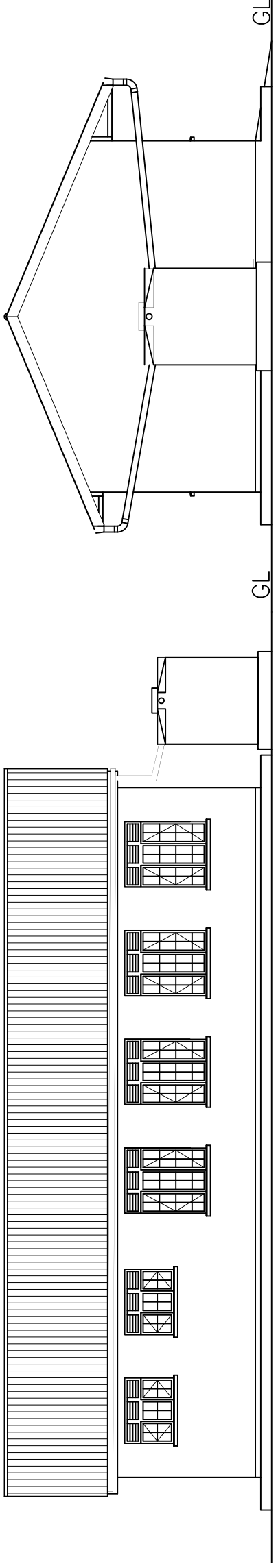
DRAWING TITLE	FLOOR PLAN	SCALE 1:100
---------------	------------	-------------

JAPAN INTERNATIONAL COOPERATION AGENCY



FRONT ELEVATION

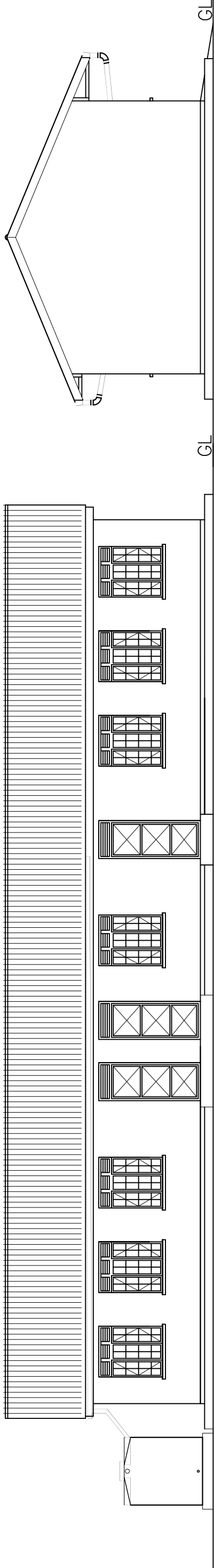
SIDE ELEVATION 1



REAR ELEVATION

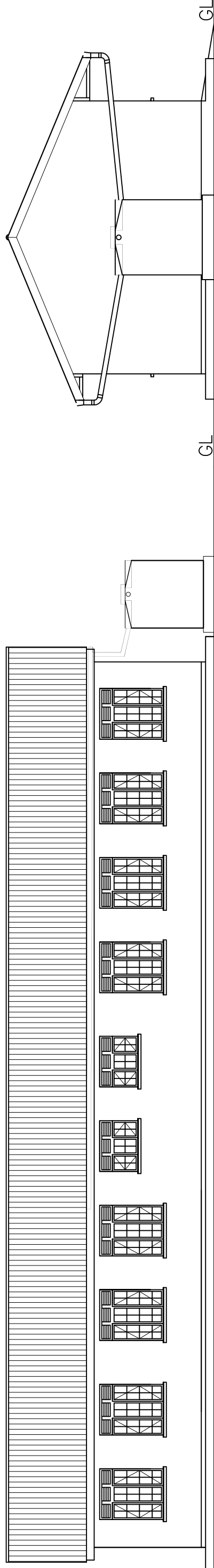
SIDE ELEVATION 2

The Project For Rebuilding Community for Promoting Return & Resettlement of Internally Displaced Persons in Acholi Sub-Region in Northern Uganda			
JOB TITLE	1 CLASS ROOM BLOCK	1-2	
DRAWING TITLE	FRONT & REAR ELEVATION	SCALE	1: 100
JAPAN INTERNATIONAL COOPERATION AGENCY			



FRONT ELEVATION

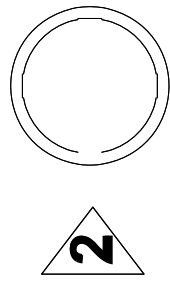
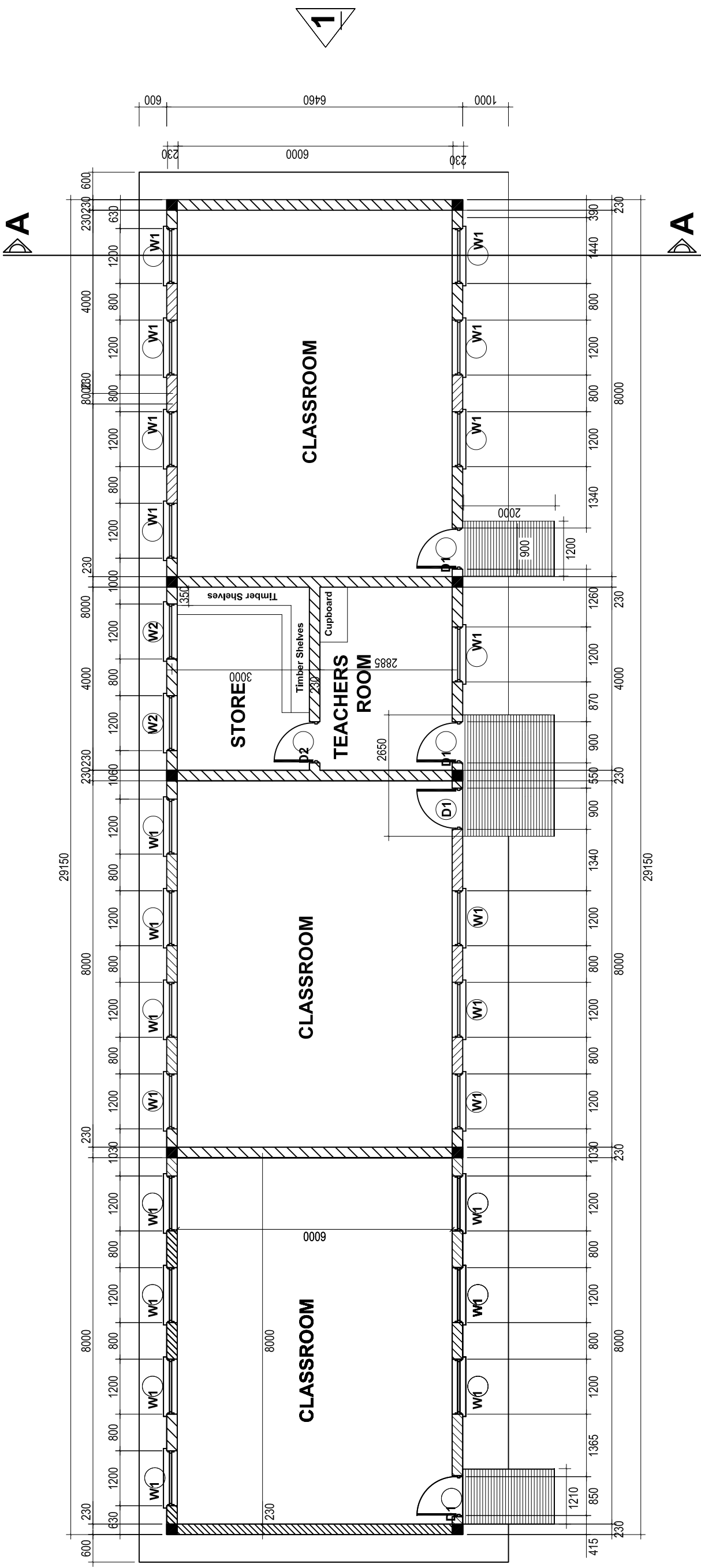
SIDE ELEVATION 1



REAR ELEVATION

SIDE ELEVATION 2

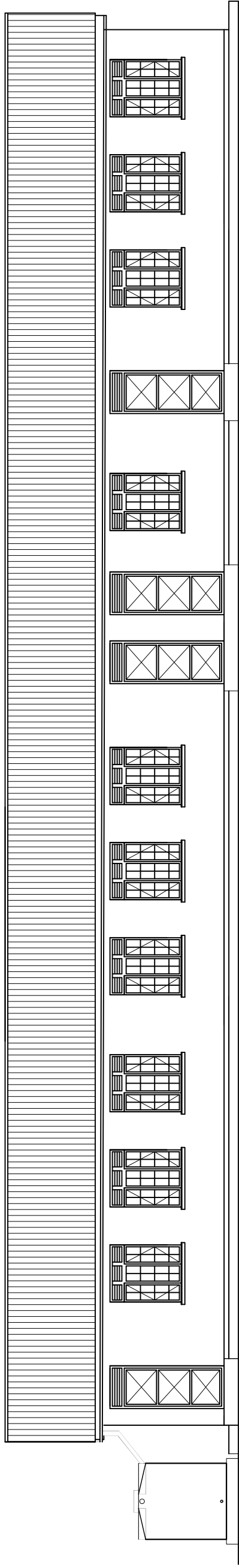
The Project For Rebuilding Community for Promoting Return & Resettlement of Internally Displaced Persons in Acholi Sub-Region in Northern Uganda			
JOB TITLE	2 CLASS ROOM BLOCK	2-2	
DRAWING TITLE	FRONT & REAR	SCALE	1:100
JAPAN INTERNATIONAL COOPERATION AGENCY			



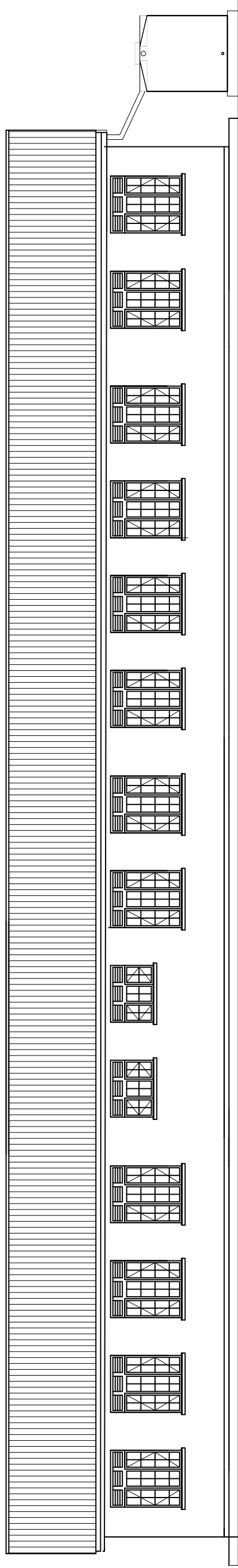
**RAIN WATER
HARV. TANK
BASE TO
DETAIL**

FLOOR PLAN

The Project For Rebuilding Community for Promoting Return & Resettlement of Internally Displaced Persons in Acholi Sub-Region in Northern Uganda	
JOB TITLE	3 CLASS ROOM BLOCK 3-1
DRAWING TITLE	FLOOR PLAN SCALE 1:150
JAPAN INTERNATIONAL COOPERATION AGENCY	



FRONT ELEVATION



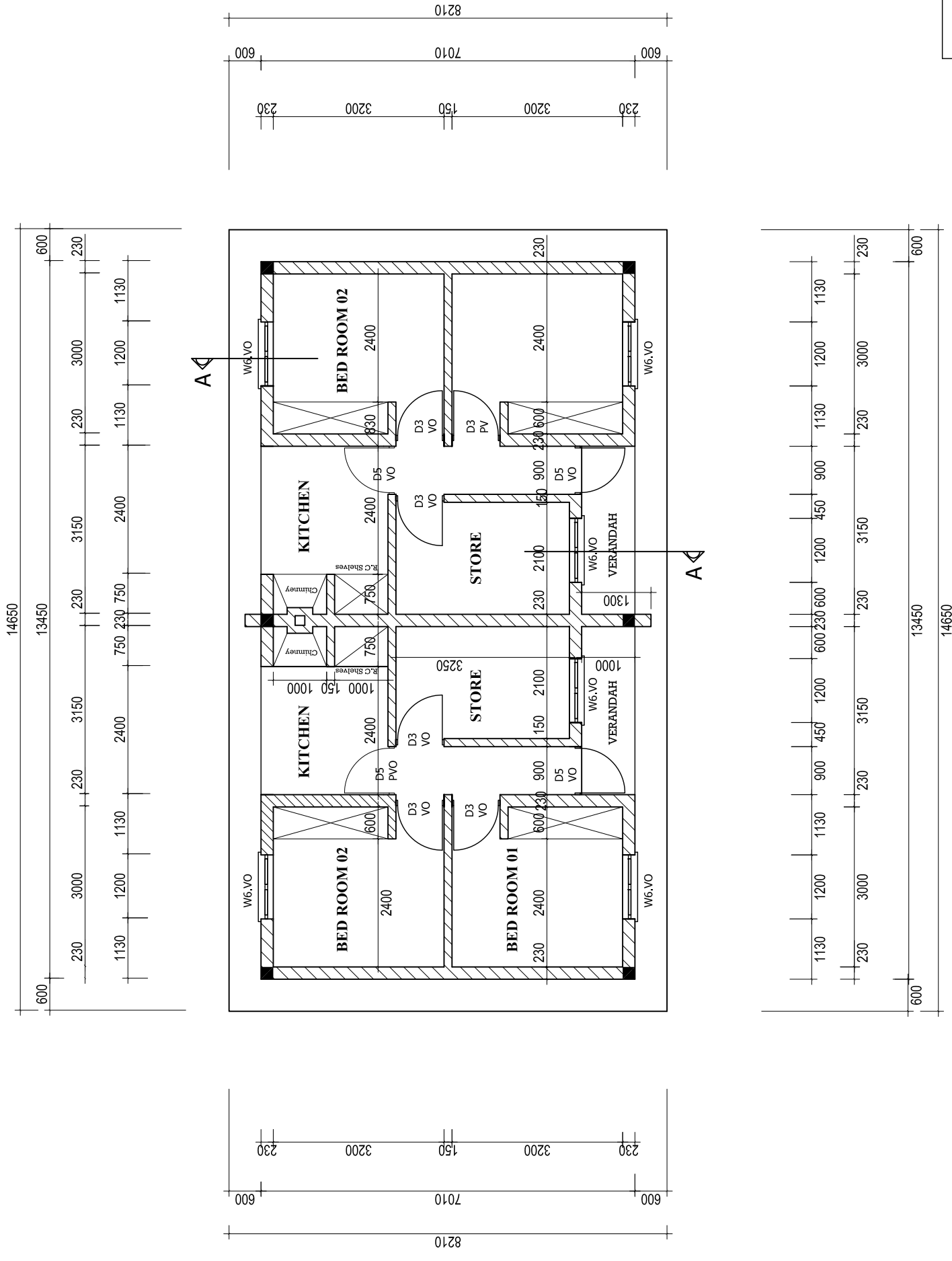
REAR ELEVATION

The Project For Rebuilding Community for Promoting Return & Resettlement of Internally Displaced Persons in Acholi Sub-Region in Northern Uganda

JOB TITLE 3 CLASS ROOM BLOCK 3-2

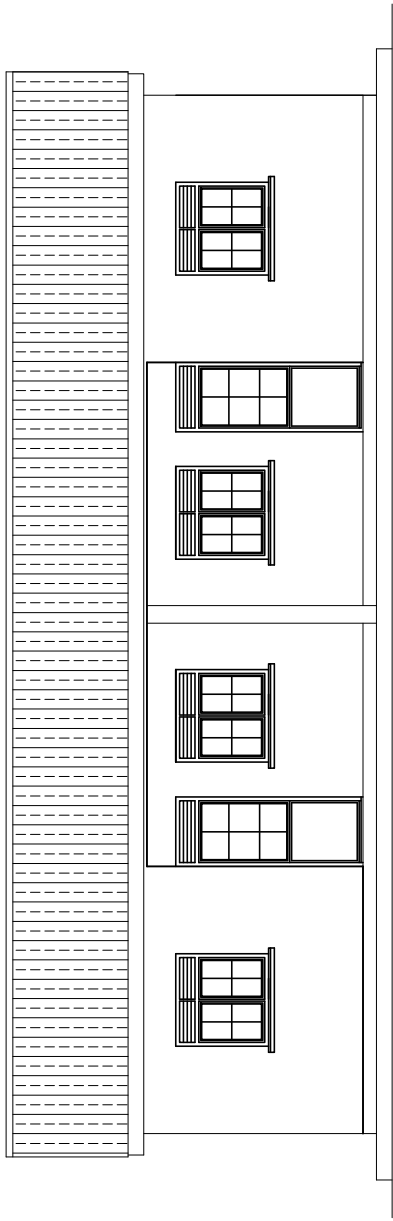
DRAWING TITLE FRONT and REAR ELEVATIONS SCALE 1: 150

JAPAN INTERNATIONAL COOPERATION AGENCY

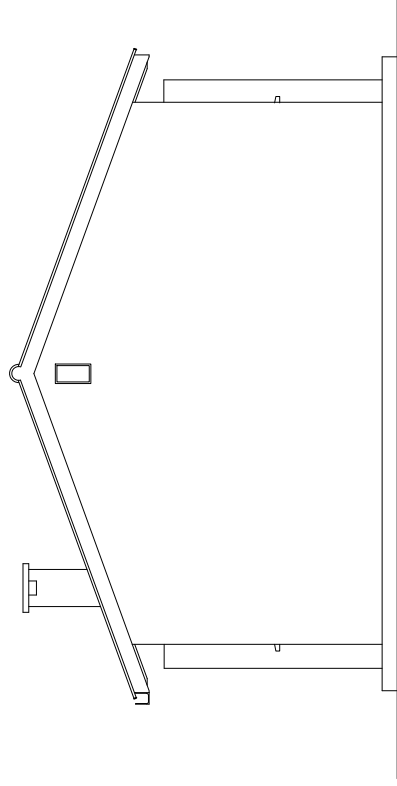


FLOOR PLAN

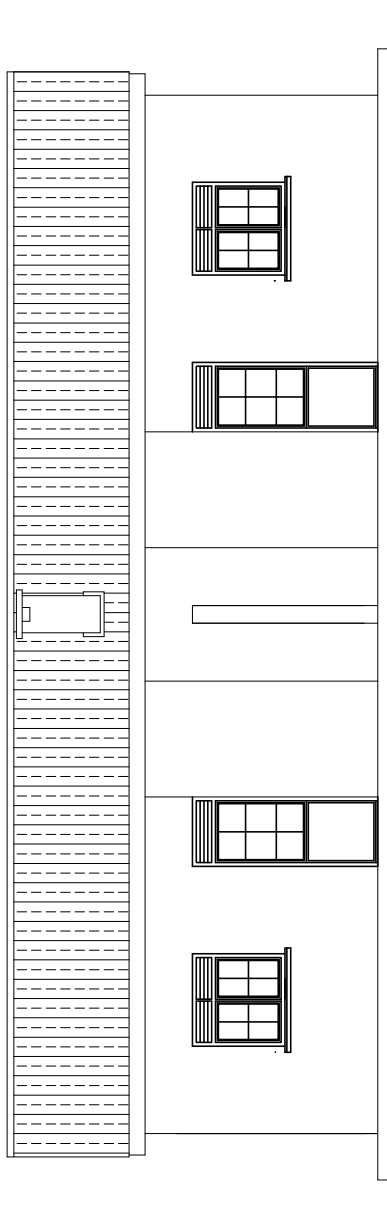
The Project For Rebuilding Community for Promoting Return & Resettlement of Internally Displaced Persons in Acholi Sub-Region in Northern Uganda	
JOB TITLE	2 UNIT TEACHERS HOUSE 4-1
DRAWING TITLE	FLOOR PLAN
	SCALE 1: 100
JAPAN INTERNATIONAL COOPERATION AGENCY	



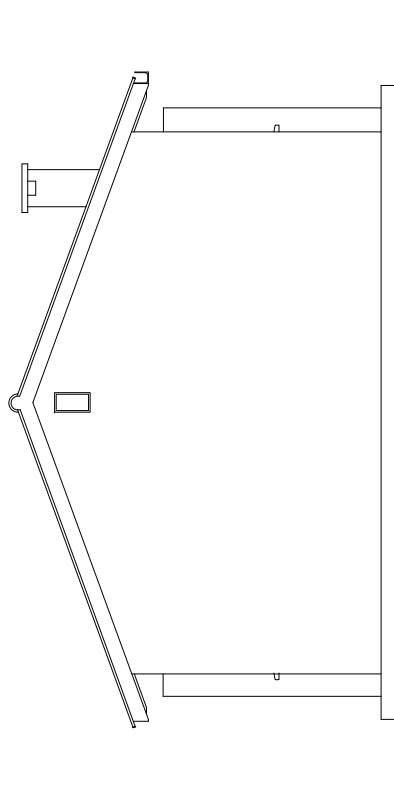
FRONT ELEVATION



SIDE ELEVATION 2



REAR ELEVATION



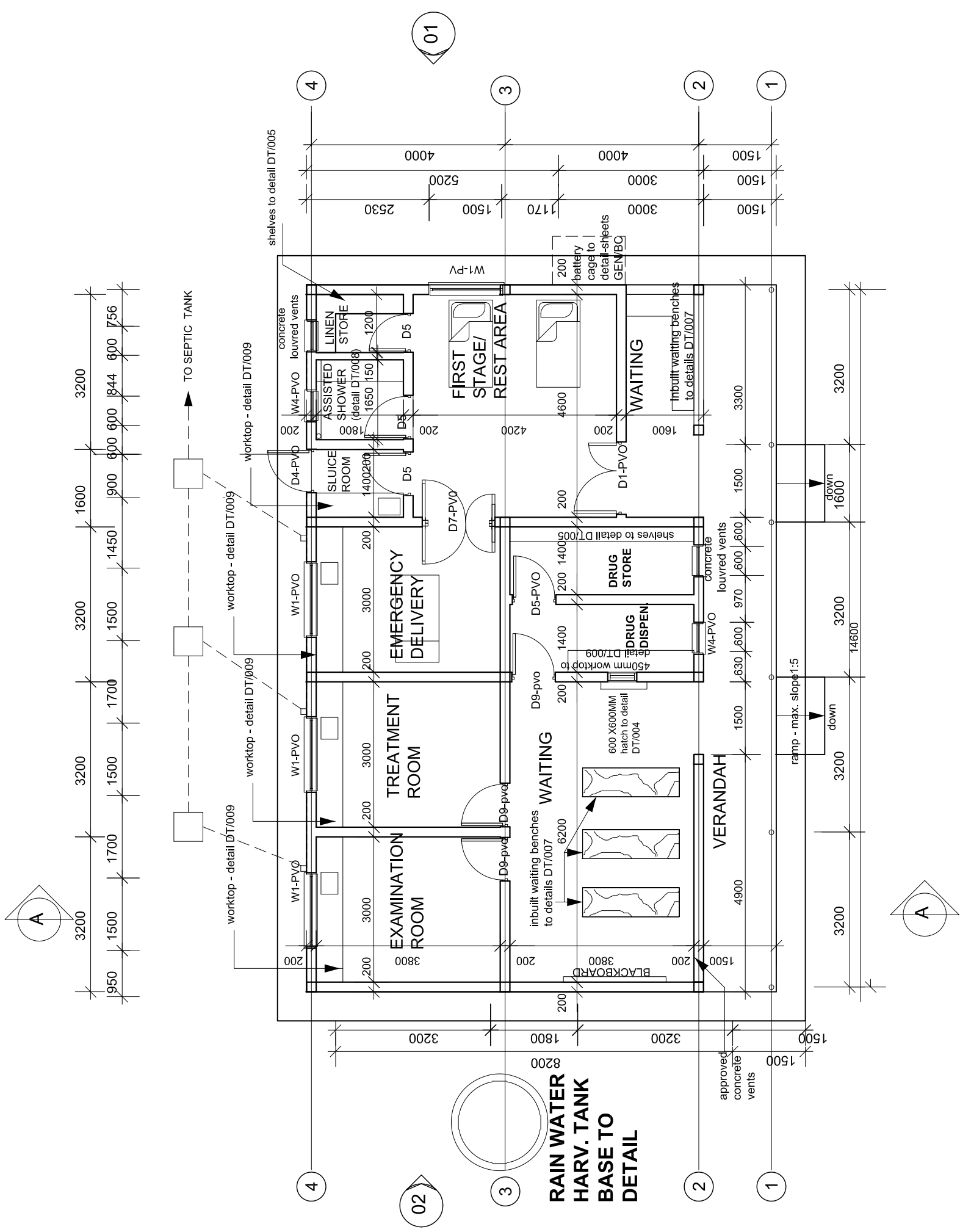
SIDE ELEVATION 1

The Project For Rebuilding Community for Promoting Return & Resettlement of Internally Displaced Persons in Acholi Sub-Region in Northern Uganda

JOB TITLE 2 UNIT TEACHERS HOUSE 4-2

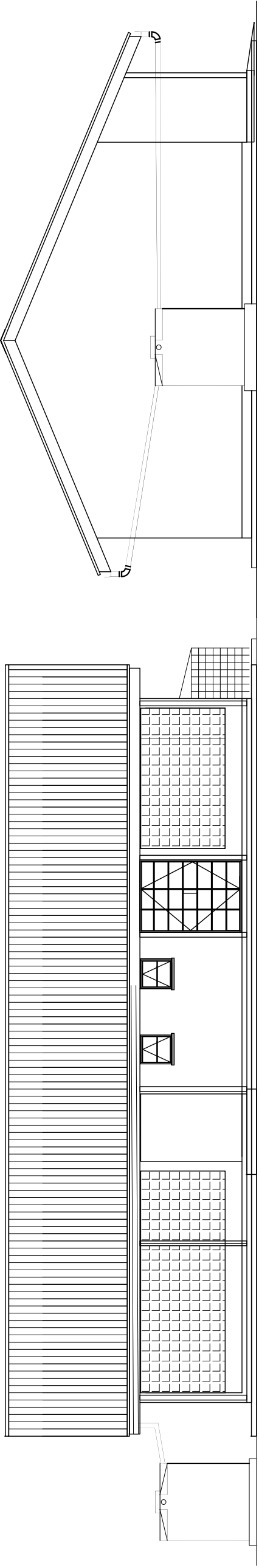
DRAWING TITLE FRONT , REAR AND SIDE ELEVATIONS SCALE 1: 100

JAPAN INTERNATIONAL COOPERATION AGENCY

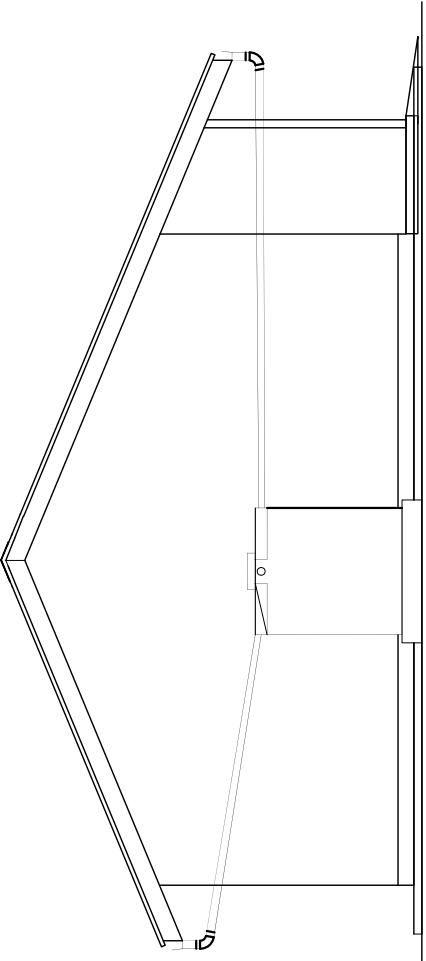


FLOOR PLAN

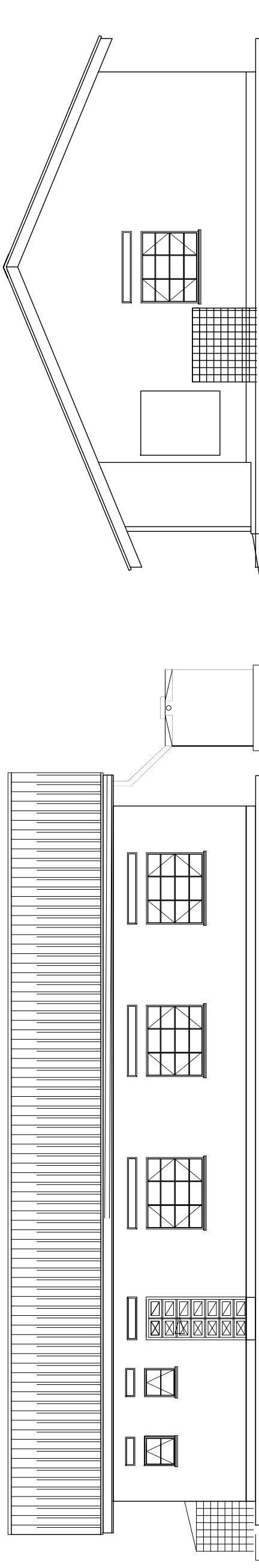
The Project For Rebuilding Community for Promoting Return & Resettlement of Internally Displaced Persons in Acholi Sub-Region in Northern Uganda		
JOB TITLE	HEALTH CENTRE II OPD / EMERGENCY DELIVERY	8-1
DRAWING TITLE	FLOOR PLAN	SCALE 1:100
JAPAN INTERNATIONAL COOPERATION AGENCY		



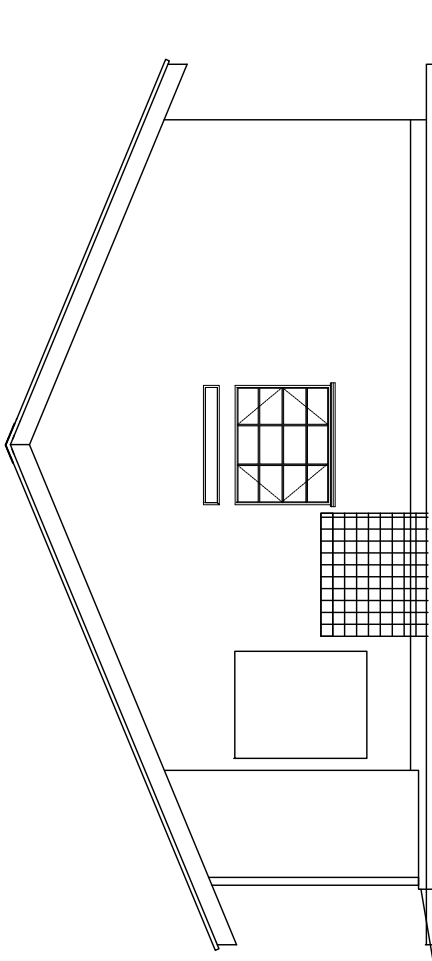
FRONT ELEVATION



SIDE ELEVATION 1

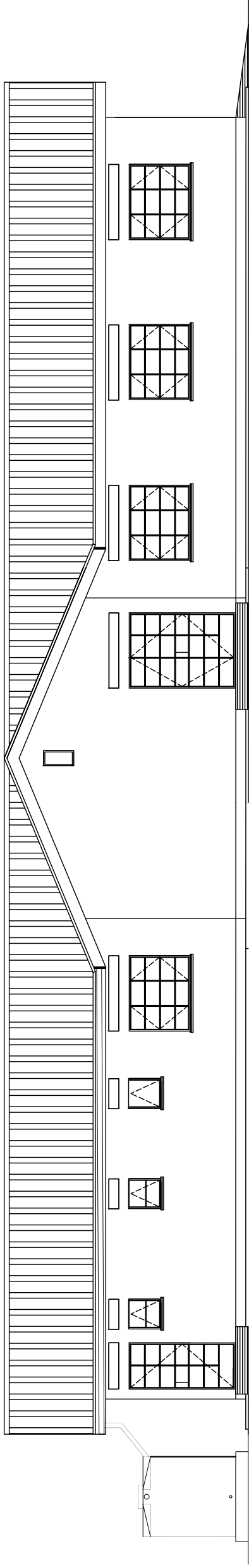


REAR ELEVATION

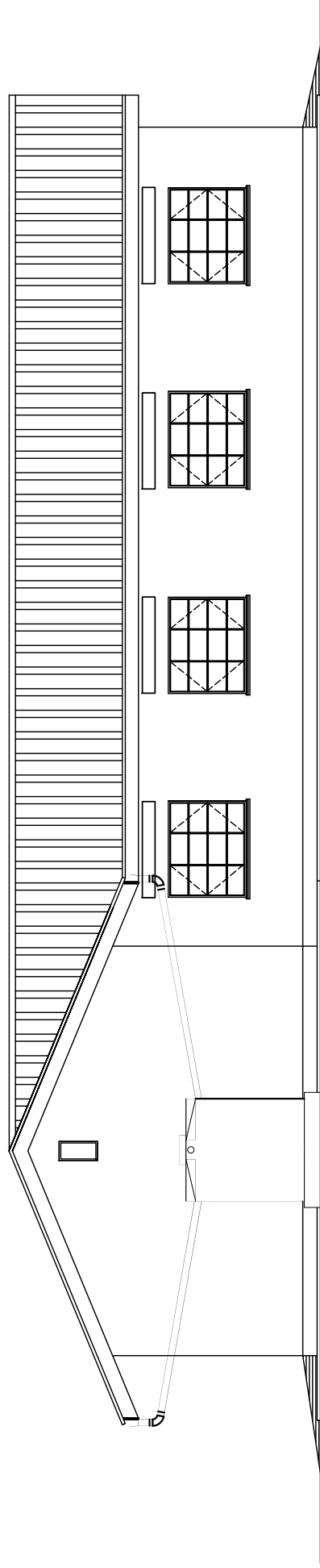


SIDE ELEVATION 2

The Project For Rebuilding Community for Promoting Return & Resettlement of Internally Displaced Persons in Acholi Sub-Region in Northern Uganda			
JOB TITLE	HEALTH CENTRE II OPD / EMERGENCY DELIVERY	8-2	
DRAWING TITLE	FRONT, REAR AND SIDE ELEVATIONS	SCALE	1: 100
JAPAN INTERNATIONAL COOPERATION AGENCY			



REAR ELEVATION



SIDE ELEVATION 2

The Project For Rebuilding Community for Promoting Return & Resettlement
of Internally Displaced Persons in Acholi Sub-Region in Northern Uganda

JOB TITLE HEALTH CENTRE III - GENERAL / MATERNITY WARD 9-3

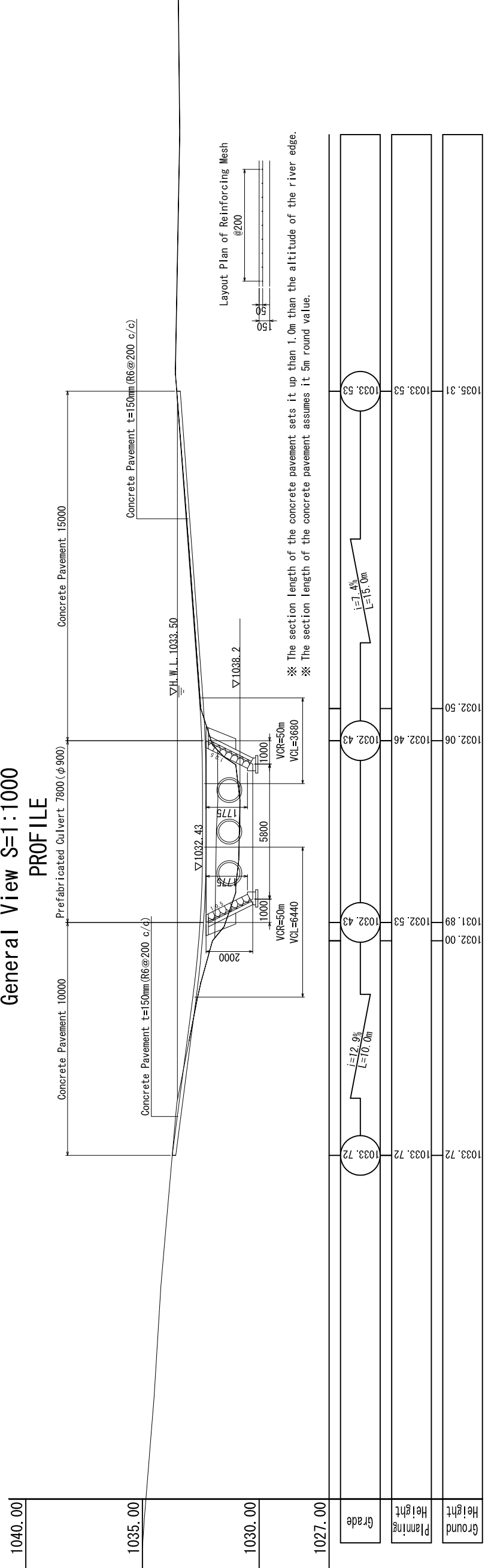
DRAWING TITLE REAR AND SIDE ELEVATION 2 SCALE 1:100

JAPAN INTERNATIONAL COOPERATION AGENCY

No.1 Gulu Sub-County - Lalagi S/C - Lukwir Parish - Idure P/S (1)

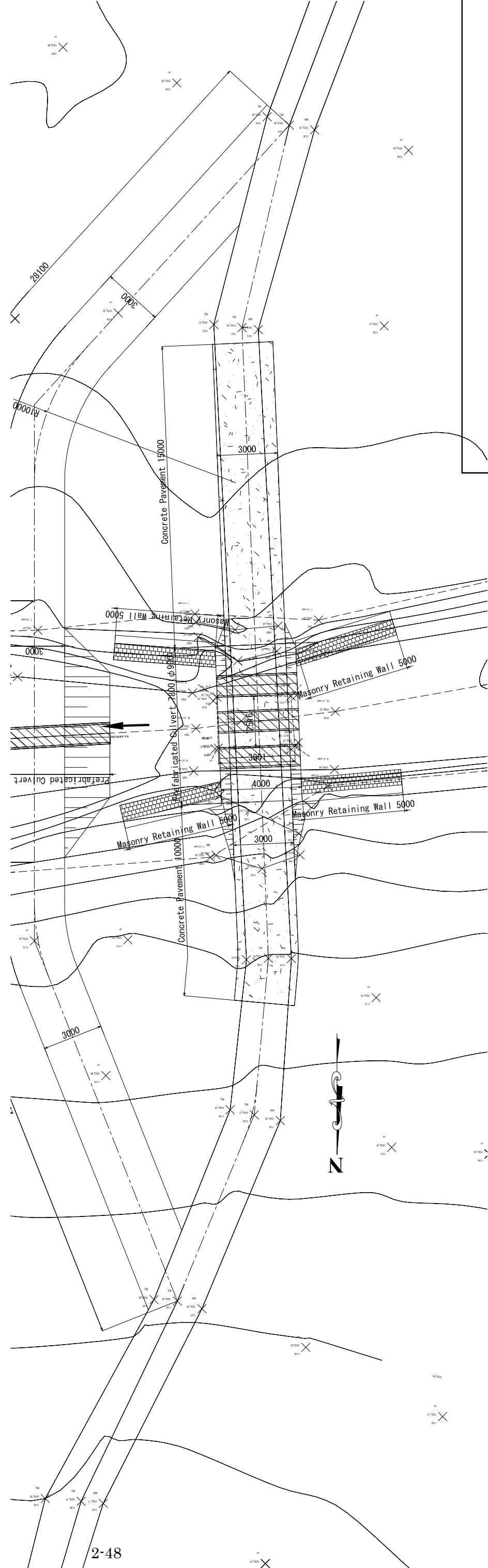
General View S=1:1000

PROFILE



※ The section length of the concrete pavement sets it up than 1.0m than the altitude of the river edge.
 ※ The section length of the concrete pavement assumes it 5m round value.

PLAN

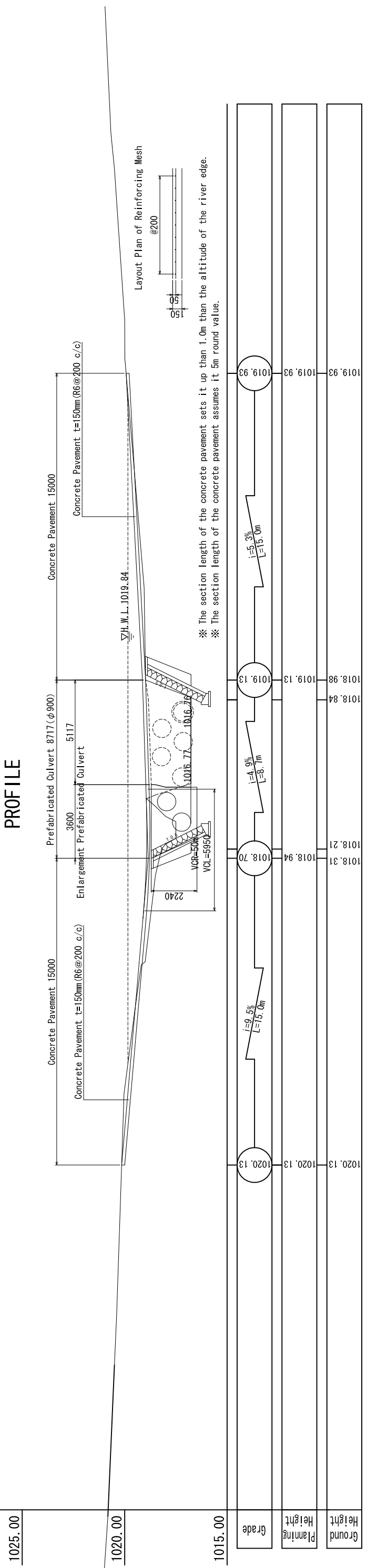


The Project For Rebuilding Community for Promoting Return & Resettlement of Internally Displaced Persons in Acholi Sub-Region in Northern Uganda	
JOB TITLE	HEALTH CENTRE
DRAWING TITLE	General View
SCALE 1: 1000	
JAPAN INTERNATIONAL COOPERATION AGENCY	

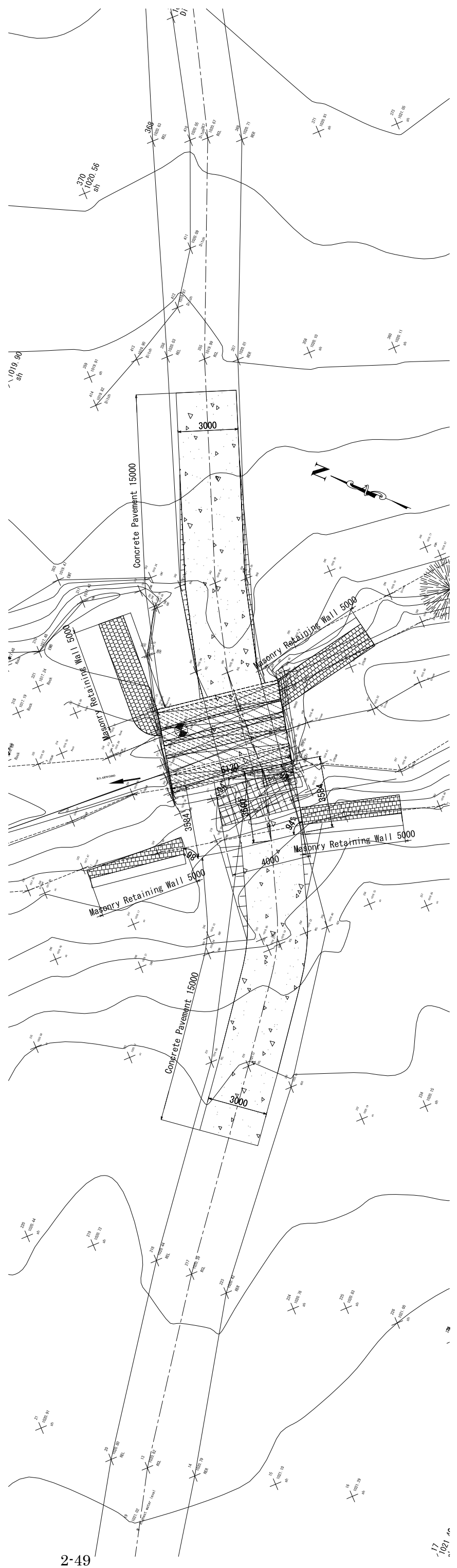
No.2 Gulu Sub-County - Lalogi S/C - Lukwir Parish - Idure P/S (2)

General View S=1:1000

PROFILE



PLAN

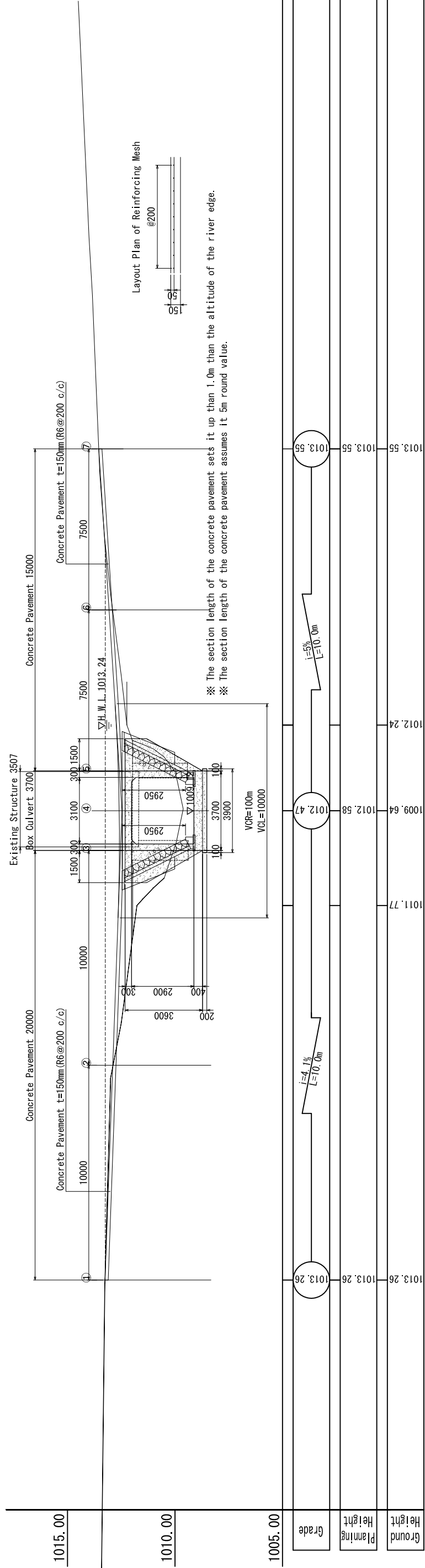


The Project For Rebuilding Community for Promoting Return & Resettlement of Internally Displaced Persons in Acholi Sub-Region in Northern Uganda	
JOB TITLE	HEALTH CENTRE
DRAWING TITLE	General View
SCALE 1: 1000	
JAPAN INTERNATIONAL COOPERATION AGENCY	

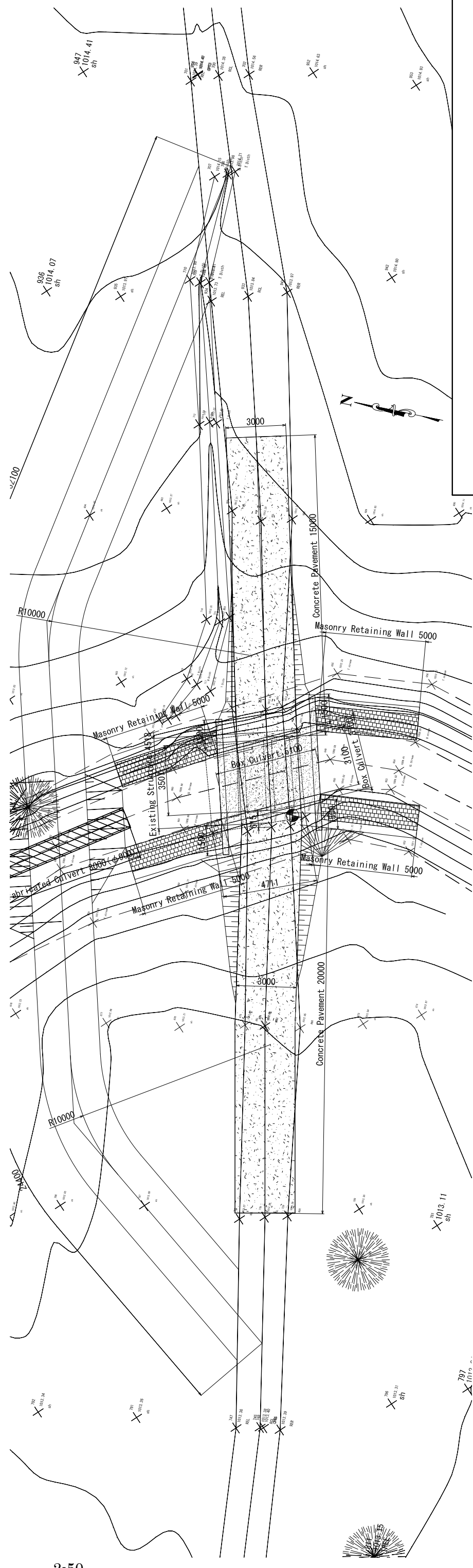
No. 3 Gulu Sub-County - Lalogi S/C - Lukwir Parish - Idure P/S (3)

General View S=1:1000

PROFILE



PLAN



The Project For Rebuilding Community for Promoting Return & Resettlement of Internally Displaced Persons in Acholi Sub-Region in Northern Uganda

JOB TITLE: HEALTH CENTRE

DRAWING TITLE: General View

SCALE 1: 1000

JAPAN INTERNATIONAL COOPERATION AGENCY