

**Ministry of Water and Irrigation
Water Resources Management Authority
The Republic of Kenya**

**OUTLINE DESIGN STUDY REPORT
ON
THE PROGRAMME FOR
COMMUNITY-BASED FLOOD DISASTER
MANAGEMENT TO ADAPT TO CLIMATE CHANGE IN
THE NYANDO RIVER BASIN
IN
THE REPUBLIC OF KENYA**

February 2009

JAPAN INTERNATIONAL COOPERATION AGENCY

NIPPON KOEI CO., LTD.

GED

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Water Resources Management Authority
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PREFACE

In response to a request from the Government of the Republic of Kenya, the Government of Japan decided to conduct an outline design study on the programme for community-based flood disaster management to adapt to climate change in the Nyando river basin and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA sent to Kenya a study team from October 30 to December 18, 2008.

The team held discussions with the officials concerned of the Government of Kenya, and conducted a field study at the project area. After the team returned to Japan, further studies were made. Then, a mission was sent to Kenya in order to discuss a draft outline design, and as this result, the present report was finalized.

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

I wish to express my sincere appreciation to the officials concerned of the Government of the Republic of Kenya for their close cooperation extended to the teams.

February, 2009

Ariyuki MATSUMOTO

Vice President

Japan International Cooperation Agency

February, 2009

LETTER OF TRANSMITTAL

We are pleased to submit to you the outline design study report on the programme for community-based flood disaster management to adapt to climate change in the Nyando river basin in the Republic of Kenya.

This study was conducted by Nippon Koei Co., Ltd., under a contract to JICA, during the period from October, 2008 to February, 2009. In conducting the study, we have examined the feasibility and rationale of the project with due consideration to the present situation of Kenya and formulated the most appropriate outline design for the project under Japan's Programme Grant Aid for Environment and Climate Change.

Finally, we hope that this report will contribute to further promotion of the project.

Very truly yours,

Masaru TOKURA

Project Manager,

Outline design study team on

the Programme for Community-Based Flood
Disaster Management to Adapt to Climate Change
in the Nyando River Basin

Nippon Koei Co., Ltd.

SUMMARY

(1) Existing Conditions of the Country

The Republic of Kenya (hereinafter referred to as “Kenya”) is located on the east side of the African continent and lies on the equator. Kenya is surrounded by the neighboring countries of Ethiopia, Sudan, Somalia, Tanzania, and Uganda. Kenya has a national land area of approximately 580,000 km² and had a population of 36.1 million in 2006. Kenya’s climate ranges from the mild tropical climate of the coastal area on the Indian Ocean, the dry climate of the lower inland areas, and to the cool climate of the highlands. Nearly two of thirds of the total land area has a dry or semi-dry climate.

Due to the drought and the damage caused to agriculture and infrastructure by heavy rainfall arising from the El Nino effect, the national economy was strongly depressed in the latter half of 1990s. In addition, security conditions became worse and economic growth became negative in 2000. In the period from 2003 to 2007, the economy recovered and stable growth led to GDP increasing at a rate of 2.9% in 2003 and 7.0% in 2007. Although the economy has experienced positive growth in the recent years, the GDP in 2007 was estimated at only Ksh1,814,200 million (equivalent to USD 24,430 million). This means that GDP per capita is still at the low level of Ksh48,770 (equivalent to USD657). The national economy relies on the agriculture as the main industry, which provides 22.7% of GDP. This is followed by the transportation/communication sector (11.4%) and manufacturing (9.7%). The main farm products consist of coffee, tea, and garden crops. Economic growth in the recent years has been supported by the transportation/communication, retail, and manufacturing sectors. The GDP share by industry is estimated at 23.2% for the primary, 15.7% for the secondary, 49.5% for the tertiary, and 11.6% for others including taxes less subsidies on products.

(2) Background of the Project

In the 9th National Development Plan (2002-2008), the Government of Kenya (hereinafter referred to as “GOK”) highlighted the theme “Effective Management for Sustainable Economic Growth and Poverty Reduction”. The percentage of people who live below the absolute poverty line is estimated at 53% in Kisumu District and 69% in Nyando District. The absolute poverty rate of both districts covering the Project Area exceeds the national average rate of 50% for Kenya. The Nyando River Basin experiences flooding in the rainy season, which extends from March to May and returns again in November. Flooding affects the main industry of agriculture in both districts and is the main constraint on economic growth. In addition, the flood disaster area is expanding due to climate change. In the areas surrounding Lake Victoria, including the Project Area, the number of rainy days having more than 50mm/day has been increasing. Therefore, a flood management system urgently needs to be established in the Project Area.

Due to the situation described above, JICA carried out the “Study on the Integrated Flood Management for Nyando River Basin” (hereinafter referred to as “the MP Study”) as a technical assistance project. The objectives of the MP Study are to: i) Formulate a plan of Integrated Flood Management for the Nyando River Basin; and ii) Develop the flood management capacity of residents through the implementation of Pilot Projects. The field work in Kenya for the MP Study was completed in December, 2008. Twenty-four (24) villages were selected as priority areas, based on the flood disaster map which was

prepared during the MP Study. Measures for flood management in these 24 villages were formulated by the MP Study.

Based on the results of the MP Study, the GOK submitted a request for Programme Grant Aid for Environment and Climate Change (“GAEC”) to the Government of Japan for the “Programme for Community-based Flood Disaster Management to Adapt to Climate Change in the Nyando River Basin” (hereinafter referred to as “the Project”). The Project aims to establish a flood management system by implementing structural and non-structural measures for integrated flood management in the 24 villages of the flood prone parts of Nyando District and Kisumu District. Table 1 lists the structural components and Table 2 lists the non-structural components of the Project, as requested by the GOK.

Table 1 Structural Measures of the Project Requested by GOK

Facility	Number of Facilities
Boreholes	11
Evacuation Centers	4
Toilets (10 compartments)	6
Toilets (2 compartments)	3
Storage Facilities	2
Culverts	44
Foot Bridges	7
Weirs	1
Total	78

Source: The MP Study

Table 2 Non-structural Measures of the Project Requested by GOK

No.	Component
1	Development of community based flood management organizations.
2	Technical O&M training for structural measures.
3	Community flood management training.
4	Education program for disaster prevention.
5	Radio programs about flood management.
6	Awareness campaign using posters about flood management.

Source: The MP Study

(3) Basic Concept of the Project

In response to the request by the GOK, JICA dispatched the Outline Design Study Team (hereinafter referred to as “the OD Study Team”) to conduct the field studies at two times between November 2008 and February 2009. The OD Study Team confirmed the contents of the Project that was requested by the GOK and reviewed the viability of the structural measures. The review considered the following aspects:

- 1) Consistency with the evacuation places and evacuation routes indicated in the community hazard maps prepared for the MP Study;
- 2) Land availability for the structural measures without conflicting with existing land arrangements;
- 3) Impartial provision of the structural measures for each village;
- 4) Sustainable use by preventing topographic change in the future; and
- 5) Availability of the structural measures in the initial stages of a flood.

As a result of the review, the structural measures and non-structural measures of the Project were formulated, as shown in Table 3 and Table 4, respectively.

Table 3 Structural Measures of the Project

Type of Structure	Number of Structures
Boreholes	11
Evacuation Centers	4
Toilets (10 compartments)	6
Toilets (2 compartments)	3
Storage Facilities	2
Culverts	44
Foot Bridges	5
Weirs	1
Total	76

Source: OD Study Team

Table 4 Non-structural Measures of the Project

No.	Package	Outline
1	Development of community based flood management organizations	
	1.1 Forming and Building the Capacity of Community Based Flood Management Organizations	<ul style="list-style-type: none"> a) Management and operation training <ul style="list-style-type: none"> - Community awareness. - Development of bylaws. - Organizational training. - Financial management training. b) Training in writing proposals for fundraising (including preparation of a manual for writing proposals). c) Production and installation of 3 kinds of signboards: <ul style="list-style-type: none"> - Community hazard maps in each village. - Signboards for evacuation routes in each village. - Signboard at the evacuation center in each village.
	1.2 Technical O&M training for structural measures	<ul style="list-style-type: none"> a) Both lectures and on-site training in O&M for the series of structures to be constructed by the Project. b) Preparation of O&M manuals.
2	Community flood management training	<ul style="list-style-type: none"> a) Community Flood Management Training <ul style="list-style-type: none"> - Training in flood disaster cycles. - Training in first aid. b) Community Flood Management Manual c) Evacuation Drills (The drills will be led by community based flood management organization (CFMO) and utilize the communication network of communities.)
3	Education Program and Public Relation Program	
	3.1 Education program for disaster prevention	<ul style="list-style-type: none"> a) Targeting 16 primary schools identified within 24 villages. b) Teacher training in disaster prevention and flood management. c) Review and modification of the textbook used to teach pupils. d) Mass printing of the textbook.
	3.2 Radio programs about flood management	<ul style="list-style-type: none"> a) Long radio programs. b) Short spot programs.
	3.3 Awareness campaign using posters about flood management	<ul style="list-style-type: none"> a) Posters covering three (3) subjects: i) Storing water, food, and useful goods for evacuation; ii) Awareness when evacuating; and iii) Early warning. b) Distribution of the posters.

Source: OD Study Team

Note: The flood disaster cycle comprises prevention, mitigation, preparedness, response, recovery, and rebuilding.

(4) Construction Schedule and Cost Estimation

The project period was estimated at 23 months, from the signing of the exchange of notes (E/N) to the completion of construction. The estimated period for the main components is as follows:

- 1) Detailed design, Pre-qualification (PQ), and Tender: 5 months
- 2) Construction work for the structural measures: 17 months (including completion examination)
- 3) Implementation of the non-structural measures: 20 months

The implementation cost for the scope of work that is the responsibility of the GOK was estimated at JPY6.7 million.

(5) Project Evaluation and Recommendations

During the Project, the flood management system will be developed within the Project Area comprising 24 villages. The number of direct beneficiaries of the Project is estimated at approximately 20,000 people who live in the 24 villages. In addition, the Project will contribute to improving: i) The public's awareness of flood management; ii) Evacuation safety; and iii) Flood safety in the Nyando River Basin. The O&M system will be developed as part of the non-structural measures of the Project. Community Based Flood Management Organizations (CFMOs) will be developed and trained in financial management, O&M, and the activities required according to the flood disaster cycle. In addition, the following issues taken care of by the GOK must be addressed in order to bring the project effects to the full after the completion of the Project:

- (1) Support for the CFMOs by Public Authorities: In the non-structural measures, the CFMOs will be developed and trained in financial and technical management. In cases where the CFMOs are not capable of overcoming any incident, the GOK needs to take responsibility for financial and technical support of the CFMOs.
- (2) Continuation of Education Program and Public Awareness Campaigns: The non-structural measures include education programs for disaster prevention and public awareness campaigns including radio programs and poster distribution. After the Project, the GOK needs to continue these programs. The education programs should be included in the official education curriculum, while the teaching manuals and textbooks should be replicated in other villages. The long and short radio programs should be broadcast periodically. In addition, the posters need to be updated and re-distributed in the future.
- (3) Replication of the Project in Other Villages: Based on the experiences of the Project, the GOK needs to make efforts to utilize the local resources and replicate the Project of the structural and non-structural measures in other villages.

**THE OUTLINE DESIGN STUDY
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IN
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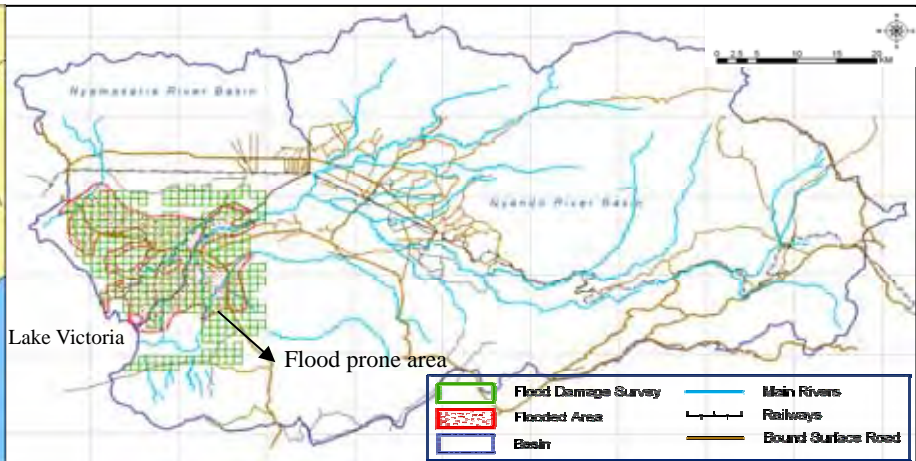
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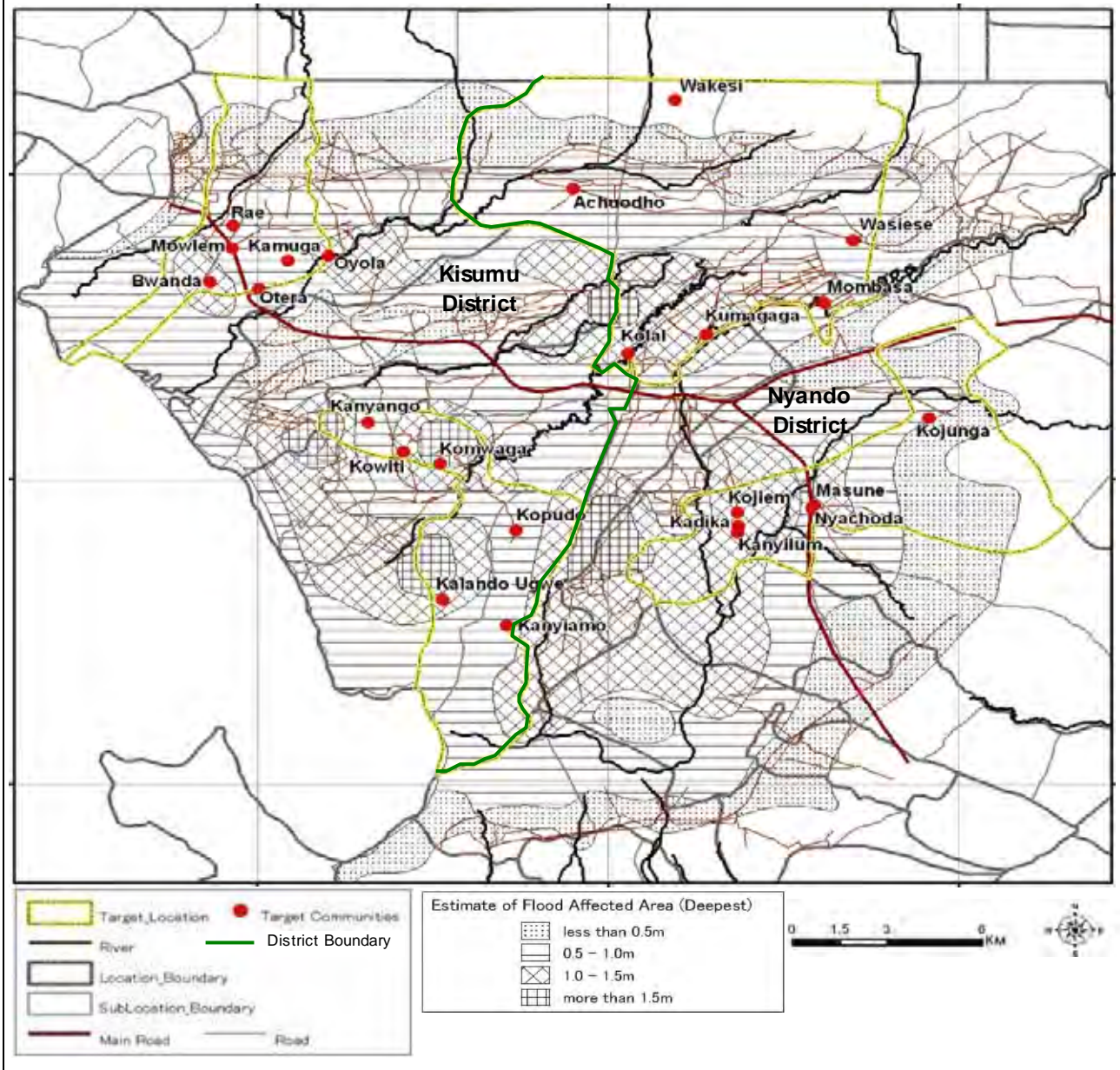
[Location Map of Kenya]



[Location Map of Nyando River Basin]



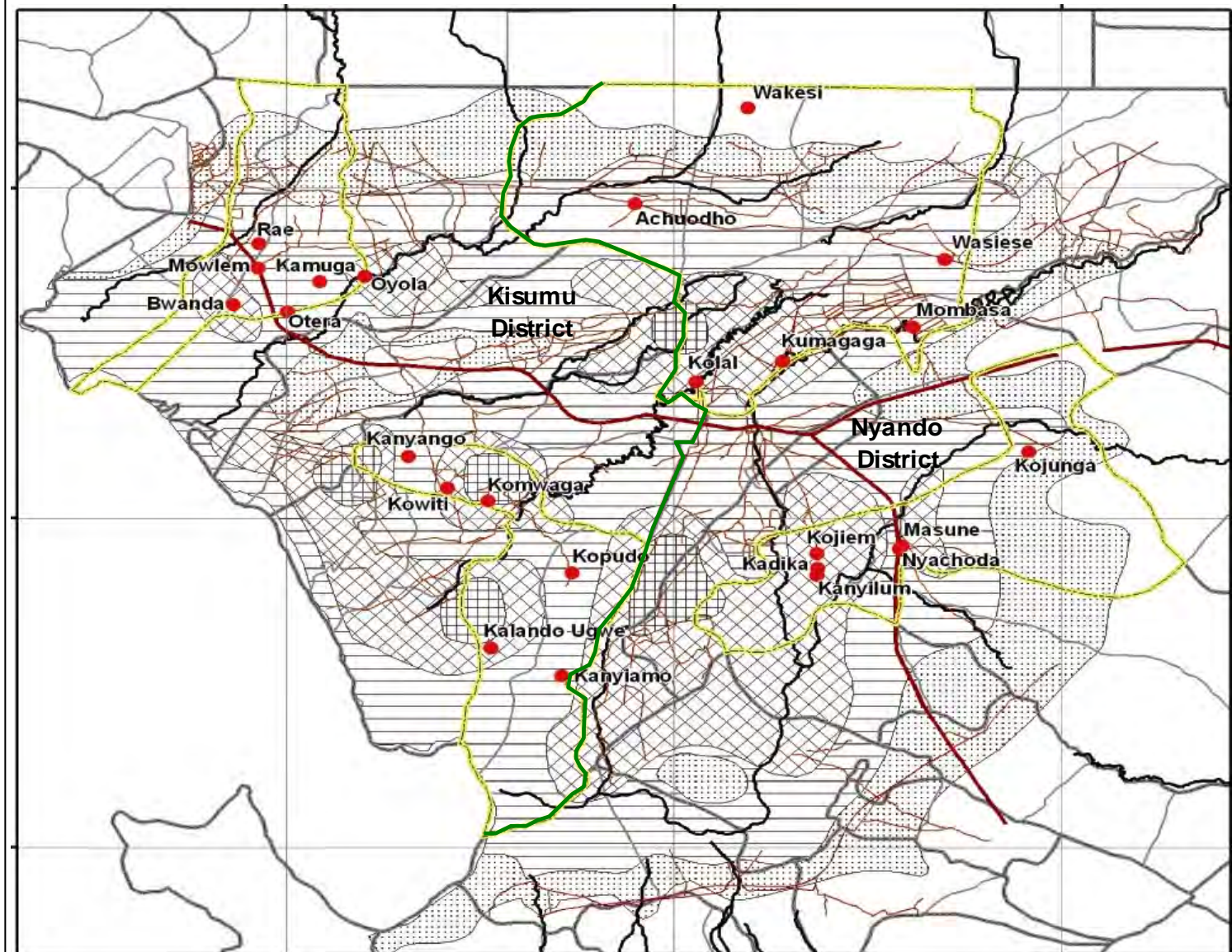
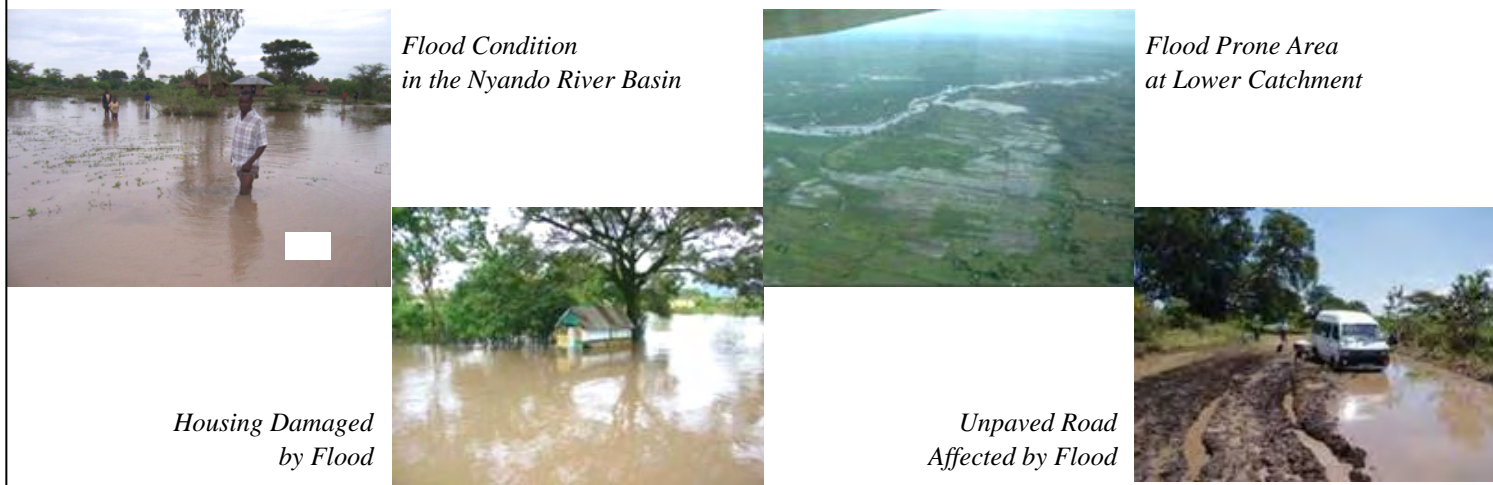
[Location Map of 24 Villages]



LOCATION MAP

THE PROGRAMME FOR COMMUNITY-BASED FLOOD DISASTER MANAGEMENT TO ADAPT TO CLIMATE CHANGE IN THE NYANDO RIVER BASIN - PERSPECTIVE -

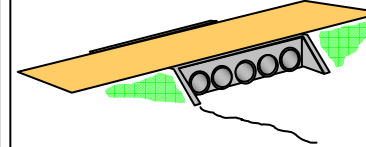
Project Location Map of 24 Villages in Nyando and Ksumu Districts



Measures to be Taken in the Project

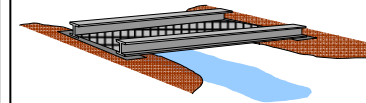
[Structural Measures]

(1) Infrastructure Measures to Prevent Flood Disaster and Provide Evacuation Routes



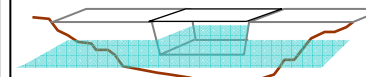
Culvert

(Culvert to provide the evacuation route above its structure.)



Footbridge

(Footbridge to provide the evacuation route and the safe access for the villages which do not have any access from the outside during the flood.)



Weir

(Weir to provide the water for agriculture and evacuation route above its structure.)

(2) Architectural Measures to Provide Evacuation Places



Borehole

(Boreholes will supply the safe water for the people during the flood.)



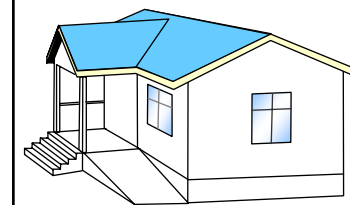
Evacuation Centre

(Evacuation center with hall, kitchen, and storage to improve the living environment during the flood.)



Toilet

(Toilet to improve the living environment during the flood.)



Storage

(Storage to supplement the safe spaces for the evacuees and storages for the relief goods during the flood.)

[Non-Structural Measures]

(1) Forming and Building the Capacity of Community Based Flood Management



Community Sensitization and Training



Community Flood Hazard Map

(3) Technical O&M Training for Structural Measures



Lecture for O&M Training with O&M Manuals



On-site O&M Training

(5) Radio Programs on Flood Management



Long radio programs



Short spots

(2) Community Flood Management Training



Evacuation Drill



Flood Management Training with Manual

(4) Education Program for Disaster Prevention

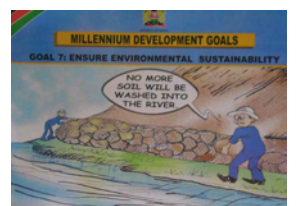


Teacher Training in Flood Management with Teaching

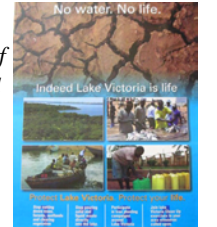


Teaching Pupils with Textbooks

(6) Awareness Campaign using Poster on Flood Management



Posters (Samples of UNDP and SIDA)



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ABBREVIATIONS

1 Name

(1) Organization

CAAC	Catchment Area Advisory Committee
CBO	Community Based Organization
CFMO	Community-Based Flood Management Organization
DANIDA	Danish International Development Agency
DERC	Disaster Emergency Response and Coordination
DMC	Disaster Management Committee
DOC	National Disaster Operation Center
EU	European Union
GOK	Government of Kenya
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit
IMF	International Monetary Fund
KfW	Kreditanstalt für Wiederaufbau
LVSC	Lake Victoria South Catchment Area
MWI	Ministry of Water and Irrigation
NEMA	National Environmental Management Authority
NGO	Non-Governmental Organization
NIB	National Irrigation Board
NWRMS	National Water Resources Management Strategy
R&R	Relief and Rehabilitation Section
SIDA	Swedish International Development Agency
USAID	United States Agency for International Development
WAB	Water Appeal Board
WB	World Bank
WMO	World Meteorological Organization
WRMA	Water Resource Management Authority
WRUA	Water Resource Users Association
WSB	Water Service Board
WSP	Water Service Provider
WSRB	Water Service Regulatory Board
WSTF	Water Service Trust Fund

(2) Others

BS	British Standard
CAP	Community Action Plan
CMS	Catchment Management Strategy
DDP	District Development Plan
EIA	Environmental Impact Assessment

E/N	Exchange of Notes
EPR	Environmental Project Report
ERSWEC	Economic Recovery Strategy for Wealth and Employment Creation
GAEC	Programme Grant Aid for Environment and Climate Change
NDMP	National Disaster Management Policy
NDP	National Development Plan
NPEP	National Poverty Eradication Plan
NWRMS	National Water Resources Management Strategy
PRA	Participatory Rural Appraisal
PRSP	Poverty Reduction Strategy Paper
PVC	Polyvinyl Chloride
RC	Reinforced Concrete
uPVC	Unplasticised Polyvinyl Chloride
VES	Vertical Electrical Soundings
WCQ-LVWMP	Water Quality Component of Lake Victoria Environmental Management Project

2 Unit

Area

cm² = Square-centimeters (1.0 cm x 1.0 cm)
m² = Square-meters (1.0 m x 1.0 m)
km² = Square-kilometers (1.0 km x 1.0 km)

ha. = Hectares (10,000 m²)

Length

mm = Millimeters
cm = Centimeters (= 10 mm)
m = Meters (= 100 cm)
km = Kilometers (= 1,000 m)
Inch = 2.54 cm

Currency

US\$ = United State Dollars (US\$1=JPY105.71)
JPY = Japanese Yen
Ksh = Kenyan Shilling (Ksh1=JPY1.480)

Other

% = Percent

Volume

cm³ = Cubic-centimeters
(1.0 cm x 1.0 cm x 1.0 cm)
m³ = Cubic-meters
(1.0 m x 1.0 m x 1.0 m)
lit., l = Liter (1,000 cm³)

Weight

mg = Milligrams
g = Grams (= 1,000 mg)
kg = Kilograms (=1,000 g)
ton = Metric tonne (=1,000 kg)
N = Newton (1kgm/s²)
kN = Kilo Newton (1,000N)

Time

sec. = Seconds
min = Minutes (60 sec.)
hr. = Hours (60 min.)
d = day

CHAPTER 1

BACKGROUND OF THE PROJECT

CHAPTER 1 BACKGROUND OF THE PROJECT

In the 9th National Development Plan (2002-2008), the Government of Kenya (hereinafter referred to as “GOK”) highlighted the theme “Effective Management for Sustainable Economic Growth and Poverty Reduction”. The percentage of people who live below the absolute poverty line is estimated at 53% in Kisumu District and 69% in Nyando District. The absolute poverty rate of the both districts covering the Project Area exceeds the national average rate of 50% for Kenya. The Nyando River Basin experiences flooding in the rainy season, which extends from March to May and returns again in November. Flooding affects the main industry of agriculture in both districts and is the main constraint on economic growth. In addition, the flood disaster area is expanding due to climate change. In the areas surrounding Lake Victoria, including the Project Area, the number of rainy days having more than 50mm/day has been increasing. Therefore, a flood management system urgently needs to be established in the Project Area.

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Based on the results of the MP Study the GOK submitted a request for Programme Grant Aid for Environment and Climate Change (“GAEC”) to the Government of Japan for the “Programme for Community-based Flood Disaster Management to Adapt to Climate Change in the Nyando River Basin” (hereinafter referred to as “the Project”). The Project aims to establish a flood management system by implementing the structural and non-structural measures for integrated flood management in the 24 villages of the flood prone parts of Nyando District and Kisumu District.

(1) Components Requested by the Government of Kenya

The components requested by the GOK comprise structural and non-structural measures, which are based on the results of the MP Study. The structural measures aim at constructing: i) Evacuation places by providing an evacuation center, toilets, storage facilities, and a borehole; and ii) Evacuation routes by providing footbridges, culverts, and weirs. A total of 78 facilities were requested for the structural measures. Table 1.1 shows the number of facilities by type of structure. Table 1.2 shows the number of facilities by village.

Table 1.1 Structural Measures of the Project Requested by GOK (by Structure)

Type of Structure	Number of Facilities
Boreholes	11
Evacuation Centers	4
Toilets (10 compartments)	6
Toilets (2 compartments)	3
Storage Facilities	2

Source: The MP Study

Type of Structure	Number of Facilities
Culverts	44
Foot Bridges	7
Weirs	1
Total	78

Table 1.2 Structural Measures of the Project Requested by GOK (by Village)

Village	Structural Measures	Description	Village	Structural Measures	Description
Rae Kanyaika	Culvert (1)	L=2m, W=3.5m, H=0.7m	Kamget Ugwe	Footbridge	L=8m, W=2m, wood
	Culvert (2)	L=1m, W=3.5m, H=0.3m		Culvert (1)	L=7m, W=3.5m, L=0.3m
	Culvert (3)	L=1m, W=3.5m, H=0.3m		Culvert (2)	L=5m, W=2.5m, H=0.6m
	Culvert (4)	L=1m, W=3.5m, H=0.3m	Kopudo	Borehole	with hand pump, < 100m
	Culvert (5)	L=2m, W=3.5m, H=0.7m	Kanyiaomo	Culvert (1)	L=5.5m, W=1.5m, H=0.8m
	Culvert (6)	L=2m, W=3.5m, H=0.7m		Culvert (2)	L=8m, W=3.5m, H=1.2m
	Culvert (7)	L=2m, W=3.5m, H=0.7m	Kolal	Evacuation Center	floor area 210m ²
Mowlem	Borehole	with hand pump, < 100m		Toilet	2 compartment type
	Toilet	10 compartment type	Wasiese	Footbridge	L=30m, W=1.5m, wood
	Evacuation Center	floor area 210m ²		Footbridge	L=8m, W=1.5m, steel
Bwanda	Culvert (1)	L=12m, W=5m, H=1.5m	Kamagaga	Evacuation Center	floor area 210m ²
	Culvert (2)	L=5m, W=2.5m, H=1.5m		Toilet	2 compartment type
	Culvert (3)	L=1.5m, W=2.5m, H=0.5m		Wangaya Mombasa	Culvert (1)	L=1.5m, W=8m, H=0.4m
	Culvert (4)	L=3.5m, W=2.5m, H=1.2m	Culvert (2)		L=2m, W=9m, H=0.4m
	Culvert (5)	L=13m, W=2.5m, H=1.2m	Culvert (3)		L=2.5m, W=6m, H=0.5m
Otera	Culvert (1)	L=6m, W=3.5m, H=1m	Culvert (4)		L=1.5m, W=9.3m, H=0.5m
	Culvert (2)	L=8m, W=3.5m, H=2.5m	Culvert (5)		L=1.5m, W=6.3m, H=0.5m
	Culvert (3)	L=12m, W=2.5m, H=1.5m	Culvert (6)		L=2m, W=5.5m, H=0.5m
	Culvert (4)	L=4m, W=3.5m, H=1m	Borehole	with hand pump, < 100m	
	Culvert (5)	L=1m, W=2.5m, H=0.6m	Achuodho	Borehole	with hand pump, < 100m
Kamuga	Borehole	with hand pump, < 100m		Culvert (1)	L=3m, W=4m, H=0.8m
	Toilet	10 compartment type		Culvert (2)	L=2m, W=4m, H=1m
	Culvert	L=1.2m, W=2.5m, H=0.6m		Toilet	2 compartment type
Oyola	Borehole	with hand pump, < 100m	Wakesi	Culvert	L=1.3m, W=3.5m, H=0.6m
	Culvert (1)	L=10m, W=5m, H=1.5m		Borehole	with hand pump, < 100m
	Culvert (2)	L=10m, W=5m, H=1.5m	Kojiem	Borehole	with hand pump, < 100m
	Culvert (3)	L=1.5m, W=8m, H=0.5m		Kanyilum	Toilet	10 compartment type
	Culvert (4)	L=2m, W=8m, H=0.8m	Storage		floor area 55m ²
	Culvert (5)	L=2m, W=6m, H=1m	Borehole		with hand pump, < 100m
	Culvert (6)	L=1.4m, W=5m, H=0.5m	Kadika	Footbridge	L=15m, W=1.5m, steel
Kanyango	Culvert (1)	L=2m, W=5m, H=0.3m		Borehole	with hand pump, < 100m
	Culvert (2)	L=1.2m, W=5m, H=0.3m		Culvert	L=10m, W=2m, H=0.7m
	Culvert (3)	L=1.2m, W=5m, H=0.3m	Nyachoda	Culvert (1)	L=10m, W=1.5m, steel
	Weir	W=7.6m, H=1.5m		Culvert (2)	L=5m, W=3m, H=1.2m
Komwaga	Evacuation Center	floor area 210m ²	Footbridge	L=10m, W=1.5m, steel	
	Toilet	10 compartment type	Masune	Borehole	with hand pump, < 100m
Kowiti	Culvert	L=8m, W=3.5m, H=1m		Toilet	10 compartment type
	Toilet	10 compartment type	Kojunga	Footbridge (1)	L=12m, W=3.5m, steel
	Storage	floor area 55m ²		Footbridge (2)	L=12m, W=3.5m, steel

Source: The MP Study

Note: For culverts, L means the length in the cross-section of river and W means the length in flow direction.

The non-structural measures include the development of and training for Community Based Flood Management Organizations (CFMOs). In addition, the non-structural measures cover public awareness campaigns via education programs and dissemination of information using radio programs and posters. The requested non-structural measures consist of six (6) components, as listed below. A description of each component is given in Table 1.3.

- Development of Community Based Flood Management Organizations;
- Community flood management training;

- Technical O&M training for structural measures;
- Education programs for disaster prevention;
- Radio programs about flood management; and
- Awareness campaign using posters about flood management

Table 1.3 Non-structural Measures of the Project Requested by GOK

No.	Component	Outline
1	Development of Community Based Flood Management Organizations	a) Management and operation training <ul style="list-style-type: none"> - Community awareness. - Development of bylaws. - Organizational training. - Financial management training. b) Training in writing proposals for fundraising (including preparation of a manual for writing proposals)
		c) Production and installation of 3 kinds of signboards <ul style="list-style-type: none"> - One (1) community hazard map in each village. - Ten (10) signboards for evacuation routes in each village. - One (1) signboard at the evacuation center in each village.
2	Community flood management training	a) Community Flood Management Training <ul style="list-style-type: none"> - Training in flood disaster cycles. - Training in first aid. b) Community Flood Management Manual.
		c) Evacuation Drills (The drills will be led by community based flood management organization (CFMO) and utilize the communication network of communities.)
3	Technical O&M training for structural measures	a) Both lectures and on-site training in O&M for the series of structures to be constructed by the Project.
		b) Preparation of O&M manuals.
4	Education program for disaster prevention	a) Targeting 16 primary schools identified within 24 villages.
		b) Teacher training in disaster prevention and flood management.
		c) Review and modification of the textbook used to teach pupils.
		d) Mass printing of the textbook.
5	Radio programs about flood management	a) Long radio programs.
		b) Short spot programs.
6	Awareness campaign using posters about flood management	a) Posters covering three (3) subjects: i) Storing water, food, and useful goods for evacuation; ii) Awareness when evacuating; and iii) Early warning.
		b) Distribution of the posters.

Source: The MP Study

Note: The flood disaster cycle comprises prevention, mitigation, preparedness, response, recovery, and rebuilding.

(2) Natural Conditions

1) Topographic Conditions

The 24 villages in the Project Area are located within the lower part of the Nyando River Basin. The topography here is relatively flat, as the elevation ranges from 1,130m on the periphery of Lake Victoria to 1,200mm in the upper parts streams located in the eastern part of the Project Area. In the outline design study (hereinafter referred to as the “OD Study”), a topographic survey was carried out at the sites nominated for construction of structural measures. The survey covered the planned sites for evacuations centers, toilets, storage facilities, footbridges, culverts, and a weir. For the culverts, a survey was only carried out where the culvert was more than 5m in length. The survey for the evacuation centers, toilets, and storage facilities consisted only of a horizontal survey,

while the survey for the civil structures included both a horizontal survey and cross-section survey. Table 1.4 shows the number of structural measures that were surveyed.

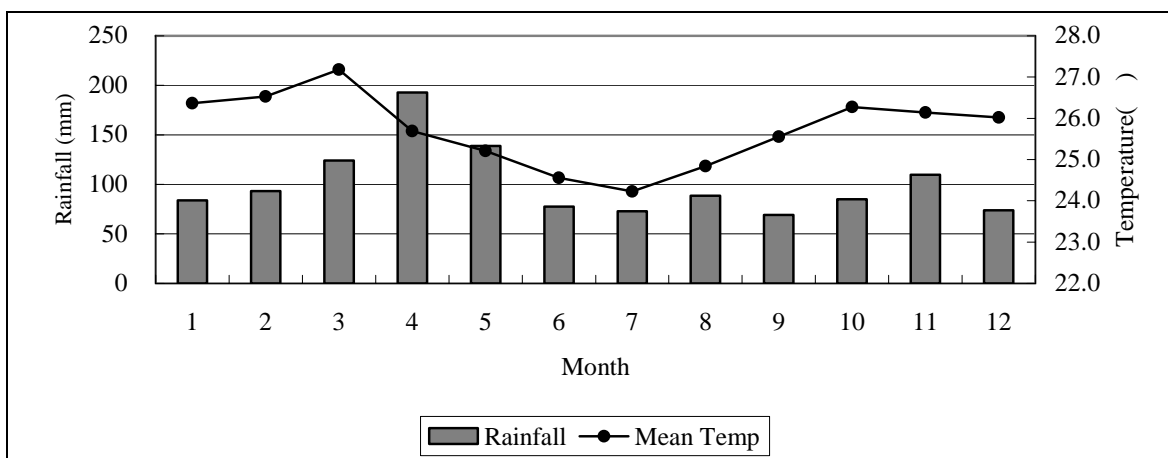
Table 1.4 Number of Places by Type of Structure to be Surveyed

No.	Type of Structure	Locations	Number of Locations
1	Evacuation Centers	Mowlem, Komwaga, Kolal and Kamagaga	4
2	Toilets (10 compartments)	Ofunyu Primary School in Kamuga Reru primary School in Kowiti Achuodho Primary School in Achuodho Apondo Primary School in Kanyilum Ayweyo Primary School in Masune	5
3	Storage Facilities	Reru primary School in Kowiti Apondo Primary School in Kanyilum	2
4	Footbridges	1 location in Kamget Ugwe 1 location in Wasiese 1 location in Kamagaga 1 location in Kadika 1 location in Nyachoda 2 locations in Kojunga	7
5	Culverts	2 locations in Bwanda 3 locations in Otera 2 locations in Oyola 1 location in Kowiti 1 location in Kamget Ugwe 1 location in Kadika 1 location in Nyachoda	11
6	Weirs	Kanyango	1

Source: OD Study Team

2) Climatic Conditions

The mean annual temperature is 25.4 at the Ahero Observatory located in the lower part of the Nyando River Basin. The mean monthly temperature varies from approximately 24.2 to 26.5 . The temperature remains almost constant throughout the year. The average annual rainfall is 1,000mm. The monthly rainfall pattern shows two rainy seasons, namely the long rainy season which extends from March to May, and the short rainy season in November. Figure 1.1 shows the monthly average rainfall and temperature recorded at Ahero Observatory.



Source: Water Quality Component of Lake Victoria Environmental Management Project (WCQ-LVWMP)

Figure 1.1 Rainfall and Temperature Pattern in the Lower Part of Nyando River Basin (Ahero Observatory)

3) Hydrogeological Survey for Boreholes

In the MP Study, the potential ground water resources of the region were assessed by hydrogeological and geophysical surveys, including the sites of eleven (11) boreholes that were requested for the Project. The hydrogeological survey was carried out using Vertical Electrical Soundings (VES). The survey results are shown in Table 1.5. The maximum depth of the aquifer varies from 80m to 130m.

Table 1.5 Estimated Depth of Aquifer for 11 Boreholes

Village	Depth (m)		
	Minimum	Mean	Maximum
Mowlem	40	70	100
Kamuga	50	90	130
Oyola	60	100	130
Kopudo	40	70	100
Wangaya Mombasa	60	80	100
Achuodho	40	60	100
Wakesi	50	80	110
Kojjem	50	80	110
Kanyilum	40	60	80
Kadika	40	70	100
Masune	40	70	100

Source: The MP Study

4) Geological Conditions

Black cotton soil is widely spread over the Project Area. A geotechnical survey was carried out for the Sondu/Miriu Hydropower Project in August, 2005. This survey covered the current Project study area. It was reported that a thick clay stratum was widely spread below surface sand at a depth of 0.4m to 0.8m from the ground surface. The bearing capacity varies from 110 to 180kN/m². The available bearing capacity of the soil in the Project Area is considered as ranging from that of hard loam (110kN/m²) and thick sand (200kN/m²) according to building standards used in Japan.

(3) Environmental and Social Consideration

1) Environmental Impact Assessment (EIA)

In accordance with Article 58 of Kenya's Environmental Law, an Environmental Impact Assessment (EIA) must be carried out for all development activities. The National Environmental Management Authority (NEMA) examines the EIA report and issues the EIA license based on their examination. An EIA license is mandatory for implementing development activities. Table 1.6 summarizes the EIA procedure.

Table 1.6 Procedure for Environmental Impact Assessment in Kenya

Phase	Necessary Action	Examination by NEMA	Notes
Preparation of Environmental Project Report (EPR)	<ul style="list-style-type: none"> The implementation body shall submit an EPR to NEMA. Potential negative impacts and countermeasures thereof shall be specified in the EPR. 	<ul style="list-style-type: none"> NEMA shall coordinate with authorities related to the project and examine the EPR. If the negative impacts are limited and properly taken care of by the countermeasures, NEMA shall issue an EIA license. 	<ul style="list-style-type: none"> NEMA shall complete the examination of the EPR within 45 days after submission of the EPR.
Preparation of EIA Study Report	<ul style="list-style-type: none"> A detailed study shall be carried out of potential negative impacts specified in the EPR. The implementation body shall submit a draft EIA Study Report. The draft EIA Study Report shall be open to the public. Public hearings for stakeholders who may be affected by the negative impacts shall be held. 	<ul style="list-style-type: none"> NEMA shall coordinate with authorities, and examine the EIA Study Report. If there is no problem, NEMA will open the EIA Study Report to the public for 60 days. The implementing body shall be consulted, based on the comments from the public hearings and the public exhibition of the report. If there is no controversial matter, NEMA shall issue an EIA license. 	

Source: NEMA

In the MP Study, an EPR was prepared for each village and submitted to NEMA in November, 2008. NEMA approved the EPR in February 2009.

Based on the JICA Guidelines for Environmental and Social Considerations, the Project is classified as Category C. The reasons for this are as follows:

- i) The structural measures for the Project consist of small-scale facilities. Any negative environmental or social impacts that may result are considered to be very limited.
- ii) The structural measures for the Project were selected from the list of facilities proposed in the community action plans (CAPs) that were formulated by the communities. The selection criteria included the following restrictions: i) The facility must not extend to other villages; ii) The facility must not cause any negative impact to neighboring villages; and iii) The availability of land for the facility must already be confirmed.
- iii) The potential negative impacts of the Project are considered to be limited to the construction stage. During this period, noise, vibration, potential for accidents, and generation of construction wastes will occur. Therefore, the following measures will be implemented to minimize these potential impacts:
 - The contractor will hold meetings to explain the work schedule and contents of construction work to the communities.
 - The contractor will carry out proper disposal of construction waste.

- The contractor will introduce safety measures to minimize accidents.
- The contractor will arrange the construction schedule so as to minimize the disturbance caused by noise and vibration.

2) Land Acquisition

Community Based Organizations (CBOs) in all 24 villages have already agreed the contents of the structural measures of the Project. Since the land required for the facilities will be donated by the communities, there will not be any conflict of interest resulting from land acquisition.

CHAPTER 2

CONTENTS OF THE PROJECT

CHAPTER 2 CONTENTS OF THE PROJECT

2-1 BASIC CONCEPT OF THE PROJECT

(1) Overall Goal

In the 9th National Development Plan (2002-2008), the GOK highlighted the theme “Effective Management for Sustainable Economic Growth and Poverty Reduction”.

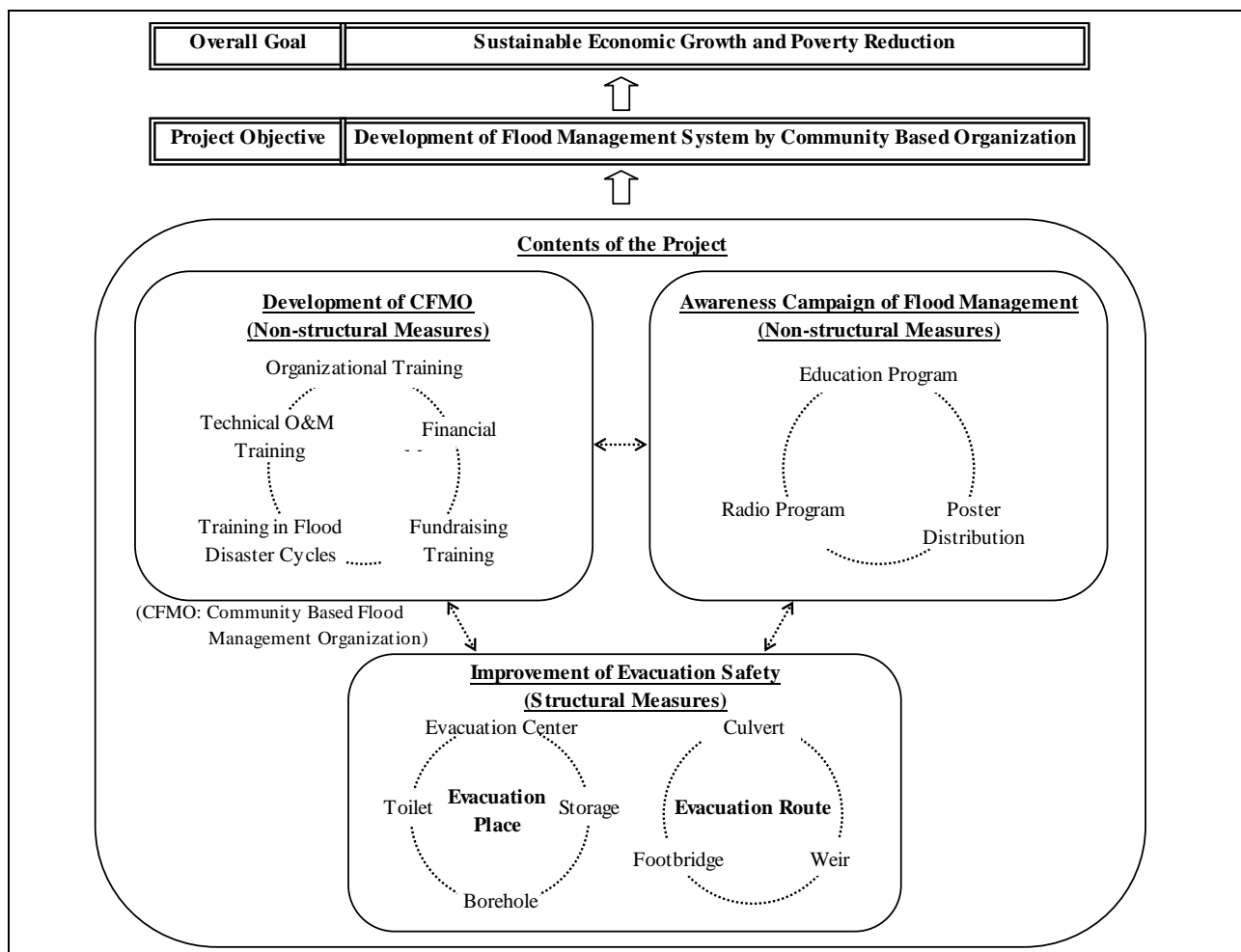
The twenty-four (24) villages covered by the Project Are located in either the Nyando District or Kisumu District. The absolute poverty rate of both districts exceeds the national average rate of 50%. The percentage of people who live below the absolute poverty line is estimated at 53% in Nyando District and 69% in Kisumu District. Flooding occurs in the Nyando River Basin every year and affects the main economic activity of agriculture in both districts. Flood management is considered as the crucial issue for achieving economic growth and reducing poverty.

The MP Study was carried out to improve flood management in the Nyando River Basin. Based on the flood disaster map which was prepared during the MP Study, 24 villages were selected as priority areas which are heavily affected by flooding. According to meteorological data at observatories at Ahero, Kericho, and Tinderet from 1965 to 2004, climatic conditions are changing in the Nyando River Basin. The trend of the average temperature and the number of rainy days (>50mm/day) has generally been increasing. In order to adapt to the effects of further climate change, a flood management system must urgently be established.

The overall goals of the Project are to develop the capacity for the flood management to adapt to the climate change in order to achieve sustainable economic growth and reduce poverty in the Nyando River Basin. The Project objective is to establish community-based flood management systems in the Project Area to allow the goals to be achieved.

(2) Project Description

To achieve the Project objective, the Project will implement both structural and non-structural measures. The structural measures focus on construction of facilities for flood management, while the non-structural measures aim at organizing the community through a series of training programs. Both the structural (facility provision) and non-structural (capacity building) measures must be carried out in order to develop an integrated flood management system. Figure 2.1 below shows the concept of the Project.



Source: OD Study Team

Figure 2.1 Project Concept

The structural measures include two types of facilities. The first type consists of evacuation centers, toilets, storage facilities, and boreholes which will be provided at evacuation places. The second type includes culverts, footbridges, and weirs to provide safe evacuation routes for the evacuees. In total, 76 facilities will be constructed within the 24 villages, as shown in Table 2.1.

Table 2.1 Structural Measures for the Project (by Structure)

Type of Structure	Number of Facilities
Boreholes	11
Evacuation Centers	4
Toilets (10 compartments)	6
Toilets (2 compartments)	3
Storage Facilities	2
Culverts	44
Footbridges	5
Weirs	1
Total	76

Source: OD Study Team

The community action plan (CAP) for each 24 village was prepared based on the participatory approach used for communities in the MP Study. The Outline Design Study Team (OD Study Team) carried out field reconnaissance in Kenya during the First Field Study and confirmed the validity of the need for

each of the proposed facilities. Table 2.2 shows the type of facility for each village, based on the field reconnaissance.

Table 2.2 Structural Measures of the Project (by Village)

Village	Facility	Description	Village	Facility	Description
Rae Kanyaika	Culvert (1)	L=2m, W=4m, H=0.3m	Kamget	Culvert (1)	L=7m, W=3.5m, H=0.3m
	Culvert (2)	L=1.2m, W=5m, H=0.3m	Ugwe	Culvert (2)	L=5m, W=2.5m, H=0.6m
	Culvert (3)	L=1.2m, W=2m, H=0.4m		Culvert (3)	L=30m, W=3.5m, H=1.0m
	Culvert (4)	L=1.3m, W=4.5m, H=0.3m	Kopudo	Borehole	with hand pump, max. 100m
	Culvert (5)	L=2.7m, W=4.5m, H=0.6m	Kanyiaamo	Culvert (1)	L=6m, W=2.5m, H=0.8m
	Culvert (6)	L=1m, W=5m, H=0.3m		Culvert (2)	L=8m, W=3.5m, H=1.2m
	Culvert (7)	L=1.5m, W=5m, H=0.3m	Kolal	Evacuation Center	floor area 182m ²
Mowlem	Borehole	with hand pump, max. 100m		Toilet	2 compartment type
	Evacuation Center	Floor area 182m ²	Wasiese	Culvert	L=30m, W=1.5m, H=2.5m
	Toilet	10 compartment type	Kamagaga	Evacuation Center	Floor area 182m ²
Bwanda	Culvert (1)	L=12m, W=5m, H=1.2m		Toilet	2 compartment type
	Culvert (2)	L=15m, W=2.5m, H=1.5m		Footbridge	L=8m, W=1.5m, Steel
	Culvert (3)	L=1.5m, W=2.5m, H=0.3m	Wangaya Mombasa	Borehole	with hand pump, max. 100m
	Culvert (4)	L=2.3m, W=2.5m, H=1.2m		Culvert (1)	L=2.5m, W=6m, H=1m
	Culvert (5)	L=12m, W=2.5m, H=1.2m		Culvert (2)	L=2.5m, W=8m, H=1m
Otera	Culvert (1)	L=6m, W=4m, H=1m		Culvert (3)	L=2.5m, W=5m, H=1m
	Culvert (2)	L=8m, W=4m, H=2.5m	Culvert (4)	L=2.5m, W=5m, H=0.7m	
	Culvert (3)	L=12m, W=2.5m, H=1.5m	Achuodho	Borehole	with hand pump, max. 100m
	Culvert (4)	L=4m, W=3.5m, H=1m		Toilet	10 compartment type
	Culvert (5)	L=1m, W=2.5m, H=0.6m		Culvert (1)	L=2m, W=5m, H=0.8m
Kamuga	Borehole	with hand pump, max. 130m	Culvert (2)	L=2.5m, W=5m, H=0.8m	
	Toilet	10 compartment type	Wakesi	Borehole	with hand pump, max. 110m
	Culvert	L=1.2m, W=2.5m, H=0.6m		Culvert	L=1.3m, W=3.5m, H=0.6m
Oyola	Borehole	with hand pump, max. 130m	Kojjem	Borehole	with hand pump, max. 110m
	Culvert (1)	L=8.2m, W=5m, H=0.4m	Kanyilum	Borehole	with hand pump, max. 80m
	Culvert (2)	L=8.2m, W=5m, H=0.4m		Toilet	10 compartment type
	Culvert (3)	L=1.5m, W=8m, H=0.5m		Storage Facility	Floor area 41m ²
	Culvert (4)	L=2m, W=8m, H=0.8m	Kadika	Borehole	with hand pump, max. 100m
	Culvert (5)	L=2m, W=6m, H=1m		Culvert	L=10m, W=2m, H=0.7m
	Culvert (6)	L=1.4m, W=5m, H=0.5m		Footbridge	L=15m, W=1.5m, Steel
Kanyango	Culvert (1)	L=2m, W=5m, H=0.3m	Nyachoda	Culvert (1)	L=5m, W=3m, H=1m
	Culvert (2)	L=1.2m, W=5m, H=0.3m		Culvert (2)	L=6m, W=4m, H=1.5m
	Culvert (3)	L=1.2m, W=5m, H=0.3m		Footbridge	L=10m, W=1.5m, Steel
	Weir	W=7.6m, H=1.5m	Masune	Borehole	with hand pump, max. 100m
Komwaga	Evacuation Center	Floor area 182m ²		Toilet	10 compartment type
	Toilet	2 compartment type	Kojunga	Footbridge* (1)	L=12m, W=3.5m, Steel
Kowiti	Toilet	10 compartment type		Footbridge* (2)	L=12m, W=3.5m, Steel
	Storage Facility	Floor area 41m ²			
Culvert	L=8m, W=3.5m, H=1m				

Source: OD Study Team

Note: For culverts, L means the length in the cross-section of river and W means the length in flow direction.

* The footbridges at Kojunga village will also be used by vehicles. All other footbridges will only be used by pedestrians and bicycles.

The non-structural measures consist of three (3) packages. Package 1 includes two (2) sub-packages and Package 3 includes three (3) sub-packages. Overall there are six (6) separable packages/sub-packages. Table 2.3 below shows the contents of the non-structural measure packages/sub-packages.

- 1) Package 1: "Development of community based flood management organizations (CFMOs)"

This package is for organizing the communities. There are two (2) sub-packages:

- i) Sub-package 1.1: Forming and building the capacity of community based flood management organizations. The community based organizations will be trained in self-reliance and be sustainable through the development of bylaws and training in fund raising.
 - ii) Sub-package 1.2: Technical O&M training for structural measures
- 2) Package 2: “Community flood management training” This package is for training the CFMOs in necessary actions in accordance with the flood disaster cycle. The flood disaster cycle comprises prevention, emergency response, evacuation, and rebuilding. Community flood management manuals are to be prepared, based on the flood disaster cycles. In addition, evacuation drills are to be carried out. (There are no sub-packages for Package 2.)
- 3) Package 3: “Education program and public relation program” This package is for promoting public awareness of flood management. There are three (3) sub-packages:
- i) Sub-package 3.1: Education program for disaster prevention.
 - ii) Sub-package 3.2: Radio programs about flood management.
 - iii) Sub-package 3.3: Awareness campaign using posters about flood management.

Table 2.3 Non-structural Measures of the Project

No.	Package	Outline
1	Development of Community Based Flood Management Organizations	
	1.1 Forming and building the capacity of community based flood management organizations	a) Management and operation training: <ul style="list-style-type: none"> - Community sensitization; - Development of bylaws; - Organizational training; and - Financial management training. b) Training in writing proposals for fundraising (including preparation of a manual for writing proposals). c) Production and installation of 3 kinds of signboards: <ul style="list-style-type: none"> - Community hazard maps; - Signboards showing evacuation routes; and - A signboard at each evacuation center.
	1.2 Technical O&M training for structural measures	a) Both lectures and on-site training in O&M for the series of structures to be constructed by the Project. b) Preparation of O&M manuals.
2	Community Flood Management Training	a) Community Flood Management Training: <ul style="list-style-type: none"> - Training in flood disaster cycles; and - Training in first aid. b) Community Flood Management Manual. c) Evacuation Drills (The drills will be led by the community based flood management organizations (CFMOs) and utilize the communication network of communities.)
3	Education Program and Public Relation Program	
	3.1 Education program for disaster prevention	a) Targeting 16 primary schools identified within 24 villages. b) Teacher training in disaster prevention and flood management. c) Review and modification of the textbook for teaching pupils. d) Mass printing of the textbook.
	3.2 Radio programs on flood management	a) Long radio programs. b) Short spot radio programs.
	3.3 Awareness campaign using posters about flood management	a) Posters covering three (3) subjects: i) Storing water, food, and useful goods for evacuation; ii) Awareness when evacuating; and iii) Early warning. b) Distribution of posters.

Source: OD Study Team

2-2 OUTLINE DESIGN OF THE REQUESTED JAPANESE ASSISTANCE

2-2-1 Design Policy

(1) Basic Direction

To meet the Project objectives, the basic direction of the Project focuses on developing an integrated flood management system for flood-prone areas in the Nyando River Basin. In the Project, the structural and non-structural measures are implemented in an integrated way in order to develop and efficient and effective flood management system for the 24 villages in the lower areas of the Nyando River Basin.

In the MP Study, the contents of the structural and non-structural measures were proposed, based on the community action plans (CAPs) for each village. The Project that was requested by GOK follows the contents of the projects that were formulated in the MP Study. In the First Field Study that was undertaken in

Kenya, the OD Study Team carried out field reconnaissance and confirmed the validity of need for the requested facilities. The sequence of activities undertaken for the MP Study and the OD Study is as follows:

1) Selection of 24 Villages in the MP Study

Flood hazard maps were prepared for the lower areas of the Nyando River Basin. Based on these flood hazard maps, four (4) Locations¹ that were heavily affected by flooding were identified. A total of 24 villages located within the identified 4 Locations were selected through undertaking public meetings in each Location. As a result of the public meetings, the Nyando River Basin Water Management Forum approved the selection of the 24 villages as the priority areas.

2) Formulation of Structural and Non-structural Measures in the MP Study

Workshops were held in the 24 villages that were selected. These workshops utilized participatory rural appraisal (PRA) to prepare a community hazard map and a community action plan for each village. Based on the community hazard maps, evacuation places and evacuation routes were confirmed. The community action plans were formulated to show the measures proposed by the communities.

The structural measures proposed in the CAP were reviewed by using the following selection criteria: i) The facility must be related to flood management at the village level; ii) The facility must not be extended to other villages; iii) The facility must not cause any negative impacts to neighboring villages; and iv) The facility must not conflict with existing land use arrangements. As a result, the contents of the structural measures of the Project were drafted.

3) Review of Structural and Non-structural Measures in the OD Study

The OD Study Team examined the function and design concepts of the proposed structural measures. In addition, the OD Study Team carried out a topographic survey. Thereafter, the OD Study Team reviewed the contents of the structural measures. The viewpoint of this review was as follows:

- i) Boreholes, evacuation centers, toilets, and storage facilities
 - Consistency with the location of evacuation places shown in the community hazard maps;
 - Available land for the structural measures at the proposed scale without any conflict of land use arrangements;
 - Impartial provision of structural measures in each village. A borehole and a toilet with 10 compartments are planned for existing evacuation centers, while a toilet with two compartments is planned for a new evacuation center; and
 - People in Mowlem village and neighboring villages will evacuate to Rae Kanyaika Primary School in Mowlem village during the flood. More than 400 evacuees will stay in this primary school. Therefore, the Rae Kanyaika Primary School is considered as an exception; an evacuation center, toilet with ten compartments, and a borehole will be

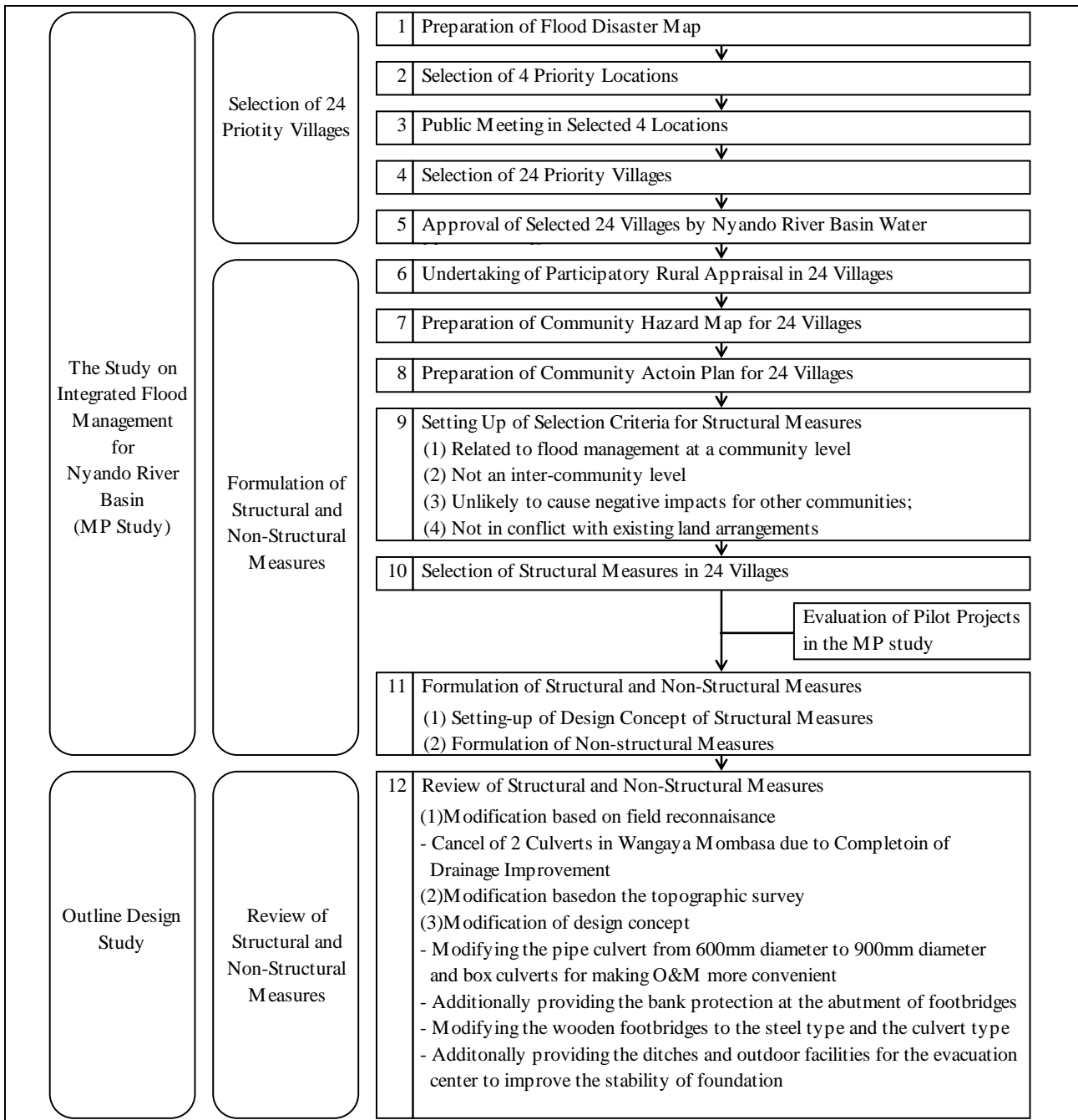
¹ Location is one of the administrative units higher than villages. The administrative units in Kenya consist of Province, District, Division, Location, and Sub-location.

provided.

ii) Culverts, footbridges, and weirs

- Consistency with the location of evacuation routes shown in the community hazard maps;
- Sustainable use by preventing topographic change in the future; and
- Availability of structural measures in the initial stage of a flood.

Figure 2.2 shows the sequences in the MP Study and the OD Study for the Project.



Source: OD Study Team

Figure 2.2 Flow of Study for the Structural and Non-structural Measures

Based on the field study, the structural measures were modified as follows:

- Cancellation of facilities: Culverts were originally planned at six locations to improve the evacuation route in Wangaya Mombasa village. Among these, two locations were canceled. This was because the National Irrigation Board (NIB) had completed repair work for part of the drainage and evacuation route.
- Modification of specification (pipe culvert): Pipe culverts that were originally specified as 600mm in diameter and having a rather long length were changed 900mm in diameter pipes. In addition, box culverts were substituted for pipe culverts that were already specified as 900mm diameter or larger and also had a rather long length or where a number of pipes were proposed to be installed one location. These changes were made to improve the O&M conditions, as the larger pipe diameter will allow easier cleaning of sediments that may accumulate inside the pipes.
- Modification of footbridge specification: To prevent corrosion around the abutment of the footbridges, the bank protection works are to be installed around the abutment. In addition, some wooden footbridges were changed to a culvert type to improve their durability.
- Modification of evacuation center specification: To ensure the stability of the foundations, the areas around the buildings will be covered by the concrete. In addition, water diversion ditches will be installed.

(2) Natural Conditions

There are two rainy seasons in the Project Area: i) The long rainy season from March to May; and ii) The short rainy season in November. In the Pilot Projects undertaken during the MP Study, facilities such as evacuation centers, toilets, and boreholes. were designed with the floor level set at 1.2m above the ground level in order to protect them from flooding. Following the experience of the Pilot Project, the same design criteria have been applied to the facilities included in the Project. These facilities include evacuation centers, toilets, storage facilities, and boreholes.

Access to the sites of the structural measures relies on the un-paved roads. Therefore, the construction schedule for the Project needs to take into consideration the reduced accessibility during the two rainy seasons.

The “Code of Practice for the Design & Construction of Buildings and other Structures in relation to Earthquakes” (1973) specifies the seismic zones and the class of structures in Kenya. The Project Area is located within Zone VI, while the type of buildings included for structural measures of the Project are categorized in Class A.

In the Project, the buildings have been designed as earthquake-proof structures. This is because Kenya has experienced earthquakes and the structural measures, such as evacuation centers, toilets, and storage facilities, will be used for disaster management. There is no observation record for earthquakes in Kenya, so the seismic intensity could not be confirmed. Therefore, the coefficient for the horizontal load of the earthquake needs to be set at the level based on the past earthquake in which there is no damage to the buildings and people feel the earthquake.

(3) Socio-Economic Conditions

The CFMOs will undertake the O&M and flood management activities after the Project is completed. However, the Project Area is located in areas that have a high rate of absolute poverty. Therefore, to improve the sustainability of the Project, the community must be encouraged to participate in the Project and to be trained.

To facilitate the process of encouragement and to promote capacity buildings, the non-structural measures will need to be designed at an early stage because the CFMOs will have to be developed prior to the start of construction work for the structural measures. In addition, the non-structural measures will include training for fundraising and financial management to develop the technical and financial capacity of the community. As mentioned in the item (6) below, the O&M system is also designed to take advantage of support from public authorities.

(4) Methods for Construction and Procurement

WRMA, which will be the implementing agency for the Project, has experience in the procurement of equipment. However, WRMA does not have experience in undertaking construction work. Therefore, Japanese specialists will be needed at both the tendering stage and the construction stage in order to manage the progress and undertake quality control. The Project management organization was determined by considering the following:

- A Japanese expert from a Procurement Agency shall be assigned during the prequalification, tender, and construction stages of the Project to support WRMA.
- Japanese engineers from the Consultant shall be assigned at the detail design and tender document preparation stage. In addition, since the structural measures for the Project consist of small-scale facilities, Japanese engineers will be spot-dispatched at the construction stage in order to supervise the work. During the construction supervision stage, inspection and operation work will be done by Kenyan experts, under instruction from the Japanese engineers.
- A Japanese specialist shall be assigned for the period of the tender, contract negotiation, commencement, and completion stages of the packages included the non-structural measures.

(5) Application of Local Contractor

Based on discussions with construction companies who have main offices and branches in Kisumu and Nairobi, the following issues have been confirmed:

- There are many construction companies in Nairobi who are potential contractors for the structural measures of the Project, based on their experience and their company scale.
- Around five construction companies in Kisumu have experience in similar construction projects, but only a few companies will be able to tenderer for the work because they are only small scale operations. However, although each company is a small-scale operation, one construction firm has constructed an elementary school that was funded by the Japanese government.

Based on the above, the application of local contractor is considered as follows:

- A tender process will be held to improve the quality of the Project and minimize the Project

cost through competition.

- Due to the limited number of construction firms in Kisumu that are available to undertake the Project, the tenderers will include construction firms in Nairobi.
- Since the construction companies in Kisumu have established relations with the community through their construction experience, these construction companies also have experience in collecting local laborers. Therefore, the local construction companies can carry out part of the Project as a partner in joint venture or as a subcontractor.
- The contractor's temporary site office and construction yard shall be provided at a suitable place near the construction site and located beside a trunk road.
- The residents of the 24 communities might be utilized as unskilled labor, which will be required to take charge earthworks etc.. Giving priority to the employment of local residents shall be specified in the tender documents so as to secure local employment.

(6) Operation and Maintenance

The capacity of CFMOs will be developed for the non-structural measures and for undertaking O&M and flood management activities. In the Project, a series of training programs will be implemented to: i) Organize the CFMO; ii) Prepare community flood management manuals according to the flood disaster cycle; iii) Conduct technical O&M; and iv) strengthen the community's financial management and fundraising capacity. In the financial management training, the financial resources for the O&M will be discussed so as to achieve agreement among the CFMOs. Potential financial resources include: i) Registration fees for joining the CFMOs; and ii) Wages for community members involved in the construction work for the Project. The financial management training will include fund raising, writing proposals for financial support to agencies and public authorities, etc. In addition, public authorities will be involved in the O&M of structural measure to support the CFMOs. This support will be required to assist the CFMOs if trouble arises that exceeds the management capacity of the CFMO.

(7) Type of Materials and Equipment

The materials and construction methods selected for the Project are designed to fit in with local practices. This will assist with O&M work for the structural measures, which will need to be done by the CFMOs after the Project is completed. The design standards that have been proposed follow both the domestic ones and the British Standards, which are widely applied in Kenya. Based on the results of the field study, the following design criteria have been set for the OD Study boreholes and footbridges.

- Boreholes: Existing shallow boreholes are contaminated by salt water. In the Project, the boreholes need converted to be deep wells. Water quality testing and pumping test will be carried out to confirm the quality. In addition, the designed depth of boreholes will be set at the maximum depth identified in the hydro-geological survey in order to secure the safety and reliability of the boreholes. This depth will be determined in the construction stage, based on the results of the water quality and pumping tests.
- Footbridges: Existing wooden footbridges have been damaged by flooding. Footbridges in the Project need to be constructed from culverts and steel in order to improve their durability. The footbridge abutment will be protected by bank protection work.

(8) Construction Method, Procurement Method, and Construction Period

- 1) Direction on construction method: All construction methods shall follow local practices on the assumption that the structural measures are constructed by local contractors.
- 2) Direction on procurement method: Table 3.4 below shows the number of construction companies registered with MWI. Companies having a poor construction capability or bad financial status shall be disqualified in the prequalification stage so as to eliminate ineligible companies. In addition, performance security and advance payment security shall be specified in the tender document to exclude ineligible companies.

Table 2.4 Construction Companies Registered with the Ministry of Water and Irrigation

Category	Number of Companies	Maximum Contract Price (Million Ksh)
A	97	No limit
B	54	200
C	116	100
D	128	50
E	147	20
F	154	10
G	216	5
Total	912	N/A

Source: Ministry of Water and Irrigation

- 3) Direction on the construction period: The 76 structures included in the Project are located in 24 villages within a 30km diameter area. In the rainy season, these sites are covered with the floodwater and it will be difficult to access to the sites. With reference to the flood record, April, May and November are defined as the flood seasons. The construction plan shall be formulated so that the construction works are suspended in the flood seasons. However, minor work such as pre-cast concreting, is excluded from this restriction,

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

(1) Building Works

All the buildings for the evacuation centers, toilets, and storage facilities will be constructed to function as evacuation places during a flood. The day to day use of each building will be determined through discussion and agreed to by the CFMOs as part of undertaking the Package 1 non-structural measures (Development of CFMOs) . Typical uses will be for training community members in financial management and providing technical instruction for O&M. In general, the buildings need to be used daily, as this will ensure proper O&M and inspections of the buildings. Therefore, the evacuation buildings could be used for the assembling places such as schools and churches.

1) Basic Plan for Evacuation Center

- Floor plan: The number of evacuees varies by each village. To impartially provide facilities for each village, the evacuation centers will all be designed on the same scale. Based on the experience of constructing evacuation centers during the Pilot Project, the new evacuation centers will consist of a hall, a storage room, and a kitchen. The hall will provide space for people to assemble and to take a rest. The storage room and the kitchen will be designed to

provide suitable living conditions during a flood. The floor area (m²) of each room is shown in Table 2.5.

Table 2.5 Floor Area of Evacuation Center

Room	Floor Area (m ²)	Function
Hall	148.5	Assembling and taking rest during the flood
Storage Room	16.6	Storing equipment and apparatus
Kitchen	16.6	Cooking
Total	181.7	

Source: OD Study Team

- Section plan: As mentioned in the design policy, the interior floor level will be set at 1.2m above the ground level to provide protection from flooding. The exterior floor level will be set at 1.1m to prevent water flowing from the exterior floor area to the interior. The ceiling height will be set at 2.7m above the floor level in the hall and 2.5m in both the storage room and the kitchen. The materials used for construction of the ceiling will reduce noise in the rainy season and improve thermal insulation.
- Structural plan: Buildings will be rigid-framed structures using reinforced concrete. The foundation walls will be concrete hollow blocks so as to resist soil pressure. The void below the raised floor will be filled with compacted excavated soil. The roof structure will be a wood-truss frame covered by galvanized corrugated steel sheets. The section of the frame structure was determined based on the result of structural calculations. The required design bearing capacity of the ground has been set at 100kN/m², while the required horizontal load coefficient for earthquake resistance has been set at 0.1. The required concrete strength has been set at 18N/mm², while that of the reinforcing bars is set at 235N/mm².
- Equipment plan: There is no piped water supply system or power distribution system in the Project Area. Therefore, natural ventilation will be used in the evacuation center. Mechanical equipment for air conditioning and power supply will not be provided, which is the same as for the evacuation centers constructed in the Pilot Project. Water supply for the evacuation centers will rely on rainwater collected from the roof; this water will be stored in a water tank.
- Construction materials: Construction materials have been selected by considering locally available materials and methods, based on the Pilot Project. Table 2.6 shows the construction method to be used for each part of the evacuation center.

Table 2.6 Construction Method for Each Part of Evacuation Center

Part	Evacuation Center		Local Construction Method	Reason for Selection	
	Hall and Storage Area	Kitchen			
Interior	Floor	• Cement mortar • Steel trowel finish	• Ceramic tile (mat)	• Cement mortar • Steel trowel finish	• Locally available
	Skirting	• Cement mortar • Steel trowel finish	• Ceramic tile (gloss, H=2.1m)	• Cement mortar • Steel trowel finish	• Locally available
	Wall	• Cement mortar • Emulsion paint	• Cement mortar • Vinyl paint	• Cement mortar • Emulsion paint	• Locally available
	Ceiling	• Gypsum board	• Fiber cement board • Vinyl paint	• Gypsum board	• Locally available
Exterior	Floor	• Cement mortar • Steel trowel finish	• Cement mortar • Steel trowel finish	• Cement mortar • Steel trowel finish	• Locally available
	Wall	• Burnt clay face brick	• Burnt clay face brick	• Burnt clay face brick	• Locally available
	Window	• Steel casement + painting	• Steel casement + painting	• Steel casement + painting	• Locally available
	Door	• Steel casement + painting	• Steel casement + painting	• Steel casement + painting	• Locally available

Source: OD Study Team

2) Storage Facilities

- Floor plan: To supplement the space planned in the evacuation centers, additional storage facilities have been designed to provide rooms for taking a rest and stocking relief goods. Although the number of evacuees varies by each village, the same types of the storage facilities are designed to ensure impartially in the structural measures provided for each village. Table 2.7 shows the floor area (m²) of the storage facilities.

Table 2.7 Floor Area of Storage Facilities

Room	Floor Area (m ²)	Function
Room (1)	16.3	Assembling and taking a rest during flooding
Room (2)	16.3	Assembling and taking a rest during flooding
Storage Room	8.3	Storing equipment and apparatus
Total	40.9	

Source: OD Study Team

- Section plan: The interior floor level has been set at 1.2 above the ground level, while the exterior floor level has been set at 1.1m. An insulated ceiling will be installed to reduce the noise from rainfall and improve insulation. The ceiling height has been set at 2.7m above floor level.
- Structural plan: Buildings will be rigid-framed structures using reinforced concrete, the same as the evacuation center. The roof structure will be a wooden-truss frame and covered by galvanized corrugated steel sheets.
- Equipment plan: Natural ventilation will be used in the storage facilities, the same as the evacuation center. Similarly, mechanical equipment for air conditioning and power supply will not be provided.
- Construction materials: Construction materials for the storage facilities have been selected by considering locally available construction materials and methods, and therefore they are the

same as used for the evacuation center. Table 2.8 shows the construction method for each part of the storage facilities.

Table 2.8 Construction Method for Each Part of the Storage Facilities

Part		Local Construction Method	Reason for Selection
Interior	Floor	<ul style="list-style-type: none"> • Cement mortar • Steel trowel finish 	<ul style="list-style-type: none"> • Locally available
	Skirting	<ul style="list-style-type: none"> • Cement mortar • Steel trowel finish 	<ul style="list-style-type: none"> • Locally available
	Wall	<ul style="list-style-type: none"> • Cement mortar • Emulsion paint 	<ul style="list-style-type: none"> • Locally available
	Ceiling	<ul style="list-style-type: none"> • Gypsum board 	<ul style="list-style-type: none"> • Locally available
Exterior	Floor	<ul style="list-style-type: none"> • Cement mortar • Steel trowel finish 	<ul style="list-style-type: none"> • Locally available
	Wall	<ul style="list-style-type: none"> • Burnt clay face brick 	<ul style="list-style-type: none"> • Locally available
	Window	<ul style="list-style-type: none"> • Steel casement & painting 	<ul style="list-style-type: none"> • Locally available
	Door	<ul style="list-style-type: none"> • Steel casement & painting 	<ul style="list-style-type: none"> • Locally available

Source: OD Study Team

3) Toilet

- Floor plan: A toilet with two compartments will be provided at sites where a new evacuation center will be constructed, while a toilet with ten compartments has been designed for the existing evacuation center. Compartments will be arranged to separate the sexes.
- Section plan: The interior floor level will be set at 1.2m above the ground level, while the exterior floor level will be set at 1.1m.
- Structural plan: Buildings will be rigid-framed structures with reinforced concrete, the same as the evacuation center. The roof structure will be formed by a wooden-truss frame covered by galvanized corrugated steel sheets.
- Waste treatment method: Latrine type treatment system fitted with a PVC pipe for ventilation will be used for the toilet.
- Construction material: Locally available construction materials will be used for the toilet and the construction method will be the same as for the evacuation center. Table 2.9 shows the construction method for each part of the toilet.

Table 2.9 Construction Method for Each Part of Toilet

Part		Toilet	Local Construction Method	Reason for Selection
Interior	Floor	<ul style="list-style-type: none"> • Ceramic tile (mat) 	<ul style="list-style-type: none"> • Cement mortar • Steel trowel finish 	<ul style="list-style-type: none"> • Locally available
	Skirting	<ul style="list-style-type: none"> • Ceramic tile (gloss) 	<ul style="list-style-type: none"> • Cement mortar • Steel trowel finish 	<ul style="list-style-type: none"> • Locally available
	Wall	<ul style="list-style-type: none"> • Cement mortar • Steel trowel finish 	<ul style="list-style-type: none"> • Cement mortar • Steel trowel finish 	<ul style="list-style-type: none"> • Locally available
	Ceiling	<ul style="list-style-type: none"> • Fiber cement board • Vinyl paint 	<ul style="list-style-type: none"> • Fiber cement board • Vinyl paint 	<ul style="list-style-type: none"> • Locally available
Exterior	Floor	<ul style="list-style-type: none"> • Cement mortar • Steel trowel finish 	<ul style="list-style-type: none"> • Cement mortar • Steel trowel finish 	<ul style="list-style-type: none"> • Locally available
	Wall	<ul style="list-style-type: none"> • Burnt clay face brick 	<ul style="list-style-type: none"> • Burnt clay face brick 	<ul style="list-style-type: none"> • Locally available
	Door	<ul style="list-style-type: none"> • Steel casement + painting 	<ul style="list-style-type: none"> • Steel casement + painting 	<ul style="list-style-type: none"> • Locally available

Source: OD Study Team

(2) Civil Works

1) Culverts

Culverts will be designed for installation at places where the evacuation routes are obstructed by rills, channels, and small rivers. Three types of culvert such as open ditches with covers, pipe culverts, and box culverts will be designed to improve the conditions of the evacuation routes.

Table 2.10 Type of Culverts

Structural Types	Open Ditch with Cover	Pipe Culvert	Box Culvert
Location	<ul style="list-style-type: none">Rills and channels with a depth of less than 600mm.	<ul style="list-style-type: none">Channels and small rivers with a depth of less than 1,500mm and a relatively narrow width.	<ul style="list-style-type: none">Rivers with a depth and width that are relatively large.
Remarks	<ul style="list-style-type: none">Open ditches with an RC cover will be preferable for easy maintenance.	<ul style="list-style-type: none">Commonly used in Kenya.Pre-cast pipe culverts will be preferable for quality control and shorter construction period.	<ul style="list-style-type: none">The flow impediment ratio for a box culvert is smaller than for a pipe culvert.

Source: OD Study Team

Culverts will be designed based on the following criteria:

- i) Open ditches with covers: Open ditches will be constructed in-situ from concrete. No reinforcement will be used because the height of the structures will be less than 1m, so the earth pressure will be relatively small. However, the cover will be reinforced to provide resistance to traffic loads.
- ii) Pipe culverts: The Kenyan standard sizes for pipe culverts are 600mm, 900mm, and 1,200mm diameter. The length of a 600mm pipe culvert will be designed as less than 4m to ensure the ease of maintenance. The bed of a pipe culvert consists of two types: i) fully encased by reinforced concrete having a thickness of 150mm for 600mm diameter pipes or 200mm for both 900mm and 1,200mm diameter pipes that are used for vehicular roads; and ii) 180 degree concrete (half) casing for pedestrian footpaths.
- iii) Box culverts: The Japanese standard "Guidelines for Earthworks: Culvert Structures" will be applied for the design of box culverts, taking into consideration the characteristics of local materials. The design strength will be set at 18kN/mm² for concrete, and 235kN/mm² for reinforcing bars.

In the rainy season, the villages are inundated. Evacuation routes, including culverts, will be submerged by the flood. On the other hand, the culverts are less necessary in normal conditions, since the water flow is small. Taking these conditions into consideration, the culverts will be designed to provide evacuation routes and to avoid the flash flood that usually occurs at the beginning of the flood.

2) Weirs

Weirs will be designed to mitigate the flash flood that occurs at the beginning of a flood event by storing the water and providing a safe evacuation route. In the dry season, the stored water

will be used for irrigating crops in the farmlands around the weirs. Grooves will be provided for end plates to be located at the rectangular opening of the weirs to allow more efficient management of the stored water.

A structural stability analysis of the weirs will be carried out in accordance with Japanese technical standards. Square-shaped RC piles (200mm x 200mm) will be installed below the weirs to form an underground wall, which will intercept the groundwater flow and improve the ground conditions. To be on the safe side, the stability analysis will be based on the situation where the water level of the flood is more than 100mm above the top to the weir. In addition, the bearing resistance of the RC piles will not be taken into account in the stability analysis. Gabion mattresses will be installed on the riverbed downstream of the weirs.

Revetments made from wooden piles and wooden bars will be installed within 10m upstream and downstream of the weir. These revetments will be designed to assure the stability of the river course.

3) Footbridges

Footbridges are designed for the locations where the river width is in the range of 8m to 15m. At these locations, river water is usually present in normal conditions. Since the river water is used for the agriculture, it can be contaminated. In addition, taking into account the ease of construction, the footbridges will be designed to have a single span. The footbridges will generally be designed for use by the pedestrians and bicycles. However, the two footbridges in Kojunga village will also be designed for use by vehicles. This is because Kojunga village does not have an evacuation place inside the village, so it would not otherwise be accessible from outside as two rivers lie across the evacuation route and these will obstruct evacuation activities. In addition, daily access to the village needs to be improved for vehicle transportation, as well as during an emergency. The footbridges comprise two types: i) Expanded metal; and ii) RC slab as described in Table 2.11.

Table 2.11 Type of Footbridges

Slab type	Expanded Metal	RC Slab
Location	<ul style="list-style-type: none"> • Footbridges, other than in Kojunga village. 	<ul style="list-style-type: none"> • Footbridges at Kojunga village.
Remarks	<ul style="list-style-type: none"> • This type of structure was selected to avoid the buoyant force of overflow floodwaters. 	<ul style="list-style-type: none"> • This type of structure was selected to allow use by vehicles.

Source: OD Study Team

The stress design method that will be applied to the structural calculations for the footbridges (pedestrian only and pedestrian with vehicular access), and the general configuration of these footbridges will be based on the Kenyan design standard “ROADS DESIGN MANUAL PART IV BRIDGE DESIGN, REPUBLIC OF KENYA MINISTRY OF ROADS AND PUBLIC WORKS, JANUARY 1982”.

In accordance with the Kenyan standard, the width of the footbridges for pedestrians will be set at 1.2m. The width of the two footbridges in Kojunga village, which will also be used by vehicles, will be set at 3.5m.

The main beams for the footbridges will be made from H-shaped steel girders. This will allow a shorter construction period and ensure that long spans can be constructed with a small cross section. Doing this will ensure smooth river flow around the footbridge structure. Expanded metal will be used for the walkway of all the pedestrian footbridges because expanded metal will not generate a buoyant force in the overflow floodwaters. However, a reinforced concrete (RC) slab will be used for the trafficable surface on the two footbridges in Kojunga village in order to support vehicular loads. The footbridge abutments will be designed as gravity type and made of concrete in-situ. A group of wooden piles of 150mm diameter will be installed to improve the soil foundation conditions. However, in the stability analysis, the bearing resistance of the wooden piles will not be taken into account.

(3) Boreholes

1) Designed Daily Water Supply Volume and Drilling Depth

Based on the Pilot Projects undertaken during the MP Study, the design daily water supply volume will be set at 20m³/day for each borehole. The drilling depth of each borehole will be set based on the results of the hydro-geological survey conducted in the MP Study, as shown in Table 2.12. To determine the drilling depth in the construction stage, electric logging will be used. Since there are no official Kenyan regulations related to the water pumping criteria for successive boreholes, the volume for water pumping will be set at 330 l/hour or larger, according to the type of pump that is used and the technical guidelines for borehole development that are defined in the documentation for Japan’s Grant Aid Scheme. The large amount of the groundwater is available in the Nyando River Basin. The design borehole depth will be set at the maximum depth based on the hydro-geological survey to cover the success rate of the boreholes.

Table 2.12 Design Borehole Depth

No.	Village	Design Depth (m)	No.	Village	Design Depth (m)	No.	Village	Design Depth (m)
1	Mowlem	100	5	Wangaya Mombasa	100	9	Kanyilum	80
2	Kamuga	130	6	Achuodho	100	10	Kadika	100
3	Oyola	130	7	Wakesi	110	11	Masune	100
4	Kopudo	100	8	Kojiem	110			

Source: OD Study Team

Note: Since the designed depth follows the result of the Hydro-geological survey in the MP Study, the final drilling depth will be determined in the construction stage.

2) Typical Structure of Boreholes

Casing will be installed down to the bottom of the borehole to secure the durability and the quality of the boreholes. The casing diameter will be 150mm (six inches), as used in the boreholes for the Pilot Projects of the MP Study, and widely used in Kenya. The drilling diameter will be set at 216mm (8-1/2 inches), based on the casing diameter.

The screen will be made from uPVC, which is resistant to erosion and was applied to the Pilot Project. The screen will be a slot-type, common in Kenya.

Gravel packing will be installed in the gap between the casing and inside of the drilled hole, from the bottom up to 10 m above static water level. The section to within 10 m of the ground surface will be packed with the slime produced during the drilling, and the upper part to the ground

surface will be filled with cement mortar. Use of cement will prevent the intrusion of rainwater and wastewater near the borehole. A bottom plug will be provided at the bottom of the drilled hole, while a temporary top cover will be provided until the borehole casing work has been completed.

3) Pumping Test and Water Quality Test

During the borehole drilling work, electrical logging will be installed to identify the aquifer depth by provision of screen pipes at appropriate locations. Furthermore, a pumping test will be undertaken after completion of borehole construction in order to determine the water yield. The pumping test will comprise:

- Trial test: by identification of clean water, maximum 12 hours
- Step draw down test: more than four steps with more than 2 hours for each step
- Constant discharge test: more than 24 hours
- Recovery test: more than 8 hours

Water quality analysis will be undertaken for the items listed in Table 2.13 in accordance with the water quality standards for drinking water specified by MWI.

Table 2.13 Items of Water Quality Test

No	Parameter	Guide Value	No	Parameter	Guide Value
1	pH	6.5-8.6	10	Arsenic	0.01mg/l
2	Suspended Solids	30mg/l	11	Cadmium	0.01mg/l
3	Nitrate	10mg/l	12	Lead	0.05mg/l
4	Ammonia	0.5mg/l	13	Selenium	0.01mg/l
5	Nitrite	3mg/l	14	Copper	0.05mg/l
6	Total Dissolved Solids	1,200mg/l	15	Zinc	1.5mg/l
7	Escherichia Coli	Nil	16	Alkyl Benzene Sulphonates	0.5mg/l
8	Fluoride	1.5mg/l	17	Permanganate Value	1.0mg/l
9	Phenols	Nil			

Source: MWI

4) Quality Control

A local borehole engineer will be assigned during the construction stage to secure the quality of the borehole development. He will supervise the borehole depth, casing installment, and gravel packing in accordance with the quality control plan specified in section 2-2-4-5 of this report.

5) Hand Pump

Hand pumps will be of the Afridev-type that is commonly used in Kenya. Taking the affects of flooding into consideration, the apron floor level for the hand pump will be set at 1.2m above the ground level, based on experience from the Pilot Projects. One set of standard tools and spare parts will be provided for each borehole.

6) Daily Use

Boreholes are designed to supply water during the flood. The daily use of each borehole will be discussed and agreed to in the CFMOs during the course of Package 1 (Development of Community Based Flood Management Organizations) for the non-structural measures.

2-2-3 Outline Design Drawing

The OD Study design drawings for the Project are shown in the Annex of this report.

2-2-4 Implementation Plan

2-2-4-1 Implementation Policy

(1) Construction Lot

Although the Project comprises a large number of structures (76 in total), the scale of each structure is small. The total construction price of the structural measures falls within the medium cost range. None of the structures require technically difficult construction methods. Therefore, the structural measures will be constructed in one package.

(2) Tender Process for the Structural Measures

The tender process for selection of the contractor shall be summarized below. The period from the time of making the public announcement of prequalification to the time of contract signing is assumed to be about three months.

- 1) Public notice for prequalification (PQ).
- 2) PQ evaluation by the Procurement Agent.
- 3) Approval by GOK of the PQ evaluation result.
- 4) Distribution of the Tender Document (holding a clarification meeting).
- 5) Questions and answers, followed by distribution of an addendum.
- 6) Submission of Tender documents.
- 7) Evaluation of technical documents.
- 8) Approval by GOK of the technical documents evaluation result.
- 9) Opening and evaluation of financial documents.
- 10) Contract negotiation.
- 11) Approval by GOK of the tender result.
- 12) Award of contract.
- 13) Signing of contract

Prior to implementing the Project, a Project Coordinating Committee shall be established. The committee will consist of the Permanent Secretary of MWI (Chairman), Chief Executive Officer of WRMA, Director of Water Resources of MWI, a representative of the Japanese Embassy, and a representative of JICA's Kenya office. The right of approval by GOK will only be authorized to the CEO of WRMA as the implementing agency. This will ensure smooth administrative processes, including prequalification, tender, authorization of design change, etc. in accordance with the Project schedule.

The documents which require approval by GOK shall be submitted to the WRMA Regional Office of Lake Victoria South Catchment and transferred to WRMA Headquarters. The approval by the CEO will be recognized as the approval of GOK.

(3) Procurement for the Non-Structural Measures

The Procurement Agency will procure a Japanese consulting firm to supervise the non-structural measure. The Japanese consulting firm will subcontract the local NGOs to implement the non-structural measures. The detailed process is mentioned in section 2-2-4-7 (5) of this report.

2-2-4-2 Implementation Conditions

In the Project Area, there are two peaks in the monthly average rainfall each year. The first peak is the long rainy season from March to May and the second peak is the short rainy season from October to December. Most floods occur from April to May during the long rainy season. Therefore, the Project implementation schedule shall incorporate a work suspension period of three months: i) April to May (2 months) and November (1 month).

2-2-4-3 Scope of Work

(1) Obligations of Japan and Kenya

Obligation of Japanese side and Kenya side are shown in Table 2.14.

Table 2.14 Obligations of Japan and Kenya

Obligations of Japan	Obligations of Kenya
<ul style="list-style-type: none"> • To implement the structural and non-structural measures shown in Section 2-1. • To maintain safety during the construction period and to inform the public about the construction work. • To procure construction materials and necessary equipment for the Project. • To prevent environmental pollution during the construction period. • To prepare tender documents and assist in tendering. • To carry out quality control and manage the work progress. 	<ul style="list-style-type: none"> • To undertake procurement in accordance with the guidelines for Programme Grant Aid for Environment and Climate Change. • To exempt imported goods from taxes and customs duties and to exempt local goods from internal taxes. • To open a bank account at a Japanese bank authorized for undertaking foreign exchange and bear the commission charges by the bank. • To secure land for undertaking the construction work and maintenance after construction. • To coordinate and register the ownership of the structural measures with related organizations. • To coordinate the EIA approval for the structural measures. • To permit the entry into Kenya of Japanese and other nationality experts (if any) for the Project. • To assign counterpart staff full time to assist the Project. • To bear the cost of allowances and transportation for Kenyan officials to attend meetings and inspections in Kisumu and Nairobi.

Source: O/D Study Team

(2) Direct Construction

1) Temporary access road: During the flood season, the Project site will be covered with flood water. In addition, even after the heavy rain, the road condition will deteriorate and it will be difficult to access to the Project site. Therefore, improvement of the access road to the site is necessary for construction. A temporary access road having a width of 6m will be provided by

covering part of the existing road with a 200mm thick gravel mat.

- 2) Soil work (excavation, backfilling and embankment): Basically manual excavation shall be used. According to the result of a site survey, the excavated soil is not suitable for backfilling, therefore selected sandy soil shall be used.
- 3) Piling works (for the foundation of culverts, footbridges, and weirs): Piles will be driven to the designed depth by using a crane (or a back hoe) that is fitted with a vibratory hammer .
- 4) Concreting: A mobile concrete mixer (pot mixer) will be used for producing the concrete required for each structure. Manual concrete casting using a vibrator will be selected.
- 5) Reinforcement bar: The contractor shall keep all reinforcement bars in good condition, avoid putting them directly them on the ground, and cover them with a plastic sheet, etc. to prevent rusting . All rust and dirt shall be removed well before bar arrangement in the structures.
- 6) Boreholes:
 - A DTH (Down the Hole) system using a rotary excavator shall be used. After drilling, electrical logging shall be done to determine the final depth.
 - Water quality and the pumping tests shall be done after completion of drilling to confirm the water yield.
- 7) Building (Evacuation centers, storage facilities, and toilets): The construction method commonly used in Kenya shall be applied for building structures such as evacuation centers, storage facilities, and toilets.
- 8) Culverts: Pipe culverts and concrete covers for U-shaped ditches shall be fabricated at a construction yard and transported to the site.
- 9) Footbridges: Substructure works comprising earthworks, piling works and concreting works. After construction of the substructure, the bearings will be set on the base. Steel main girders and cross beams will be fabricated at a factory. Before transportation to the site, a trial assembly inspection shall be done at the factory. On site, the girders will be erected on the bearing by using a crane and connected with the other members. For the pedestrian footbridges, the expanded steel walkway will be connected with the main girders. For the footbridges at Kojunga village, which will also be used by vehicles, the concrete trafficable surface will be cast or connected with the main girders.
- 10) Project Plates: After completion of the structures, engraved Project Plates made from stainless steel shall be installed at the evacuation centers, storage facilities, toilets and boreholes. Details of the plates and the text to be engraved on them shall be decided through the discussion with JICA Kenya office and the approval of both the Embassy of Japan and GOK.

(3) Common Temporary Work

- 1) Safety measures: To ensure safety during the construction period, fences, fire extinguishers, temporary barricades, and colored cones shall be arranged appropriately.
- 2) Construction yard: The construction yard will be required for offices to accommodate the staff who will manage the quality of the construction works, as well as for storage of construction

materials. The construction yard shall be located beside the national trunk road near Ahero city. The construction yard will include: i) Contractor's office; ii) Stockyard for materials; iii) Production area for the pre-cast concrete structures, etc.; iv) Arrangement of reinforcement bar; and v) a rest station of workers. The yard will be built during the mobilization period available during the construction period, and removed during the demobilization period.

- 3) Others: Project sign boards shall be installed during the construction period to provide information to people about the Project that is funded by Japan's Grant Aid Scheme.

2-2-4-4 Consultant Supervision

(1) Consultant's Supervision

The Project site is distributed over 24 villages and there it will be difficult to supervise the construction of each structure. However, each structure is small-scale and construction methods will not be technically difficult. Therefore, there do not seem to be any major technical problems. As a result, construction supervision will mainly be carried out by local engineers and spot-dispatched Japanese engineers will manage the Project.

(2) Agent's Procurement Management

WRMA, which is the implementation agency for the Project, has no experience in procurement for construction work. Therefore, Japanese experts from a Procurement Agent will need to be assigned to support WRMA. Two Japanese experts will be assigned to work in Kenya, while one Japanese expert will be assigned to undertake work in Japan.

2-2-4-5 Quality Control Plan

A quality control plan will be formulated, based on common practices for construction works. Both the concreting work and the borehole development work needs quality control in order to secure the required quality and durability of the structural measures. Table 2.15 shows the items for the quality control measures required for the Project.

Table 2.15 Quality Control Measures

	Item	Test	Method
Concreting	Aggregate Strength of concrete Workability Re-bar and formwork	Aggregate test Compressive strength test Slump test Placement inspection	Test result Test result Test result Visual inspection
Pipe culverts			Visual inspection, incl. re-bar arrangement
Steel material	Strength		Mill sheet
Buildings	Finishing		Visual inspection
Boreholes	Location of drilling Condition of drilling rig Depth of drilling Electrical logging Installation of casing screen Installation of filter material Water yield Quality of water Finishing	Pumping test Water quality test	Visual inspection Visual inspection Sampling Result of electrical logging Visual inspection Volume of material Test result Test result Visual inspection

Source: OD Study Team

2-2-4-6 Procurement Plan

All the equipment and materials required for the structural measures can be obtained locally in Kenya. The procurement situation for major items is described as below.

- 1) Cement: In Kenya, two major suppliers produce cement. One is Bamburi Cement and the other is East African Portland Cement.
- 2) Aggregate for concrete and gravel: Good quality aggregate for making concrete and road gravel can be found in the hills which are located in the northern part of the Nyando River Basin in the in both the east and west direction. Fine aggregate for making concrete can be found the beds of the Nyando River and Lake Victoria. Therefore, a supply of aggregate can be found near the Project Area.
- 3) Material for embankments: Sandy soil required for the embankment and backfilling is available near the construction site, such as bed of Nyando River.
- 4) Bricks: Bricks required for constructing the walls of buildings are produced near the site. However, each producer is small-scale, and quality control does not seem to be performed efficiently. Therefore attention should be paid to securing quality control for the manufacturing process.
- 5) Reinforcement bar: Reinforcement bar (re-bar) used for making reinforced concrete is produced in Mombasa or Nairobi. Generally, twist steel can be procured in the local market.
- 6) Structural steel: Steel required for the steel structures, such as H-shaped beams and L-section members used for footbridges, is available from local and international markets. The steel structures will be assembled into transportable modules at the factory and these will be transported to the site.
- 7) Concrete products: Concrete products, such as pipe culverts, are produced in the Kisumu district. Culverts having a diameter of 450mm, 600mm, 900mm, and 1,200mm were observed in the field study. It was found that the segment length was as short as 1m. In addition, the quality of some pipes did not seem to be high enough. Therefore attention should be paid to securing quality control for the manufacturing process.
- 8) Wood: Wood materials for buildings, pile foundations, and formwork are produced in Kenya.

2-2-4-7 Non-Structural Measures

(1) Background

The overall goal of the Project is to achieve the sustainable economic growth and poverty reduction in the Project Area. To achieve the overall goal, the Project objective is to establish community-based flood management systems in the Project Area.

To achieve the Project objective, the Project will implement both structural measures and non-structural measures comprising.

The structural measures comprise two kinds of facilities. The first kind includes construction of evacuation centers, toilets, storage facilities, and boreholes required to at evacuation places. The second kind includes culverts, footbridges, and weirs to provide evacuation routes. Even though the structural measures

are designed to provide or improve evacuation places and evacuation routes in 24 villages, community capacity building must also be implemented in order to develop a sustainable flood management system that can be managed by community based organizations. The community capacity building of the Project includes financial management, technical O&M of structural measures, and training for necessary activities based on the flood disaster cycle, e.g. early warning of flooding and flood evacuation procedures.

The Project has been designed to integrate implementation of the structural and non-structural measures for development of the flood management system. Hence, the non-structural measures are considered to be just as important as the structural measures of the Project.

(2) Objectives

To achieve a sustainable flood management system that can be managed by community based organizations, the non-structural measures of the Project have been designed around the formation of Community Based Flood Management Organizations (CFMOs) and improving their capacity. The objectives of the non-structural measures are as follows:

- To secure sustainable flood management, the CFMOs will be capable undertaking O&M for the structural measures, financial management, and organizing activities based on the flood disaster cycle; and
- To improve the public awareness of flood management by implementing public relations activities, including the radio programs and education programs for children.

(3) Outputs

In order to develop the flood management system for the community based organizations, the following six (6) output components have been designed:

- Development of community based flood management organizations: This component aims at organizing the CFMOs. It covers financial management training and the preparation of by-laws. In the financial management training, training in the writing of proposals to raise funds from the Water Service Trust Fund (WSTF) will be carried out, as well as holding workshops for identifying the financial resources that will be needed for undertaking O&M for the structural measures. In addition, signboards will be prepared and installed to show the evacuation routes and evacuation places in villages.
- Technical O&M training for structural measures: In this component, the communities will be trained through lectures and on-site training in the O&M of the structural measures. Technical O&M manuals based on the training will be prepared for each community.
- Community flood management training: In this component, the community flood management manual will be formulated to show the activities that need to be taken by the communities according to the flood disaster cycle. This cycle includes prevention, emergency response, evacuation, and rebuilding. Evacuation drills will also be carried out under by the CFMOs.
- Education program for disaster prevention: This component comprises training programs for primary school teachers and will provide them with teaching manuals for education about disaster prevention. In this component, the trained teachers will present lessons to their students by using a textbook that is also prepared under this initiative.

- Radio programs about flood management: This component consists of both long radio programs and short spot programs. The former programs will be broadcast before the rainy season, while the latter programs will be broadcast during the rainy season.
- Awareness campaign using posters about flood management: This component comprises preparation of posters about flood management, including the distribution of these posters to local governments.

The outputs of the non-structural measures will be confirmed through the records kept for the activities, outputs from the Lessons Learned Meetings, and the Questionnaire that will be distributed at the end of the Project. Table 2.16 shows a rating index for quantifying the outputs and the materials required for evaluation of the non-structural measures.

Table 2.16 Rating Index and Materials for Assessing the Non-structural Measures

Output	Indicators	Means of Verification
1 Community Based Flood Management Organizations will be developed in the Project Area.	1.1 By-laws will be formulated for each CFMO. 1.2 Financial plan will be formulated for each CFMO.	1.1.1 By-laws of each CFMO 1.1.2 Number of meetings and participants 1.2.1 Financial plan of each CFMO 1.2.2 Manual for writing proposals for fundraising of each CFMO 1.2.3 Number of meetings and participants
2 CFMO will be capable for O&M.	2 O&M manuals will be formulated for each CFMO.	2.1 O&M manuals of each CFMO 2.2 Number of lectures, on-site trainings, and participants 2.3 Questionnaire survey
3 CFMO will be capable for the flood management.	3.1 Community flood management manual will be formulated for each CFMO. 3.2 Evacuation plan will be formulated for each CFMO.	3.1 Community flood management manual of each CFMO 3.2 Number of participants in the evacuation drills
4 Public awareness will be promoted in the Project Area.	4.1 Education programs for disaster prevention will be formulated and carried out in the targeted 16 schools. 4.2 Radio programs about flood management will be broadcasted continuously. 4.3 Posters about flood management will be prepared and used for the public relation activities.	4.1.1 Number of teaching manuals 4.1.2 Number of textbooks for pupils 4.1.3 Result of assessment for teaching practice 4.1.4 Questionnaire survey of the pupils having received the education programs 4.1.5 Number of pupils 4.2.1 Record of broadcasted long and short radio programs 4.2.2 Rating of listeners 4.3 Number of distributed posters

Source: OD Study Team

(4) Activities

As mentioned in the previous section, the non-structural measures comprise six (6) components. For effective and efficient implementation, these components will be organized into three (3) contract packages, as listed below.

Package 1 “Development of Community Based Flood Management Organizations” aims at organizing the community through two (2) sub-packages: i) “Forming and Building the Capacity of CFMOs” for the development of the CFMOs (Sub-package 1.1); and ii) “Technical O&M Training for Structural Measures” for the technical O&M training (Sub-package 1.2).

Package 2 “Community Flood Management Training” aims at training the communities in carrying out activities according to the flood disaster cycle.

Package 3 “Education Program and Public Relations Program” focuses on building public awareness through three (3) sub-packages: i) “Education Program for Disaster Prevention”; ii) “Radio Programs about Flood Management”; and iii) “Awareness Campaign using Posters about Flood Management”.

In summary, the non-structural measures comprise:

- a) Package 1: Development of Community Based Flood Management Organizations
 - Sub-package 1.1: Forming and Building the Capacity of CFMOs
 - Sub-package 1.2: Technical O&M Training for Structural Measures
- b) Package 2: Community Flood Management Training
- c) Package 3: Education Program and Public Relation Program
 - Sub-package 3.1: Education Program for Disaster Prevention
 - Sub-package 3.2: Radio Programs about Flood Management
 - Sub-package 3.3: Awareness Campaign using Posters about Flood Management

Table 2.17 shows the activities of the non-structural measures according to each of the packages mentioned above.

Table 2.17 Activities of the Non-structural Measures by Package

Package	Activity
1	Development of Community Based Flood Management Organizations
1.1	Forming and Building the Capacity of CFMOs
	a) Management and operation training for Community Based Flood Management Organization (CFMOs) <ul style="list-style-type: none"> 1) Community awareness <ul style="list-style-type: none"> - Number of participants and training period: 30 persons per village x 1day per village - Target area: 24 villages 2) Development of bylaws for CFMOs <ul style="list-style-type: none"> - Number of participants and training period: 30 persons per village x 2 days per village - Target area: 24 villages 3) Organizational training for CFMOs <ul style="list-style-type: none"> - Number of participants and training period: 30 persons per village x 2 days per village - Target area: 24 villages 4) Financial management training for CFMOs <ul style="list-style-type: none"> - Number of participants and training period: 30 persons per village x 1day per village - Target area: 24 villages
	b) Training in writing proposals for fundraising by CFMOs and Water Resource Users Association (WRUA) <ul style="list-style-type: none"> - Number of participants and training period: (3 persons/village x 6 villages + 2 persons of WRUA) x 4 days/time - Number of training: 4 times
	c) Production and installation of 3 kinds of signboard <ul style="list-style-type: none"> - Contents of signboards: <ul style="list-style-type: none"> i) Community hazard maps, ii) Signboard for evacuation route, and iii) Signboard for evacuation center - Number of signboard (hazard map): 1 set per village - Number of signboard (evacuation route): 10 sets per village - Number of signboard (evacuation center): 1set per village - Workshop for selecting installation places: 1 day per village - Target area: 24 villages
	d) Lessons Learned Meeting and Questionnaire Survey <ul style="list-style-type: none"> - Number of samples: 10 samples/village/sub-package (excl. sub-package 3.1) - Number of samples: 10 samples/school (sub-package 3.1) - Lessons Learned meeting: 1 day/6 villages x 4 times

Package	Activity
1.2 Technical O&M Training for Structural Measures	a) Both lectures and on-site training in O&M for structures (evacuation centers, culverts, footbridges, boreholes, and storage facilities, etc.) <ul style="list-style-type: none"> - Number of participants and Training period: 30 persons/village x 3 days/village - O&M equipment: <ul style="list-style-type: none"> i) Wheel barrow 5 sets/village, ii) Shovel 5 sets/village, iii) Pick 5 sets/village, and iv) Bucket 10 sets/village - Follow-up: 1 month - Target area: 24 villages b) Preparation of O&M Manuals <ul style="list-style-type: none"> - Description: O&M skills including rules and manners for use of public facilities such as evacuation centers, toilets, storage facilities, and boreholes, etc. - Quantity: 5 sets/village - Target area: 24 villages
2 Community Flood Management Training	a) Community Flood Management Training (Training based on the flood disaster cycles from preparedness to rehabilitation including first aid) <ul style="list-style-type: none"> - Number of participants and training period: 50 persons/village x 4 days/village (for 24 villages) - Number of participants and training period: 2 persons/WRUA x 3 days (for 4 WRUAs in 1 time only) b) Preparation of Community Flood Management Manual <ul style="list-style-type: none"> - Workshop: 50 persons/village x 2 days/village - Quantity: 5 sets/village - Target area: 24 villages c) Evacuation drill <ul style="list-style-type: none"> - Number of participants and training period: 300 persons/village x 1 day/village - Equipment: Handy siren 1 set/village - Target area: 24 villages
3 Education Program and Public Relation Program	
3.1 Education Program for Disaster Prevention	a) Teacher training in disaster prevention and flood management <ul style="list-style-type: none"> - Number of participants and training period: 4 teachers/school x 4 days (1 time only) - Preparation of Teaching Manual: 5 sets/school x 16 schools - Target area: 16 existing primary schools in the 24 villages b) Review and modification of the textbook to teach pupils. <ul style="list-style-type: none"> - Number of participants and training period: 1 teacher/school x 2 days (1time only) - Target area: 16 existing primary schools in the 24 villages - Mass printing of the textbook: 3,000 sets c) Lessons and assessment of education program <ul style="list-style-type: none"> - Lessons in the primary schools: 1 month - Target pupils: Pupils from Grade 4 to Grade 7 in 16 primary schools - Assessment by Ministry of Education: and trainers Whenever necessary d) List of target schools <ul style="list-style-type: none"> - Mowlem: Rae Kanyaika Primary - Bwanda: Bwanda Primary - Kamuga: Ofunyu Primary - Oyola: Oyola Primary - Kowiti: Reru Primary - Kamnget Ugwe: Ugwe Primary - Kopudo: Bwanda Primary (different from Bwand Primary in Bwand village) - Kanyiamo: Ogenya Primary - Kolal: Nyangoto Primary - Kamagaga: Kigoche Primary - Wangaya: Mombasa Osembe Primary - Achuodho: Achuodho Primary - Wakesi: Keyo Primary - Kanyilum: Apondo Primary - Nyachoda: Nyachoda Primary - Masune: Ayweyo Luora Primary

Package		Activity	
3.2	Radio Programs about Flood Management	a) Long radio programs - Description: Dialogues on the issues of flood management between radio presenter and professionals - Frequency and period for broadcasting: For 3 months before the rainy season and 1 time per week (60 minutes per time) - Subject (draft list) - 1st: Mechanism of flooding - 2nd: Education of flood management - 3rd: Evacuation drill - 4th: Structural Measure on flood management - 5th: First aid - 6th: Early warning - 7th: Possible Mitigation Measures at Household Level - 8th: Attention when evacuating - 9th: Living in evacuation centre - 10th: Summary (final)	
		b) Short spot programs - Description: Awareness when evacuating, etc. - Frequency and period for broadcasting: For 3 months in the rainy season and 5 times per day (1 minute per time) - Subject (draft list): 1) Early warning 2) Possible mitigation measures at household level, and 3) Awareness when evacuating	
3.3	Awareness Campaign using Posters about Flood Management	a) Preparation of posters - Subject (3 types): i) Storing water, food, and useful goods for evacuation; ii) Attention when evacuating; and iii) Early warning	
		b) Distribution to local governments Quantity: 10,000 sheets/subject x 3 subjects	

Source: OD Study Team

(5) Assignment of Personnel

The non-structural measures will be implemented by the local organizations such as NGOs with technical assistance and supervision being provided by the Japanese and local experts. In the Pilot Projects, the local NGOs carried out similar programs, except for the “Radio Programs about Flood Management” (sub-package 3.2) and “Awareness Campaign using Posters about Flood Management” (sub-package 3.3). However, in the field study, it was confirmed that there are NGOs that do have experience in preparing radio programs and posters.

Since the non-structural measures need to be implemented in coordination with the construction work and be kept on schedule, Japanese and local experts will need to supervise the work progress and provide technical assistance for the non-structural measures. The Procurement Agent will procure a Japanese consulting firm which will establish the management team for the non-structural measure and subcontract the local NGOs to implement the non-structural measure. The assignment period and tasks of the experts in the management team are as follow:

1) Japanese Experts

- Assigned for the overall supervision and preparation of the work schedule.
- Assigned for the tender and contract negotiation.
- Assigned for technical assistance and evaluation to local NGOs.
- Assigned for 12MM in total.

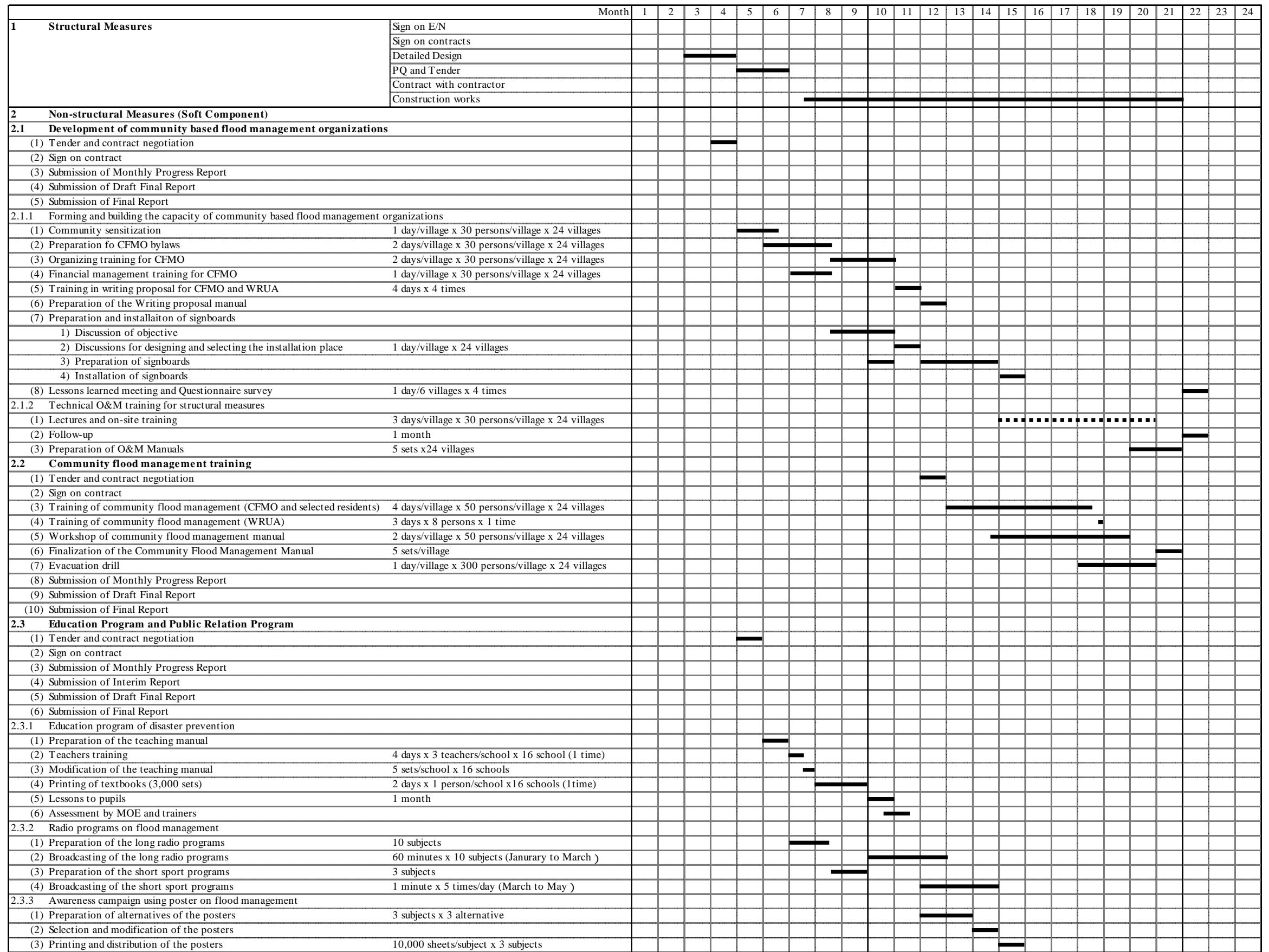
2) Local Experts

- Assigned for monitoring of the activities by local NGOs.
- Assigned for the coordinating with 24 villages and related authorities.
- Since the Project Area consists of the large number of villages (24), one local expert will need to be assigned for each district.
- Assigned for the period from the preparation of tenders to the completion of the non-structural measures. The assignment period for each local expert is planned at 21MM.

(6) **Implementation Schedule**

An implementation schedule for the non-structural measures has been formulated, as shown in Figure 2.3 below, based on the following conditions:

- The CFMOs need to be developed before the commencement of the construction work. This is because the availability of donations from labor payments for the construction work needs to be discussed during the financial management training. Hence, “Forming and Building the Capacity of CFMOs” (Sub-package 1.1) will need to commence before the start of construction work.
- Both “Technical O&M Training for Structural Measures” (Sub-package 1.2) and “Community Flood Management Training” (Package 2) will start after the structural measures are constructed in some villages. Hence, both activities are planned to start after the long rainy season, which lasts from March to May.
- “Education Program for Disaster Prevention” (Sub-package 3.1) will need to commence in time for the education programs to be completed before the start of the long rainy season starts.
- “Radio Programs about Flood Management” (Sub-package 3.2) will need to commence in time for the broadcast of the long radio programs to be completed before the long rainy season starts.
- “Awareness Campaign using Posters about Flood Management” (Sub-package 3.3) will need to commence in time to allow posters to be distributed after the long rainy season.



Source: OD Study Team

Figure 2.3 Implementation Schedule of the Non-structural Measures

(7) Report

Table 3.18 shows the reports and outputs of the non-structural measures for each package.

Table 2.18 Reports and Outputs of the Non-structural Measures by Package

Package	Report and Output
1 Development of Community Based Flood Management Organizations	a) Monthly progress report : 6 sets/month b) Draft final report : 6sets c) Final report : 6sets
1.1 Forming and Building the Capacity of CFMOs	d) Monitoring and evaluation report : 6sets e) CFMO bylaws : 5 sets/village f) Manual for writing proposals : 140 sets (5 sets/village and 5 sets/WRUA) g) Signboard (community hazard map) : 1 location/village h) Signboard (evacuation route) : 10 location/village i) Signboard (evacuation center) : 1 location/village
1.2 Technical O&M Training for Structural Measures	j) O&M manuals : 5 sets/village k) O&M equipment : Wheelbarrow, Shovel, Pick, and Bucket
2 Community Flood Management Training	a) Monthly progress report : 6 sets/month b) Draft final report : 6sets c) Final report : 6sets d) Community Flood Management Manual : 5 sets/village e) Equipment (handy siren) : 1 set/village
3 Education Program and Public Relations Program	a) Monthly progress report : 6 sets/month b) Interim report : 6sets c) Draft final report : 6sets d) Final report : 6sets
3.1 Education Program for Disaster Prevention	e) Teaching manual : 5 sets/school (16 schools) f) Textbook for pupils : 3,000 sets
3.2 Radio Programs about Flood Management	g) Long radio programs : CD-Rom h) Short sport programs : CD-Rom
3.3 Awareness Campaign using Posters about Flood Management	i) Poster : 10,000 sheets/subject (3 subjects in total)

Source: OD Study Team

(8) Obligations of the Recipient Country

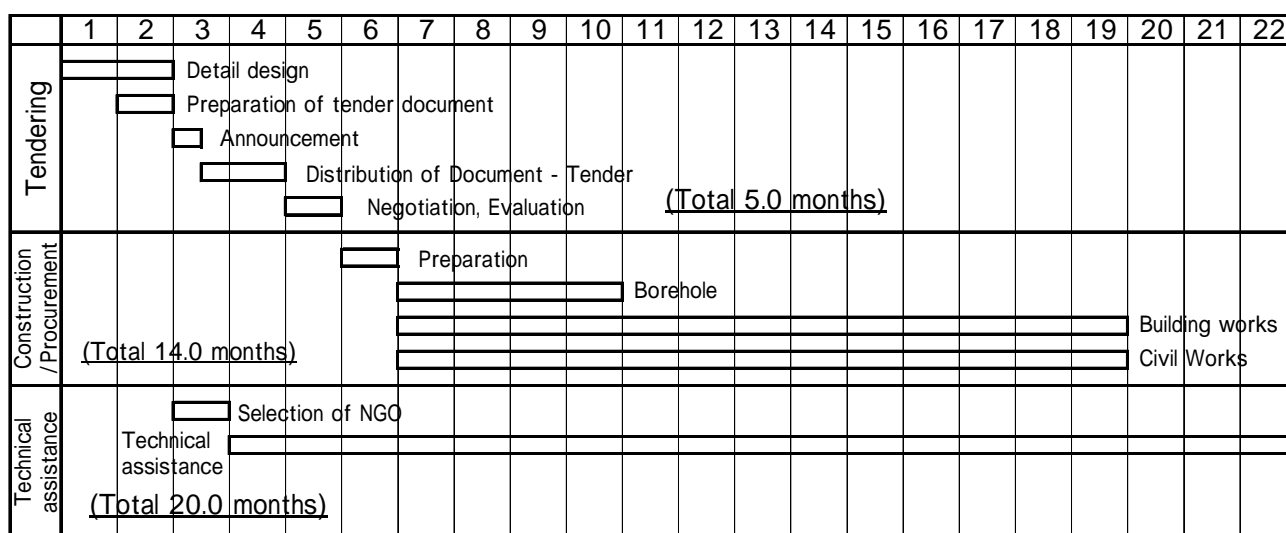
To implement the non-structural measures, the GOK will be responsible for the following items:

- Presence at the meetings with the communities;
- Coordination with the Water Resource Users Association (WRUA) for training in writing proposals for fundraising;
- Presence at the long radio programs and coordination with experts for participating in the long radio programs;
- Coordination with related authorities for the education programs, including: the assessment of the education programs and the preparation and distribution of textbooks; and
- Coordination with local governments and related authorities for distributing the posters.

2-2-4-8 Implementation Schedule

The implementation period is estimated at 23.0 months after the signing of Exchange Notes (E/N). The implementation period includes the periods required for the detail design and tendering.

The construction period for the structural measures is estimated at 17 months, including the inspections after completion and the suspended work periods during the flood seasons (long and short). The period required for implementing the non-structural measures is estimated at 20 months, which is longer than that of the structural measures. This is because the non-structural measures, such as organizing the Community Based Flood Management Organizations, needs to start before the construction work can start. Figure 3.4 shows the implementation schedule for the Project.



Source: O/D Study Team

Figure 2.4 Project Implementation Schedule

2-3 OBLIGATIONS OF RECIPIENT COUNTRY

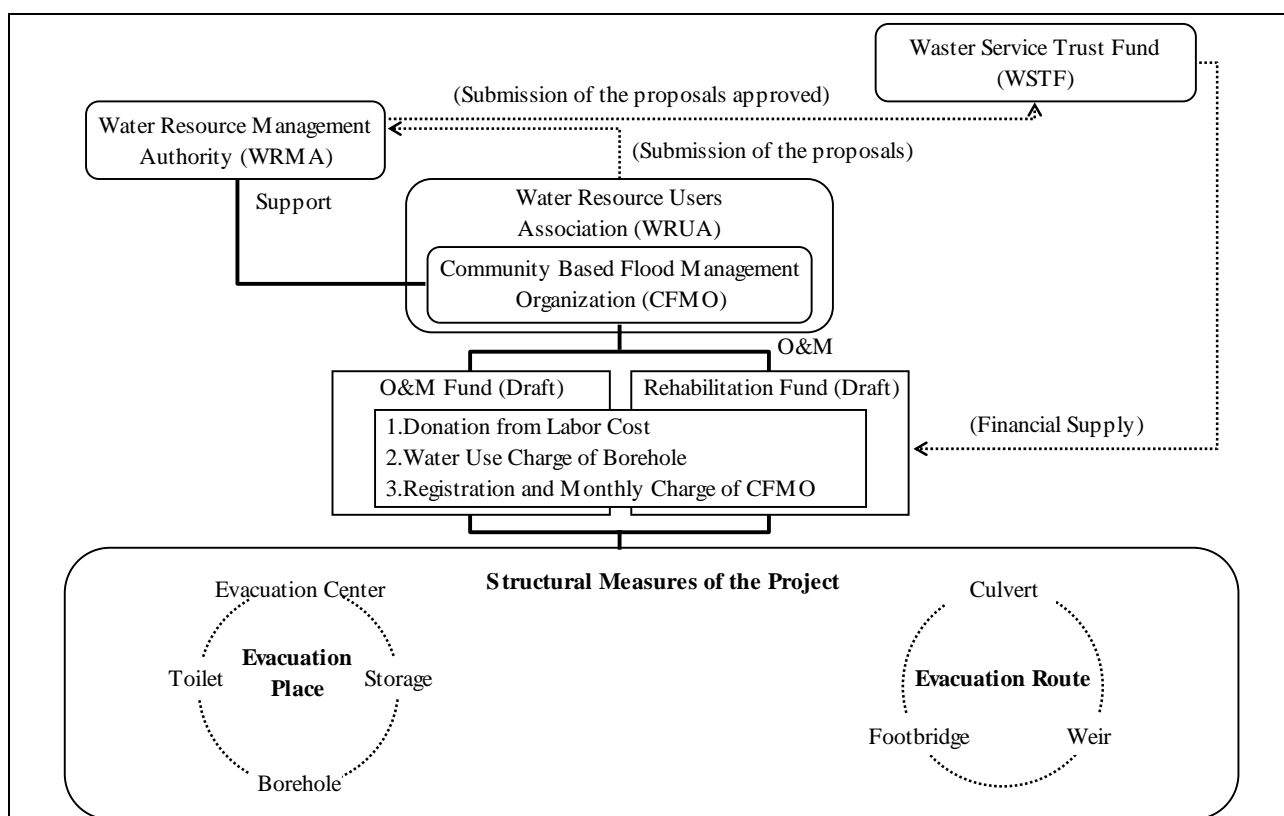
To implement the Project, the GOK will be responsible for the following items:

- To undertake procurement for the Project in accordance with the guidelines for the Programme Grant Aid for Environment and Climate Change;
- To arrange the exemption of taxes and customs duties for imported goods and the exemption of internal taxes for local goods;
- To undertake the Bank Arrangement at a Japanese bank authorized for undertaking foreign exchange and bear the commission charges applied by the bank;
- To ensure that land is available for the structural measures and to undertake the O&M;
- To arrange required procedures to register the ownership of the structural measures with related authorities;
- To arrange permissions from related authorities, including EIA approval for the structural measures, as required to implement the Project;
- To permit entry into Kenya of Japanese and other nationality experts (if any) related to the Project;

- To assign permanent staff from the Water Resource Management Authority - Lake Victoria South Catchment Regional Office as full time counterparts for the duration of the Project; and
- To bear the cost of transportation, accommodation, and other relevant expenditure that may be incurred for Kenyan officials to attend meetings and inspections in Naibori and Kisumu.

2-4 PROJECT OPERATION PLAN

The CFMOs will undertake the O&M required for the structural measures. In case the CFMOs are not capable of operating and maintaining the structural measures, WRMA as the implementation body for the Project and the responsible public authority, will support the CFMOs in collaboration with related authorities. Figure 2.5 shows the framework for undertaking the O&M.



Source: OD Study Team

Figure 2.5 Framework for Undertaking the O&M Required for Structural Measures

Table 2.19 lists the contents of the O&M activities and the required frequencies. Periodical inspections for the hand pumps are to be carried out by both the CFMOs and the technicians.

Table 2.19 Operation and Maintenance (O&M) Plan

Facility	Contents of O&M Work	Frequency
Evacuation Centers	<ul style="list-style-type: none"> • Periodical inspection of roofs and gutters. • Cleaning of water tank. • Cleaning of the interior and exterior. 	<ul style="list-style-type: none"> • Minimum 2 times per year (before and after the long rainy season). • Minimum 2 times per year (before and after the long rainy season). • Whenever required.
Toilets	<ul style="list-style-type: none"> • Cleaning of interior and exterior. 	<ul style="list-style-type: none"> • Whenever required.
Boreholes	<ul style="list-style-type: none"> • Periodical inspection of the hand pump by the CFMO. • Periodical inspection of the hand pump by a technician. 	<ul style="list-style-type: none"> • Once a year. • Once a year.
Culverts	<ul style="list-style-type: none"> • Cleaning of sediments in the culverts. • Backfilling of road surface. 	<ul style="list-style-type: none"> • Minimum of 4 times per year (before and after the long and short rainy seasons). • Minimum of 4 times per year (before and after the long and short rainy seasons).
Weirs	<ul style="list-style-type: none"> • Cleaning of sediments at the upper stream of the weir. 	<ul style="list-style-type: none"> • Minimum of 4 times per year (before and after the long and short rainy seasons).
Footbridges	<ul style="list-style-type: none"> • Cleaning of sediments at the upper stream of the weir. • Repair of painting. 	<ul style="list-style-type: none"> • Minimum of 4 times per year (before and after the long and short rainy seasons). • Once every five years.

Source: OD Study Team

2-5 PROJECT COST ESTIMATION

2-5-1 Initial Cost Estimation

The Project cost to the GOK for implementing the Project is estimated at 6.66 million Japanese Yen. This cost estimate is provisional and will be further examined by the Government of Japan when considering the approval of the Grant.

(1) Project Cost Borne by GOK: 4,500 thousand Ksh (6.66 million Japanese Yen)

- 1) Staff of counterparts: 3,520 thousand Ksh (5.21 million Japanese Yen)
- 2) Lease land for construction yard: 880 thousand Ksh (1.30 million Japanese Yen)
- 3) Banking commission: 100 thousand Ksh (0.15 million Japanese Yen)

(2) Condition of Cost Estimate

- 1) Timing of cost estimate: November 2008
- 2) Exchange rate:
 - US\$ 1 =105.71 Yen
 - Ksh 1 =1.480 Yen
- 3) Construction Period: The tendering and construction period are shown in the construction schedule.
- 4) Others: The Project will be implemented in conformity with the Japan's Grant Aid Scheme.

2-5-2 Operation and Maintenance Cost

As mentioned previously in Section 2.4, the CFMOs will undertake the O&M for the structural measures after the Project is completed. A financial plan, including the O&M costs, will be formulated in the financial management training undertaken as part of the non-structural measures, and in collaboration with the technical O&M training program. Alternative financial resources include the following:

- Donations from the community: The community will donate to the CFMOs 10% of the wages received in payment for labor that is required for the construction works. This scheme was applied to the Pilot Projects in the MP Study.
- Registration and monthly charges for the CFMOs: Existing CBOs apply a registration fee in the range from Ksh 50 to Ksh 200 per household and the monthly charge is in the range of Ksh 20 to Ksh 50 per household.
- Water use charges for boreholes.

In addition, training in writing proposals for fundraising from the Water Service Trust Fund (WST) is included in the non-structural measures. The CFMOs will develop self-reliance capabilities for obtaining financial resources and gaining public support through this training.

The operational life of the Afridev hand pumps is estimated at eight (8) years if proper maintenance procedures are followed. The Afridev hand pumps require maintenance once a year at the community level and another regular annual inspection by a technician. As a result, the O&M inspection will be required 8 times by the CFMOs and 8 times by a technician (16 times in total) over the operational life of the hand pump. Hence, the annual O&M cost is estimated at Ksh 20,829 as shown in Table 2.20.

Table 2.20 O&M Cost for Hand Pumps

Item	Unit Cost (Ksh)	Frequency	O&M Cost (Ksh/year)
Evacuation Center			
Periodical inspection of roofs and gutters.	1,200	2 times/year	2,400
Cleaning of water tank.			
Culvert			
Cleaning of sediments in the culverts.	1,200	4 times/year	4,800
Backfilling of road surface.			
Weir (Cleaning of sediments at the upper stream of the weir)	1,200	4 time/ year	4,800
Footbridge			
Cleaning of sediments at the upper stream of the weir.	1,200	4 time/ year	4,800
Repair of painting.	4,800	1 time/5 years	960
Hand Pump			
Pump cost	65,000	1 time/8 years	8125
O&M by CFMO (spare parts)	1,190	1 time/year	1,190
O&M by technician (spare parts)	10,514	1 time/year	10,514
Transportation cost (of the technician)	1,000	1 time/year	1,000
Total	N/A	N/A	20,829

Source: OD Study Team

2-6 OTHER RELEVANT ISSUES

There are several other issues to be addressed in order to implement the Project efficiently and effectively, as listed below:

- GOK will undertake without delay the obligations mentioned in Section 2-2-4-7 (8) related to

the non-structural measures;

- GOK will undertake without delay the obligations mentioned in Section 2-3.
- GOK will arrange the budget to implement the Project, as mentioned in Section 2-5.
- GOK will arrange without delay the meetings and approvals requested by the Procurement Agent which are required to implement the Project.

CHAPTER 3

PROJECT EVALUATION AND RECOMMENDATIONS

CHAPTER 3 PROJECT EVALUATION AND RECOMMENDATIONS

3-1 PROJECT EFFECT

Table 3.1 summarizes the direct and indirect effects of the Project.

Table 3.1 Direct and Indirect Effects of the Project

Existing Conditions and Problems	Methods implemented in the Project	Direct Effects	Indirect Effects
<ul style="list-style-type: none"> • Twenty-four villages in the Project Area are located in flood prone parts of the Nyando River Basin. • The affected villages are located within the Nyando District and the Kisumu District. Both of these districts experience a high rate of absolute poverty. • Climate change is increasing the affects attributed to flood disasters. • Flood management needs to be developed urgently in order to achieve sustainable economic growth in the affected areas. 	<ul style="list-style-type: none"> • To improve the evacuation places and evacuation routes for the affected 24 villages by providing structural measures. • To develop CFMOs by through non-structural measures. • To develop a flood management system for the affected 24 villages in an integrated manner through both the structural measures and non-structural measures. 	<ul style="list-style-type: none"> • To improve the capacity for the flood management in the 24 villages (approximately 20,000 people). • To improve public awareness of flood management widely in the Nyando River Basin. 	<ul style="list-style-type: none"> • To protect the basis for the economic activities in the project area. • To mitigate the effects by the natural disasters due to the climate change.

Source: OD study team

3-2 RECOMMENDATIONS

To implement the Project effectively, the GOK will be responsible for the issues mentioned below:

(1) Support for the CFMOs by Public Authorities

In the non-structural measures, the CFMOs will be developed and trained. This will include training in financial and technical management. In case the CFMOs are not capable of overcoming particular difficulties, the CFMOs will require support from public authorities. Hence, as the GOK will have ownership of the structural measures, GOK will need to take responsibility for financial and technical support of the CFMOs.

(2) Continuation of Education Programs and Public Awareness Campaigns

The non-structural measures include education programs for the disaster prevention and public awareness campaigns, including radio programs and the distribution of posters. After the Project is completed, the GOK will need to continue these programs. The education programs need to be officially incorporated into the education curriculum, while the radio programs (both long and short) will need to be re-broadcast periodically. In addition, the posters will need to be updated and re-distributed in the future.

(3) Replication of the Project to Other Villages

Both the structural and non-structural measures of the Project are implemented by utilizing local resource. Hence, based on the experience of the Project, the GOK will need to make an effort to utilize local resources for initiating the creation of CFMOs in other villages, thereby replicating the Project.

(4) Collaboration with Other Donors

The Project itself will focus specifically on 24 villages. Red Cross Kenya is currently formulating a new program for flood management in the Nyando River Basin. This new program will focus on non-structural measures. However, it is expected that Red Cross Kenya will undertake the new program in other villages that are not included in the 24 Project villages.

APPENDICES

AP.1 MEMBER LIST OF THE STUDY TEAM

1st Field Study

Name	Organization	Position
Mikio ISHIWATARI	Senior Advisor to Global Environment Department, Japan International Cooperation Agency	Team Leader
Masatoshi MURAO	Director, Japan International Cooperation System	Cooperation Policy
Shohei MATSUURA	Associate Expert, Disaster Management Team I, Global Environment Department, Japan International Cooperation Agency	Cooperation Planning
Masaru TOKURA	Nippon Koei Co., Ltd.	Project Manager
Tomokuni HAYAKAWA	Nippon Koei Co., Ltd.	Facility Designer
Takuya FUNAHARA	Nippon Koei Co., Ltd.	Construction Plan/ Procurement/ Cost Estimate

2nd Field Study

Name	Organization	Position
Yoshiyuki TAKAHASHI	Chief Representative, JICA Kenya Office	Team Leader
Shohei MATSUURA	Associate Expert, Disaster Management Team I, Global Environment Department, Japan International Cooperation Agency	Cooperation Planning
Masaru TOKURA	Nippon Koei Co., Ltd.	Project Manager

AP.2 STUDY SCHEDULE

1st Field Study [November 29 – December 19, 2008]

No	M/D	Day	Trip	Stay	Activity
1	11/29	Sat	Tokura/Hayakawa/Funahara: Leave for Nairobi		
2	11/30	Sun	Tokura: Arrive at Nairobi	Nairobi	Sign on agreement (topographic survey)
			Hayakawa/Funahara: Arrive at Nairobi and move to Kisumu	Kisumu	
3	12/1	Mon	Tokura: Move to Kisumu	Kisumu	- Meeting with JICA Kenya office, MWI, WRMA - Courtesy call to Embassy of Japan
			(Hayakawa/Funahara)	Kisumu		Site survey
4	12/2	Tue	Murao: Leave for Nairobi		
			(Tokura/Hayakawa/Funahara)	Kisumu	Site survey
5	12/3	Wed	Murao: Arrive at Nairobi	Nairobi	Courtesy call to JICA Kenya office
			(Tokura/Hayakawa/Funahara)	Kisumu	Site survey
6	12/4	Thu	(Murao)	Nairobi	Courtesy call to MWI, WRMA
			(Tokura/Hayakawa/Funahara)	Kisumu	Site Survey
7	12/5	Fri	(Murao)	Nairobi	Courtesy call to Ministry of Finance
			(Tokura/Hayakawa/Funahara)	Kisumu	Site Survey
8	12/6	Sat	Ishiwatari/Matsuura: Leave for Nairobi		
			(Murao)	Nairobi	Report preparation
			(Tokura/Hayakawa/Funahara)	Kisumu	Site Survey
9	12/7	Sun	Ishiwatari/Matsuura: Arrive at Nairobi	Nairobi	Meeting
			(Murao)	Nairobi	Meeting
			Tokura: Move to Nairobi	Nairobi	Site Survey
			(Hayakawa/Funahara)	Kisumu	Site Survey
10	12/8	Mon	(Ishiwatari/ Murao/Matsuura/Tokura)	Nairobi	PWG meeting and SC meeting for the MP Study
			(Hayakawa/Funahara)	Kisumu	Site Survey
11	12/9	Tue	(Ishiwatari/ Murao/Matsuura/Tokura)	Nairobi	Meeting with MWI and WRMA for the OD Study
			(Hayakawa/Funahara)	Kisumu	Site Survey
12	12/10	Wed	Ishiwatari/ Murao/Matsuura/Tokura: Move to Kisumu	Kisumu	Signing on Minutes of Meeting, Meeting with Embassy of Japan
			(Hayakawa/Funahara)	Kisumu	Site Survey
13	12/11	Thu	(Ishiwatari/ Murao/Matsuura)	Kisumu	Workshop and signing on MM for the MP Study
			(Tokura/Hayakawa/Funahara)	Kisumu	Site Survey
14	12/12	Fri	(Ishiwatari/ Murao/Matsuura/Tokura)	Kisumu	Site inspection
			(Hayakawa/Funahara)	Kisumu	Report preparation
15	12/13	Sat	(Ishiwatari/ Murao/Matsuura/Tokura)	Kisumu	Site inspection
			(Hayakawa/Funahara: Move to Nairobi)	Kisumu Nairobi	Report preparation Site Survey
16	12/14	Sun	(Ishiwatari/ Murao/Matsuura/Tokura)	Kisumu	Site inspection
			(Hayakawa)	Kisumu	Report preparation
			(Funahara)	Nairobi	Site Survey
17	12/15	Mon	Ishiwatari/ Murao/Matsuura: Move to Nairobi	Nairobi	Site Survey
			(Tokura/Hayakawa)	Kisumu	Site Survey
			(Funahara)	Nairobi	Site Survey
18	12/16	Tue	Ishiwatari/ Murao/Matsuura: Leave for Tokyo		Report to JICA Kenya Office, EOJ
			Tokura/Hayakawa: Move to Nairobi	Nairobi	Site Survey
			(Funahara)	Nairobi	Site Survey
19	12/17	Wed	Ishiwatari/ Murao/Matsuura: Arrive at Tokyo		
			(Tokura/Hayakawa/Funahara)	Nairobi	Report to JICA Kenya Office
20	12/18	Thu	Tokura/Hayakawa: Leave for Tokyo		Report preparation
			Funahara: Leave for Ho Chi Minh City		Report preparation

21	12/19	Fri	Tokura/Hayakawa: Arrive at Tokyo		
			Funahara: Arrive at Ho Chi Minh City		

Note: EOJ- Embassy of Japan, MWI- Ministry of Water and Irrigation, WRMA- Water Resource Management Authority

2nd Field Study [January 31 – February 8, 2009]

No	M/D	Day	Trip	Stay	Activity
1	1/31	Sat	Murao/Tokura: Leave for Nairobi		
2	2/1	Sun	Matsuura: Leave for Nairobi		
			Murao/Tokura: Arrive at Nairobi	Nairobi	
3	2/2	Mon	Matsuura: Arrive at Nairobi	Nairobi	Meeting with JICA Kenya Office
			(Murao/Tokura)	Nairobi	- Courtesy call to MWI, WRMA - Meeting with JICA Kenya Office
4	2/3	Tue	(Matsuura/Murao/Tokura)	Nairobi	- Courtesy call to EOJ - Meeting with MWI and WRMA
5	2/4	Wed	(Matsuura/Murao/Tokura)	Nairobi	Explanation of draft outline design report to MWI and WRMA
6	2/5	Thu	(Matsuura/Murao/Tokura)	Nairobi	Discussion of Minutes of Meeting
7	2/6	Fri	Matsuura: Leave for Tokyo		- Signing on Minutes of Meeting - Report to EOJ
			(Takahashi/ Murao/Tokura)	Nairobi	ditto
8	2/7	Sat	Matsuura: Arrive at Tokyo		
			Murao/Tokura: Leave for Tokyo		
9	2/8	Sun	Murao/Tokura: Arrive at Tokyo		

Note: EOJ- Embassy of Japan, MWI- Ministry of Water and Irrigation, WRMA- Water Resource Management Authority

AP.3 LIST OF PARTIES CONCERNED IN THE RECIPIENT COUNTRY

Ministry of Water and Irrigation (MWI)

David STOWER	Permanent Secretary
Jon Rao NYAORO	Director of Water Resources
R. K. GANKA	Director of Irrigation
Patrick OLOO	Deputy Director
K. W. MWATHI	Kenya Meteorological Department
I.G. KIMANI	Head/Asia & Pacific Desk
Tom OGALO	

Water Resource Management Authority (WRMA)

John P. OLUM	Chief Executive Officer
Joseph M. KINYUA	Operation Manager
REBECCA	Procurement Manager

Water Resource Management Authority- Lake Victoria South Catchment Area (WRMA-LVSC)

Margaret A. ABIRA	Regional Manager
Withs O MEMO	Counterpart for the Study on Integrated Flood Management for Nyando River Basin

Embassy of Japan

Takehiko SUZUKI	First Secretary, Head of Economic Cooperation Section
Kosaku ONAKA	Second Secretary, Economic Corporation Section

JICA Kenya Office

Yoshiyuki TAKAHASHI	Chief Representative
Susumu IWAMOTO	Principal Senior Representative
Yoichi INOUE	Assistant Resident Representative, Environment and Eritrea
Toshiyuki NAKAZAWA	Assistant Resident Representative
Jon N. Ngugi	Senior Programme Officer (Environment & Water)

JICA Regional Support Office for Africa

Yoshiro KURASHINA	Representative
-------------------	----------------

NGO

Ben O. OKECH	Project Manger, CARE Kenya
Pamela INDIKA	Regional Manager, KENYA RED CROSS

AP.4 MINUTES OF DISCUSSIONS

AP.4.1 Minutes of Discussions of the First Field Study

**Minutes of Discussions
on the Outline Design Study of the Project for
Community-based Flood Disaster Management to Adapt to Climate Change
in the Nyando River Basin**

In response to the request from the Government of the Republic of Kenya (hereinafter referred to as "Kenya"), the Government of Japan decided to conduct the Outline Design Study on the Project for Community-based Flood Disaster Management to Adapt to Climate Change in the Nyando River Basin (hereinafter referred to as the "Project") and entrusted the implementation of the study to the Japan International Cooperation Agency (hereinafter referred to as "JICA").

JICA sent to Kenya the Outline Design Study Team (hereinafter referred to as "the Team"), headed by Mr. Mikio Ishiwatari, Senior Advisor JICA, which is scheduled to stay in the country from 3 December to 16 December 2008.

The Team held a series of discussions with the officials concerned from the Government of Kenya and conducted a field survey in the study area. In the course of discussions and field survey, both parties confirmed the main items described on the attached sheets. The Team will proceed with further works and prepare the Outline Design Study Report.

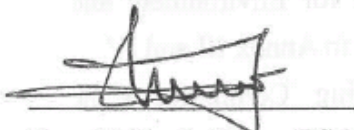
Nairobi, December 10, 2008



Eng. David Stower, CBS, OGW
Permanent Secretary
Ministry of Water and Irrigation
The Republic of Kenya



Mr. Mikio Ishiwatari
Team Leader
Japan International
Cooperation Agency (JICA)
Japan



Eng. Philip J. Olum, HSC
Chief Executive Officer
Water Resource Management
Authority
The Republic of Kenya

ATTACHMENT

1. Objective of the Project
The objective of the Project is to improve flood management through community-driven disaster management programs in the Nyando River Basin by providing both structural and non-structural measures to adapt to the effects of climate change.
2. Scheme of Grant Aid
The Project will be implemented with Japan's Programme Grant Aid for Environment and Climate Change.
3. Project Site
The Project sites are twenty-four (24) communities in the Nyando River Basin as seen in Annex I.
4. Responsible Agency and Implementing Agency
 - a) The responsible Agency is the Ministry of Water and Irrigation (MWI).
 - b) The Implementing Agency is the Water Resource Management Authority (WRMA).
5. Items requested by the Government of Kenya
The items described in Annex II were requested by the Government of Kenya. JICA will assess the appropriateness of the request and will recommend to the Government of Japan for approval.
6. Japanese Grant Aid
The Government of Kenya understood Japan's Grant Aid for Environment and Climate Change and the flow of the project budget described in Annex III and IV.
 - a) Both parties confirmed that the Project Coordinating Committee ("the Committee") will be established to help proper and smooth execution of the Project. The Project implementation arrangement is shown in Annex V.
The members of the Committee are as follows:
 - (1) Permanent Secretary of MWI (Chair)
 - (2) Chief Executive Officer of WRMA
 - (3) Director of Water Resources, MWI

- (4) Representative of Embassy of Japan in Kenya
 - (5) Representative of JICA Kenya
 - b) The first meeting of the Committee will be held immediately after the beginning of the Project. Further meetings will be held by the request of either the Kenya side or the Japanese side.
 - c) The Government of Kenya will take necessary measures, as described in Annex VII, to expedite the smooth implementation of the Project.
7. Schedule of the Outline Design Study (“the Study”)
- a) The consultants will proceed to further studies in Kenya until December 18, 2008.
 - b) JICA will prepare the draft report of the Study in English and dispatch a mission to explain the contents by the end of January 2009.
 - c) JICA will complete the Study Report of the Project by the end of February 2009.
8. Other relevant issues
- a) The Procurement Guidelines for the Program Grant Aid for Environment and Climate Change will be applied for the procurement procedure of the Project.
 - b) The Government of Kenya will exempt or bear the customs duties, internal taxes and other fiscal levies and conduct the necessary procedures.
 - c) WRMA will take every possible measure to ensure that the land where structures are planned to be constructed will be available and will be used for the intended purposes during and after the Project lifecycle.
 - d) WRMA will take every possible effort to strengthen the financial provisions for community-driven flood control management to ensure proper implementation of any additional activities and/or arrangements as required by the Project.
 - e) WRMA will arrange that the target communities will secure lands and conduct sustainable operation and maintenance of structures constructed in the Project.
 - f) WRMA explained to the Team that the ownership of the structures constructed in the Project will be handed over to relevant local organizations and government institutions. The Team will further examine this issue at JICA Headquarters.
 - g) WRMA will ensure that EIA approval by NEMA will be concluded by 31 January, 2009.
 - h) WRMA will designate a project management team (with one permanent

personnel) at the regional level responsible for implementing the Project.

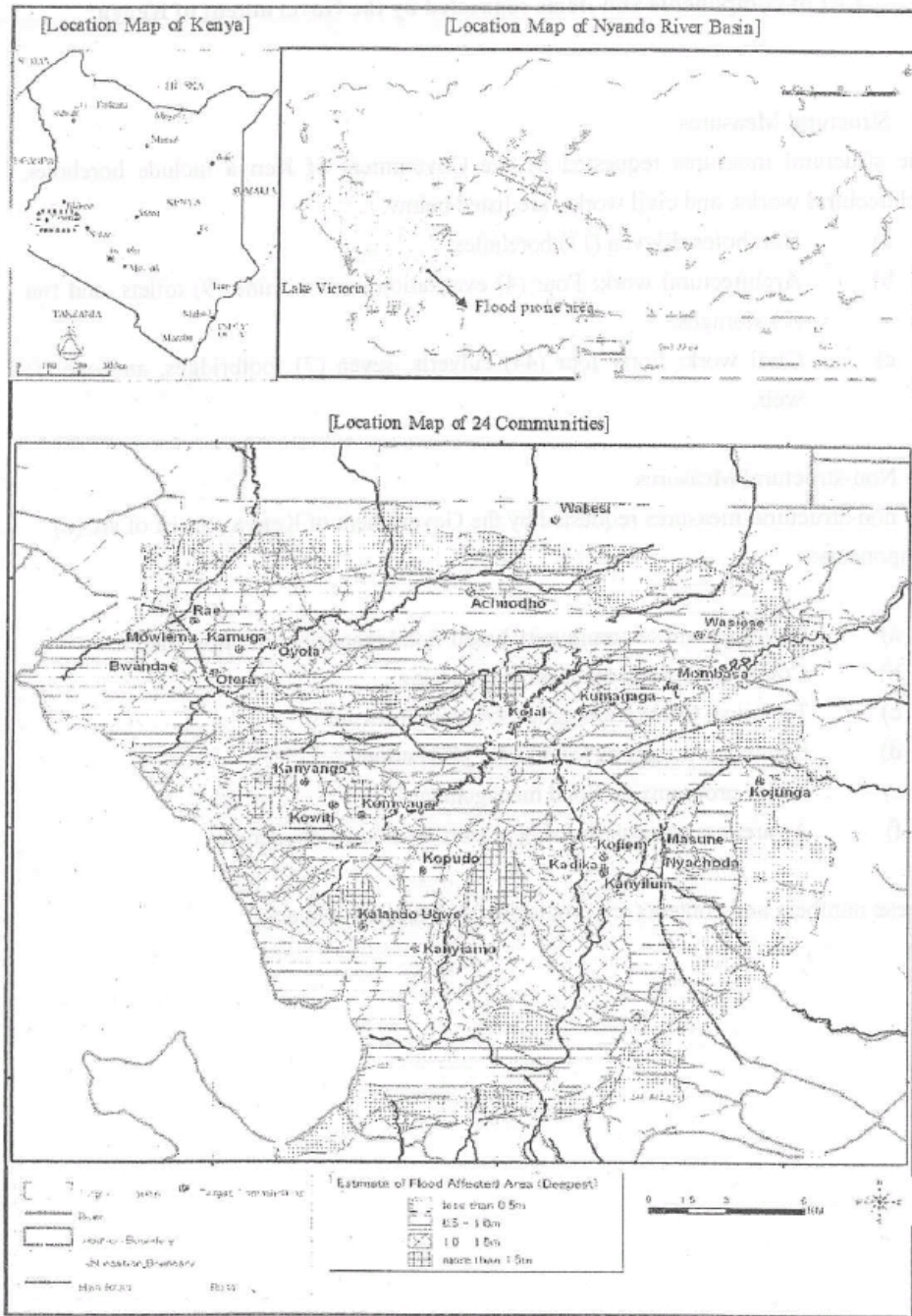
END

- Annex I Location of the project area
- Annex II Items requested by the Government of Kenya
- Annex III Overview of Program Grant Aid for Environment and Climate Change of the Government of Japan
- Annex IV Flow of funds for implementation under the Program Grant Aid for Environment and Climate Change
- Annex V Chart of project implementing organization under the Program Grant Aid for Environment and Climate Change
- Annex VI Terms of Reference of the Project Coordinating Committee
- Annex VII Major undertakings to be taken by each Government

P

1/3

Location of the proposed 24 project communities



30

List of components and items requested by the Government of Kenya***1. Structural Measures**

The structural measures requested by the Government of Kenya include boreholes, architectural works, and civil works, are listed below:

- a) Boreholes: Eleven (11) boreholes.
- b) Architectural work: Four (4) evacuation centers, nine (9) toilets, and two (2) storages.
- c) Civil work: Forty four (44) culverts, seven (7) footbridges, and one (1) weir.

2. Non-structural Measures

The non-structural measures requested by the Government of Kenya consist of six (6) components:

- a) Development of community based flood management organizations.
- b) Community flood management training.
- c) Technical O&M training for structural measures.
- d) Education programs for disaster prevention.
- e) Radio programs on flood management.
- f) Awareness campaigns using posters on flood management.

*These numbers and contents are provisional and subject to change.

**Programme Grant Aid for Environment and Climate Change
of the Government of Japan
(Provisional)**

The Grant Aid provides a recipient country ("the Recipient") with non-reimbursable funds to procure the facilities, equipment, and services (engineering services and transportation of the products, etc.) for economic and social development of the country under principles in accordance with relevant laws and regulations of Japan. The Grant Aid is not supplied through the donation of materials as such.

Based on "Cool Earth Partnership" initiative of the Government of Japan, the Programme Grant Aid for Environment and Climate Change ("GAEC") aims to mitigate effects of global warming by reducing GHGs emission (mitigation; e.g. improvement of energy efficiency) and to take adaptive measures (adaptation; e.g. measures against disasters related to climate change, including disaster prevention such as enhancing disaster risk management).

GAEC may contain multiple components that can be combined to effectively meet these needs. The contractors and suppliers may not be confined to Japanese firm and construction can be conducted by utilizing local methods.

I. Procedures for GAEC

GAEC is executed through the following procedures.

- Application (Request made by a recipient country)
- Study (Outline Design Study conducted by Japan International Cooperation Agency (JICA))
- Appraisal & Approval (Appraisal by the Government of Japan and Approval by the Cabinet)
- Commitment of Implementation (The Notes exchanged between the Government of Japan and the Recipient Country)

Firstly, the application or request for a GAEC project submitted by the Recipient is examined by the Government of Japan (the Ministry of Foreign Affairs) to determine whether it is eligible for GAEC. If the request is deemed appropriate, the Government of Japan assigns JICA to conduct a study on the request.

Secondly, JICA conducts the Outline Design Study ("the Study") with Japanese consulting firms.

Thirdly, the Government of Japan appraises the project to see whether it is suitable for Japan's GAEC, based on the Study report prepared by JICA, and the results are then submitted to the Cabinet for approval.

Fourthly, the project, once approved by the Cabinet, becomes official with the Exchange of Notes (E/N) signed by the Governments of Japan and the Recipient.

JICA executes the Grant by making payments of the amount agreed in the E/N and strictly monitors that the funds of the Grant are properly and effectively used.

Procurement Management Agent is designated to conduct the procurement services of products and services (including fund management, preparing tenders, contracts) for GAEC on behalf of the Recipient. The Agent is an impartial and specialized organization that will render services according to the Agent Agreement with the Recipient. The Agent is recommended to the Recipient by the Government of Japan and agreed between the two Governments in the Agreed Minutes ("A/M").

2. Outline Design Study

1) Contents of the Study

The purpose of the Study, conducted by JICA on a requested project ("the Project"), is to provide the basic document necessary for the appraisal of the Project by the Government of Japan. The contents of the Study are as follows:

- (1) Confirmation of background, objectives, and benefits of the Project and institutional capacity of agencies and communities concerned of the Recipient Country necessary for project implementation.
- (2) Evaluation of relevance of the Project to be implemented under the Grant Aid Scheme for community empowerment from a technical, social, and economic point of view.
- (3) Confirmation of items agreed upon by both parties concerning the basic concept of the Project.
- (4) Preparation of the outline design of the Project.
- (5) Estimation of cost for the Project.

The contents of the original request will be modified, as found necessary, in the outline design of the Project according to the guidelines of Japan's Grant Aid scheme.

The Government of Japan requests the Government of the Recipient to take whatever measures necessary to ensure its responsibility in implementing the Project. Such measures must be guaranteed even if they may fall outside the jurisdiction of the implementing organization of the Recipient Country. This has been confirmed by all relevant organizations of the Recipient through the Minutes of Discussions.

2) Selection of consulting firms

For the smooth implementation of the Study, JICA will conduct the Study with registered consulting firms. JICA selects the firms based on proposals submitted by firms with interest in implementing the Study. The firms selected will carry out the Outline Design Study and prepare a report, based on the terms of reference set by JICA.

The consulting firms that will implement the Project after the Grant Agreement ("the G/A) will be, in principle, Japanese firms recommended by JICA for maintaining technical consistency with the Study.

3. Implementation of GAEC after the E/N

1) Exchange of Notes (E/N)

The content of GAEC will be determined in accordance with the Notes exchanged by the two Governments concerned, in which items including, objectives of the project, period of execution, conditions and amount of the Grant Aid are confirmed.

2) Details of Procedures

Details of procedures on procurement and services under GAEC will be agreed between the authorities of the two governments concerned at the time of the signing of the G/A.

Essential points to be agreed are outlined as follows:

- a) JICA will supervise the implementation of the Project.
- b) Products and services will be procured and provided in accordance with JICA's "Procurement Guidelines for the Program Grant Aid for Environment and Climate Change."
- c) The Recipient will conclude a contract with the Agent.

d) The Agent is the representative acting in the name of the Recipient concerning all transfers of funds to the Agent.

3) Focal points of "Procurement Guidelines for the Program Grant Aid for Environment and Climate Change"

a) The Agent

The Agent is the organization, which provides procurement of products and services on behalf of the Recipient according to the Agent Agreement with the Recipient. The Agent is recommended to the Recipient by the Government of Japan and agreed between the two Governments in the A/M.

b) Agent Agreement

The Recipient will conclude the Agent Agreement, in principle, within two months after the signing of the G/A, in accordance with the A/M. The scope of the Agent's services will be clearly specified in the Agent Agreement.

c) Approval of the Agent Agreement

The Agent Agreement is prepared as two identical documents and the copy of the Agent Agreement will be submitted to JICA by the Recipient through the Agent. JICA confirms whether the Agent Agreement is concluded in conformity with the E/N, A/M, and G/A and the Procurement Guidelines for the Program Grant Aid for Environment and Climate Change then approves the Agent Agreement.

The Agent Agreement concluded between the Recipient and the Agent will become effective after the approval by JICA in a written form.

d) Payment Methods

The Agent Agreement will stipulate that "Regarding all transfers of the fund to the Agent, the Recipient will designate the Agent to act on behalf of the Recipient and issue a Blanket Disbursement Authorization ("the BDA") to conduct the transfer of the fund (hereinafter referred to as "the Advances") to the Procurement Account from the Recipient Account.

The Agent Agreement will clearly state that the payment to the Agent will be made in Japanese yen from the Advances and that the final payment to the Agent will be made

when the total remaining amount become less than three percent (3%) of the Grant and its accrued interests excluding the Agent's fees.

e) Products and Services Eligible for Procurement

Products and services to be procured will be selected from those defined in the G/A.

f) Selection of firms

In principle, firms of any nationality could be contracted as long as the firms satisfy the conditions specified in the tender documents.

The same applies for any individual consultants who will be involved in the project and provide services necessary for the training and guidance related to the Project. The consultants that will be employed to do detail design and supervise the work for the Project, however will be, Japanese nationals recommended by JICA for the purpose of maintaining technical consistency with the Study

g) Method of Procurement

When conducting the procurement, sufficient attention will be paid to transparency in selecting the firms and for this purpose, competitive tendering will be employed in principle.

h) Tender Documents

The tender documents should contain all information necessary to enable tenderers to prepare valid offers for the products and services to be procured by GAEC.

The rights and obligations of the Recipient, the Agent and the firms supplying products and services should be stipulated in the tender documents to be prepared by the Agent. Aside from this, the tender documents will be prepared in consultation with the Recipient.

i) Pre-qualification Examination of Tenderers

The Agent may conduct a pre-qualification examination of tenderers in advance of the tender so that the invitation to the tender can be extended only to eligible firms. The pre-qualification examination should be performed only with respect to whether the prospective tenderers have the capability of concluding the contracts.

For this, the following points should be taken into consideration:

- (1) Experience and past performance in contracts of similar kind
- (2) Financial credibility (including assets such as real estate)
- (3) Existence of offices and other items to be specified in the tender documents.
- (4) Their potentialities to use necessary personnel and facilities.

j) Tender Evaluation

The tender evaluation should be implemented on the basis of the conditions specified in the tender documents.

Those tenderers which substantially conform to the technical specifications and other stipulations of the tender documents, will be judged in principle on the basis of the submitted price, and the tenderer who offers the lowest price will be designated as the successful tenderer.

The Agent will submit a detailed evaluation report of tenders to JICA for its information, while the notification of the results to the tenderers will not be premised on the confirmation by JICA.

k) Additional procurement

If there is any remaining balance after the competitive and/or selective tendering and/or direct negotiation for a contract, and if the Recipient would like to procure additional items, the Agent is allowed to conduct this additional procurement, following the points mentioned below:

(1) Procurement of same products and services

When the products and services to be additionally procured are identical with the initial tender and a competitive tendering is judged not efficient, additional procurement can be conducted by a negotiated contract with the successful tenderer of the initial tender.

(2) Other procurements

When products and services other than those mentioned above in (1) are to be procured, the procurement should be conducted through competitive tendering. In this case, the products and services for additional procurement will be selected from among those in accordance with the G/A.

l) Conclusion of the Contracts

In order to procure products and services in accordance with the guideline, the Agent

will conclude contracts with firms selected by tendering or other methods.

m) Terms of Payment

The contract will clearly state the terms of payment. The Agent will make payment from the "advances," against the submission of the necessary documents from the firm on the basis of the conditions specified in the contract. When the services are the object of procurement, the Agent may pay certain portion of the contract amount in advance to the firms on the conditions that such firms submit the advance payment guarantee worth the amount of the advance payment to the Agent.

4) Undertakings required by the Government of the Recipient Country

In the implementation of the Grant Aid Project, the Recipient Country is required to undertake necessary measures as the following:

- a) To secure land necessary for the sites of the Project and to clear, level and reclaim the land prior to commencement of the Project.
- b) To provide facilities for distributing electricity, water supply and drainage and other incidental facilities in and around the sites.
- c) To ensure all the expense and prompt execution for unloading, customs clearing at the port of disembarkation and domestic transportation of products purchased under the Grant Aid,
- d) To ensure that customs duties, internal taxes and other fiscal levies that may be imposed in the Recipient Country with respect to the purchase of the Components and the Agent's services will be exempted by the Government of the Recipient Country.
- e) To accord all the concerned parties, whose services may be required in connection with supply of the products and services under the contracts, such facilities as may be necessary for their entry into the Recipient Country and stay therein for the performance of their work.

5) "Proper use of funds"

The Recipient Country is required to operate and maintain the facilities constructed and equipment purchased under the Grant Aid properly and effectively and to assign personnel necessary for this operation and maintenance as well as to bear all the expenses other than those covered by the Grant Aid.

6) "Export and Re-export" of products

The products purchased under the Grant and its accrued interest will not be exported or

re-exported from the Recipient Country.



The Government of the Recipient Country shall be responsible for the purchase, import, export, and distribution of the products purchased under the Grant. The Government shall ensure that the products are used for the purposes specified in the Grant and are not sold, transferred, or otherwise disposed of in a manner inconsistent with the terms of the Grant. The Government shall also ensure that the products are not used for any purpose prohibited by applicable laws and regulations.

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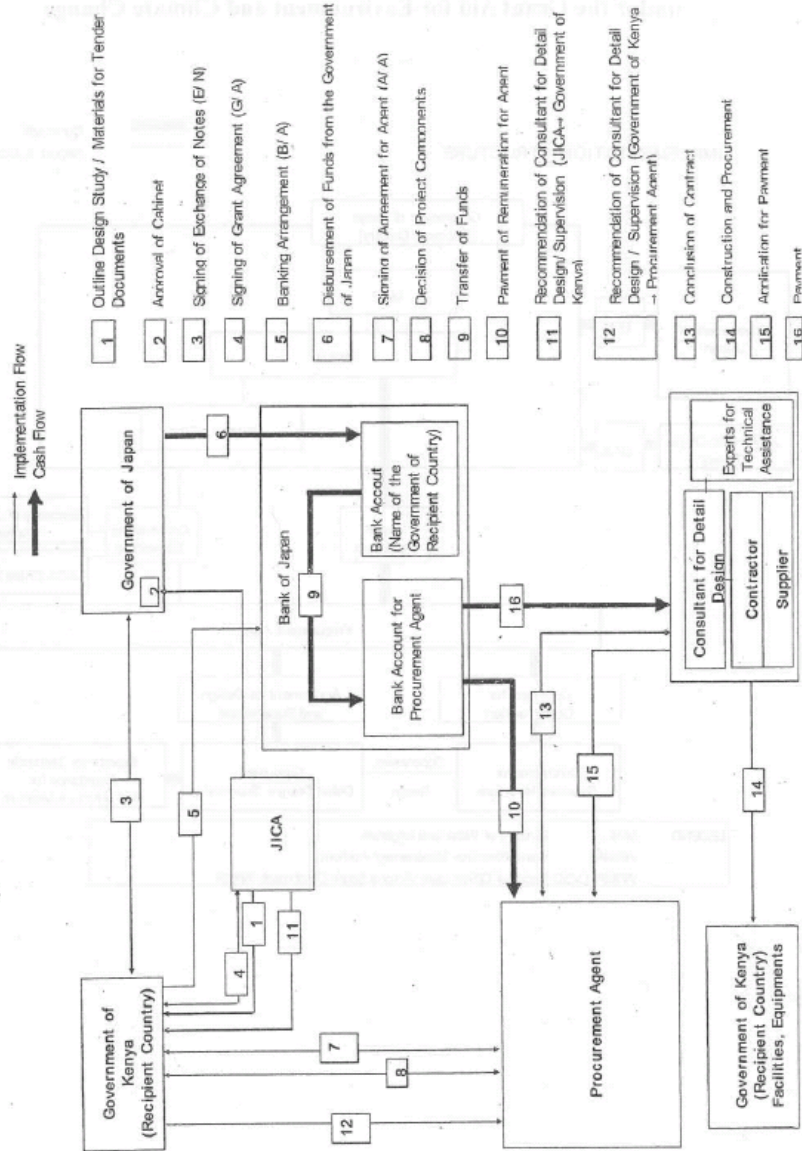
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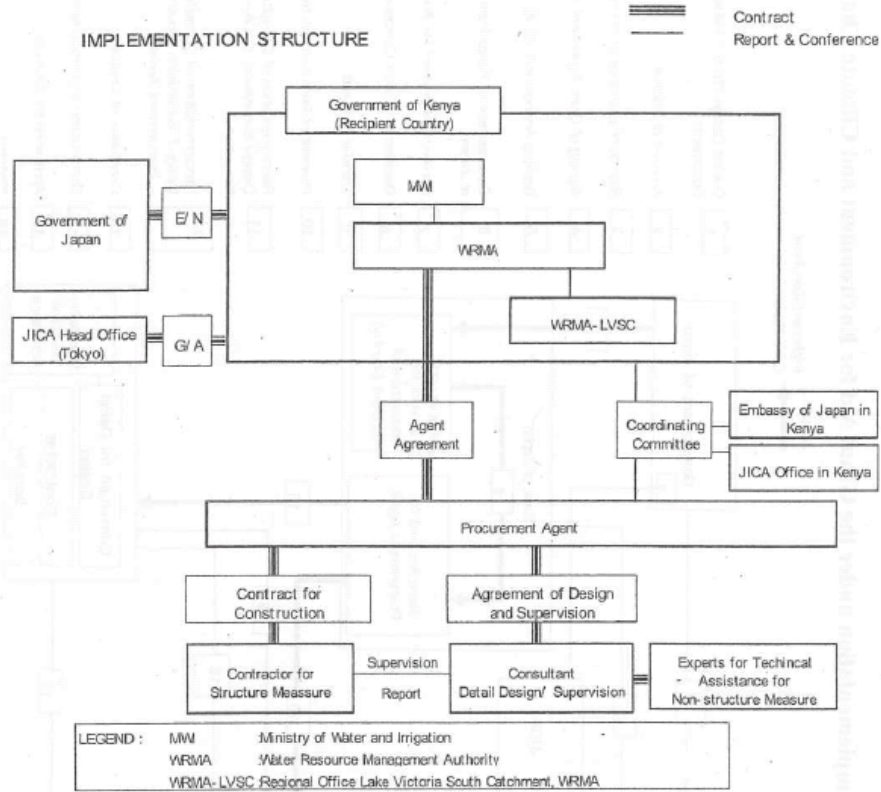
The Government shall also ensure that the products are not used for any purpose prohibited by applicable laws and regulations. The Government shall also ensure that the products are not used for any purpose prohibited by applicable laws and regulations.



Flow of funds for implementation under the Grant Aid for Environment and Climate Change



**Chart of project implementing organizations
under the Grant Aid for Environment and Climate Change**



Terms of Reference of the Committee

1. To confirm an implementation schedule of the Programme for the speedy and effective utilization of the Grant and its accrued interest.
2. To discuss the modifications of the Programme including modification of the design of the facility.
3. To exchange views on allocations of the Grant and its accrued interest as well as on potential end-users.
4. To identify problems which may delay the utilization of the Grant and its accrued interest, and to explore solutions to such problems.
5. To exchange views on publicity related to the utilization of the Grant and its accrued interest.
6. To discuss any other matters that may arise from or in connection with the G/A.

Major undertakings to be taken by each Government

No.	Items	To be covered by Grant Aid	To be covered by Recipient Side
1	To secure land		●
2	To clear, level and reclaim the site when needed urgently		●
3	To construct gates and fences in and around the site		●
4	To construct a parking lot		●
5	To construct roads		
	1) Within the site	●	
	2) Outside the site		●
6	To construct the building, hospital and school ^a	●	
7	To provide facilities for the distribution of electricity, water supply, drainage and other incidental facilities:		
	1) Electricity		
	a. The power distribution line to the site	x	1
	b. The drop wiring and internal wiring within the site	x	1
	c. The main circuit breaker and transformer for the site	x	1
	2) Water Supply		
	a. The city water distribution main to the site	x	1
	b. The supply system within the site (receiving and elevated tanks)	x	1
	3) Drainage		
	a. The city drainage main (for conveying storm water, sewage, etc. from the site)		●
	b. The drainage system within the site (for sewage, ordinary waste, storm water, etc.)	●	
	4) Gas Supply		
	a. The city gas main to the site	x	1
	b. The gas supply system within the site	x	1
	5) Telephone System		
	a. The telephone trunk line to the main distribution frame/postal (MDF) of the building	x	1
	b. The MDF and the extension after the frame/postal	x	1
	6) Furniture and Equipment		
	a. General furniture		●
	b. Project equipment	●	
8	To bear the following commissions applied by the bank in Japan for banking services issued upon the Bank Arrangement (B/A):		
	1) Payment of bank commission		●
9	To ensure prompt unloading and customs clearance at the port of disembarkation in the recipient country:		
	1) Marine or air transportation of the products from Japan ^b to the recipient	●	
	2) Tax exemption and customs clearance of the products at the port of disembarkation		●
	3) Internal transportation from the port of disembarkation to the project site		●
10	To accord Japanese nationals and / or nationals of third countries, including persons employed by the agent whose services may be required in connection with the Components such facilities as may be necessary for their entry into recipient country and stay therein for the performance of their work		●
11	To ensure that customs duties, internal taxes and other fiscal levies which may be imposed in the recipient country with respect to the purchase of the Components and to the employment of the Agent will be exempted by the Government of recipient country		●
12	To maintain and use properly and effectively the facilities that are constructed and the equipment that is provided under the Grant.		●
13	To bear all the expenses, other than those covered by the Grant and its accrued interest, necessary for the purchase of the Components as well as for the agent's fees.		●
14	To ensure environmental and social consideration for the Programme.		●

Note x: Items not required for the Project.

AP.4.2 Minutes of Discussions of the Second Field Study

MINUTES OF DISCUSSIONS
ON
THE OUTLINE DESIGN STUDY
ON
THE PROJECT FOR COMMUNITY-BASED FLOOD DISASTER MANAGEMENT TO
ADAPT TO CLIMATE CHANGE IN THE NYANDO RIVER BASIN IN
THE REPUBLIC OF KENYA
(EXPLANATION ON DRAFT FINAL REPORT)

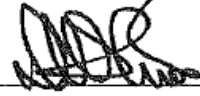
In December 2008, the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched the Outline Design Study Team to the Republic of Kenya (hereinafter referred to as "Kenya") for the "Project for Community-based Flood Disaster Management to Adapt to Climate Change in the Nyando River Basin" (hereinafter referred to as the "Project") utilizing the Program Grant Aid for Environment and Climate Change, and through discussions, field survey and technical assessment of the study in Japan, JICA prepared the Draft Final Report for the Project.


In order to explain and consult with the Kenyan side on the contents of the Draft Final Report, JICA sent the Draft Final Report Explanation Team (hereinafter referred to as the "Team"), which is headed by Mr. Yoshiyuki Takahashi, Resident Representative of JICA Kenya Office, to Kenya from February 1st to 7th, 2009.

As a result of discussions, both parties confirmed the main items described on the attached sheet.

Nairobi, February 5 2009


Mr. Yoshiyuki Takahashi
Resident Representative
Kenya Office
Japan International
Cooperation Agency (JICA)


Eng. David Stower, CBS, OGW
Permanent Secretary
Ministry of Water and Irrigation
The Republic of Kenya


Eng. Philip J. Olum, HSC
Chief Executive Officer
Water Resource Management Authority
The Republic of Kenya

ATTACHMENT

1. Contents of the Draft Report

The Kenyan side agreed, in principle, on the basic contents of the Draft Report as explained by the Team.

2. Japan's Grant Aid Scheme

The Government of Kenya understood Japan's Grant Aid for Environment and Climate Change and the flow of the project budget as described in Annex I, II III.

3. Confidentiality of Project Cost

(1) Project Cost

The Team explained the Project Cost Estimation as shown in Annex IV and the Kenyan side understood that the Project budget shall not exceed the total amount of the Project Cost Estimation. If the Project cost increases beyond the Project budget due to price escalation, exchange rate fluctuation or any other unavoidable circumstances, the Project components (such as number of facilities) shall be adjusted to maintain the cost within the budget. The Kenyan side understood that the Project Cost Estimation is not final and is subject to change.

(2) Confidentiality of Project Cost Estimation

Both parties agreed that the contents of the Project Cost Estimation shall not be disclosed to any other third parties before the conclusion of all contracts for the Project.

4. Implementation Arrangements

(1) Implementing structure

Both parties confirmed that the responsible body for implementation of both construction and technical assistance components of the Project shall be the office of WRMA Lake Victoria South Catchment Area. One (1) project manager, will be assigned to the Project by WRMA. WRMA shall also be responsible to coordinate with other related organizations and assign other personnel for the smooth implementation of the Project. WRMA shall submit an implementation organizational chart before the Project starts.

(2) Implementation of Technical Assistance

The component of technical assistance under the Project shall be planned and monitored by Project Design Matrix (PDM) and Plan of Operations (PO), both of which were agreed by both parties as attached as Annex V.

1

The Kenyan side strongly requested to the Team that in order to integrate the structural and non-structural measures of the Project, technical assistance shall be conducted by the same consultant who undertake the Outline Design Study, the detail design and construction management.

(3) Establishment of Project Coordinating Committee

Both parties agreed to establish a Project Coordinating Committee (hereinafter referred to as "the Committee") for smooth and proper implementation of the Project. The Terms of Reference of the Committee was settled in Minutes of Discussions signed by both parties on December 10, 2008. The members of the Committee are as follows:

- Permanent Secretary of MWI (Chair)
- Chief Executive Officer of WRMA
- Director of Water Resources, MWI
- Representative of Embassy of Japan in Kenya
- Representative of JICA Kenya

The first meeting of the Committee will be held immediately after the beginning of the Project. Following meetings will be held upon the request made from either the Kenyan side or the Japanese side.

5. Budget provisions by the Kenyan side

As agreed in the Minutes of Discussions signed on December 10, 2008, the Kenyan side will bear the total of 4,500 thousand Ksh (6.26 million Japanese Yen). The breakdown is as follows:

- 1) Salary of counterparts: 3,520 thousand Ksh (4.89 million Japanese Yen)
- 2) Land for construction yard: 880 thousand Ksh (1.23 million Japanese Yen)
- 3) Banking commission: 100 thousand Ksh (0.14 million Japanese Yen)

* This cost estimate is provisional and will be further examined at a later stage.

6. Tax exemptions

Kenya shall undertake necessary measures to ensure exemption of customs duties, internal taxes, and other fiscal levies related to the implementation of the Project.

7. Banking arrangement

Having understood the procedures of the Banking Arrangement (B/A) and Blanket Disbursement Authorization (BDA), the Kenyan side shall make the necessary banking arrangements with the Bank of Mitsubishi-Tokyo UFJ, Ltd. immediately after the signing



of E/N and G/A.

By signing the BDA, the Government of Kenya designates the procurement Agent as the representative authorized to act in the name of the Kenyan side concerning all transfers of the Grant and any interest earned to the Procurement Account.

8. Approval of Bidding Plan

The Kenyan side shall take necessary measures to approve the Bidding Plan after the revision of the Outline Design Study is concluded as required. The approval of the Bidding Plan shall accord to "The Procurement Guidelines of Japan's Grant Aid for Environment and Climate Change (provisional)," attached as Annex VI.

9. Procurement Procedure

The procurement procedure shall accord to the "The Procurement Guidelines of Japan's Grant Aid for Environment and Climate Change (Annex VI)."

10. Schedule of the Outline Design Study

(1) Pending items

Regarding "(3) Procurement for the Non-Structural Measures" on page 2-20, both parties agreed that the method of selecting the consulting firm will be decided after the Team has returned to Japan. The contents of "(5) Assignment of Personnel" on page 2-28 and "Figure 2.3 Implementation Schedule for Non-structural Measures" will be revised accordingly.

(2) Final Report for Outline Design Study

JICA shall complete the final report reflecting the confirmed issues and sent it to the Government of Kenya before March 2009.

11. Other issues

(1) Operation and Maintenance (O&M) of constructed structures

Both parties agreed that the facilities to be constructed in the Project will be maintained by the following arrangements:

- Daily maintenance and repair are the responsibility of the relevant community organizations.
- WRMA is responsible to call upon relevant government agencies and/or contractors to make necessary works of the facilities for maintenance and repair works beyond the capacity of the communities.

Oh

MP

(2) EIA approval

The EIA certificate for the Project was granted by NEMA on February 5, 2009 as attached in Annex VII.

END

Annex I	Programme Grant Aid for Environment and Climate Change of the Government of Japan (provisional)
Annex II	Flow of funds for implementation under the Grant Aid for Environment and Climate Change
Annex III	Chart of project implementing organizations under the Grant Aid for Environment and Climate Change
Annex IV	Project Cost Estimation
Annex V	Draft Project Design Matrix and Plan of Operation
Annex VI	The Procurement Guidelines of Japan's Grant Aid for Environment and Climate Change (provisional)
Annex VII	EIA Certificate



**Programme Grant Aid for Environment and Climate Change
of the Government of Japan
(Provisional)**

The Grant Aid provides the Government of Kenya with non-reimbursable funds to procure the facilities, equipment, and services (engineering services and transportation of the products, etc.) for economic and social development of the country under principles in accordance with relevant laws and regulations of Japan. The Grant Aid is not supplied through the donation of materials as such.

Based on the “Cool Earth Partnership” initiative of the Government of Japan, the Programme Grant Aid for Environment and Climate Change (“GAEC”) aims to mitigate effects of global warming by reducing Green House Gas emission (mitigation; e.g. improvement of energy efficiency) and to take adaptive measures (adaptation; e.g. measures against disasters related to climate change, including disaster prevention such as enhancing disaster risk management).

GAEC may contain multiple components that can be combined to effectively meet these needs. The contractors and suppliers may not be confined to Japanese firm and construction, in principle, can be conducted by utilizing local standards.

1. Procedures for GAEC

GAEC is executed through the following procedures.

- Application (Request made by the Government of Kenya)
- Study (Outline Design Study conducted by Japan International Cooperation Agency (JICA))
- Appraisal & Approval (Appraisal by the Government of Japan and Approval by the Cabinet)
- Commitment of Implementation (Exchange of Notes (“E/N”) between the Government of Japan and the Government of Kenya and Grant Agreement (“G/A”) between JICA and the Government of Kenya)

Firstly, the application or request for a GAEC project submitted by the Government of Kenya is examined by the Government of Japan (the Ministry of Foreign Affairs) to

determine whether it is eligible for GAEC. If the request is deemed appropriate, the Government of Japan assigns JICA to conduct a study on the request.

Secondly, JICA conducts the Outline Design Study (the "Study") with Japanese consulting firms.

Thirdly, the Government of Japan appraises the project to see whether it is suitable for Japan's GAEC, based on the Study report prepared by JICA, then the result is submitted to the Cabinet for approval.

Fourthly, the project, once approved by the Cabinet, becomes official with the E/N signed by the Governments of Japan and the Government of Kenya. Simultaneously, the Grant will be made available by concluding a G/A between the Government of Kenya and JICA.

JICA is designated by the Government of Japan as the organization responsible for necessary works for proper execution of the Grant.

Procurement Management Agent (the "Agent") is designated to conduct the procurement services of products and services (including fund management, preparing tenders, contracts) for GAEC on behalf of the Government of Kenya. The Agent is an impartial and specialized organization that shall render services according to the Agent Agreement with the Government of Kenya. The Agent is recommended to the Government of Kenya by the Government of Japan and agreed between the two Governments in the Agreed Minutes ("A/M").

2. Outline Design Study

1) Contents of the Study

The purpose of the Study, conducted by JICA on a requested project ("the Project"), is to provide the basic documents necessary for the appraisal of the Project by the Government of Japan. The contents of the Study are as follows:

- (1) Confirmation of background, objectives, and benefits of the Project and institutional capacity of agencies and communities concerned of Kenya necessary for project implementation.
- (2) Evaluation of relevance of the Project to be implemented under the Grant Aid

Scheme for community empowerment from a technical, social, and economic point of view.

(3) Confirmation of items agreed upon by both parties concerning the basic concept of the Project.

(4) Preparation of the outline design of the Project.

(5) Estimation of cost for the Project.

The contents of the original request will be modified, as found necessary, in the outline design of the Project according to the guidelines of Japan's Grant Aid scheme.

The Government of Japan requests the Government of Kenya to take whatever measures necessary to ensure its responsibility in implementing the Project. Such measures must be guaranteed even if they may fall outside the jurisdiction of the implementing organization. This has been confirmed by all relevant organizations of the Government of Kenya through the Minutes of Discussions.

2) Selection of Consultants

For the smooth implementation of the Study, JICA will conduct the Study with JICA-registered consulting firms. JICA selects the firms based on proposals submitted by firms with interest in implementing the Study. The firms selected will carry out the Outline Design Study and prepare a report, based on the terms of reference set by JICA.

The consulting firms that will implement the Project after the Grant Agreement ("the G/A) can be, in principle, Japanese firms recommended by JICA for maintaining technical consistency with the Study.

3. Implementation of GAEC after the E/N

1) Exchange of Notes (E/N) and Grant Agreement (G/A)

The content of GAEC will be determined in accordance with the E/N exchanged by the two Governments, in which the objectives of the Project, length of the Project, conditions and amount of the Grant Aid are confirmed. The conclusion of the G/A between the Government of Kenya and JICA follows the exchange of E/N to determine the paying conditions responsibilities of the Government of Kenya and procurement conditions.

2) Details of Procedures

Details of procedures on procurement and services under GAEC will be agreed between the authorities of the two governments concerned at the time of the signing of the E/N and the G/A.

Essential points to be agreed are outlined as follows:

- a) JICA will supervise the implementation of the Project.
- b) Products and services shall be procured and provided in accordance with JICA's "Procurement Guidelines for the Programme Grant Aid (Type I – E) for Environment and Climate Change."
- c) The Government of Kenya shall conclude a contract with the Agent.
- d) The Agent is the representative acting in the name of Government of Kenya concerning all transfers of funds to the Agent.

3) Focal points of the "Procurement Guidelines for the Programme Grant Aid (Type I – E) for Environment and Climate Change"

a) The Agent

The Agent is the organization, which provides procurement of products and services on behalf of the Government of Kenya according to the Agent Agreement with the Government of Kenya. The Agent is recommended to the Government of Kenya by the Government of Japan and agreed between the two Governments in the A/M.

b) Agent Agreement

Government of Kenya shall conclude the Agent Agreement, in principle, within two months after the signing of the G/A, in accordance with the A/M. The scope of the Agent's services shall be clearly specified in the Agent Agreement.

c) Approval of the Agent Agreement

The Agent Agreement is prepared as two identical documents and the copy of the Agent Agreement shall be submitted to JICA by the Government of Kenya through the Agent. JICA will confirm whether the Agent Agreement is concluded in conformity with the E/N, A/M, and G/A and the Procurement Guidelines for the Programme Grant Aid for Environment and Climate Change then approves the Agent Agreement.

The Agent Agreement concluded between Government of Kenya and the Agent shall become effective after the approval by JICA in a written form.

d) Payment Methods

The Agent Agreement shall stipulate that “Regarding all transfers of the fund to the Agent, Government of Kenya shall designate the Agent to act on behalf of the Government and issue a Blanket Disbursement Authorization (“the BDA”) to conduct the transfer of the fund (hereinafter referred to as “the Advances”) to the Procurement Account from Account of the Government.

The Agent Agreement shall clearly state that the payment to the Agent shall be made in Japanese yen from the Advances and that the final payment to the Agent shall be made when the total remaining amount become less than three percent (3%) of the Grant and its accrued interests.

e) Products and Services Eligible for Procurement

Products and services to be procured shall be selected from those defined in the G/A.

f) Selection of firms

In principle, firms of any nationality could be contracted as long as the firms satisfies the conditions specified in the tender documents.

g) Method of Procurement

When conducting the procurement, sufficient attention shall be paid to transparency in selecting the firms and for this purpose, in principle, competitive tendering shall be employed.

h) Tender Documents

The tender documents should contain all information necessary to enable tenderers to prepare valid offers for the products and services to be procured by GAEC.

The rights and obligations of the Government of Kenya, the Agent and the firms supplying products and services should be stipulated in the tender documents to be prepared by the Agent.

i) Pre-qualification Examination of Tenderers

The Agent may conduct a pre-qualification examination of tenderers in advance of the tender so that the invitation to the tender can be extended only to eligible firms. The pre-qualification examination should be performed only with respect to whether the

prospective tenderers have the capability of concluding the contracts.

For this, the following points should be taken into consideration:

- (1) Experience and past performance in contracts of similar kind
- (2) Financial credibility (including assets such as real estate)
- (3) Existence of offices and other items to be specified in the tender documents.
- (4) Their potentialities to use necessary personnel and facilities.

j) Tender Evaluation

The tender evaluation should be implemented on the basis of the conditions specified in the tender documents.

Those tenderers which substantially conform to the technical specifications and other stipulations of the tender documents, shall be judged in principle on the basis of the submitted price, and the tenderer who offers the lowest price shall be designated as the successful tenderer.

The Agent shall submit a detailed evaluation report of tenders to JICA for its information, while the notification of the results to the tenderers will not be premised on the confirmation by JICA.

k) Additional procurement

If there is any remaining balance after the competitive and/or selective tendering and/or direct negotiation for a contract, and if the Government of Kenya would like to procure additional items, the Agent is allowed to conduct this additional procurement, following the points mentioned below:

(1) Procurement of same products and services

When the products and services to be additionally procured are identical with the initial tender and a competitive tendering is judged not efficient, additional procurement can be conducted by a negotiated contract with the successful tenderer of the initial tender.

(2) Other procurements

When products and services other than those mentioned above in (1) are to be procured, the procurement should be conducted through competitive tendering. In this case, the products and services for additional procurement shall be selected from among those in accordance with the G/A.

l) Conclusion of the Contracts

In order to procure products and services in accordance with the guideline, the Agent shall conclude contracts with firms selected by tendering or other methods.

m) Terms of Payment

The contract shall clearly state the terms of payment. The Agent shall make payment from the "advances," against the submission of the necessary documents from the firm on the basis of the conditions specified in the contract. When the services are the object of procurement, the Agent may pay certain portion of the contract amount in advance to the firms on the conditions that such firms submit the advance payment guarantee worth the amount of the advance payment to the Agent.

4) Undertakings required by the Government of Kenya

In the implementation of the Grant Aid Project, the Government of Kenya is required to undertake necessary measures as the following:

- a) To secure land necessary for the sites of the Project.
- b) To provide facilities for distributing electricity, water supply and drainage and other incidental facilities in and around the sites if necessary.
- c) To assist prompt execution for domestic transportation of products purchased under the Grant Aid as necessary,
- d) To ensure that customs duty, internal tax and other fiscal levies that may be imposed in Kenya with respect to the purchase of the Components and the Agent's services shall be exempted by the Government of Kenya.
- e) To accord all the concerned parties, whose services may be required in connection with supply of the products and services under the contracts, such facilities as may be necessary for their entry into Kenya and stay therein for the performance of their work.

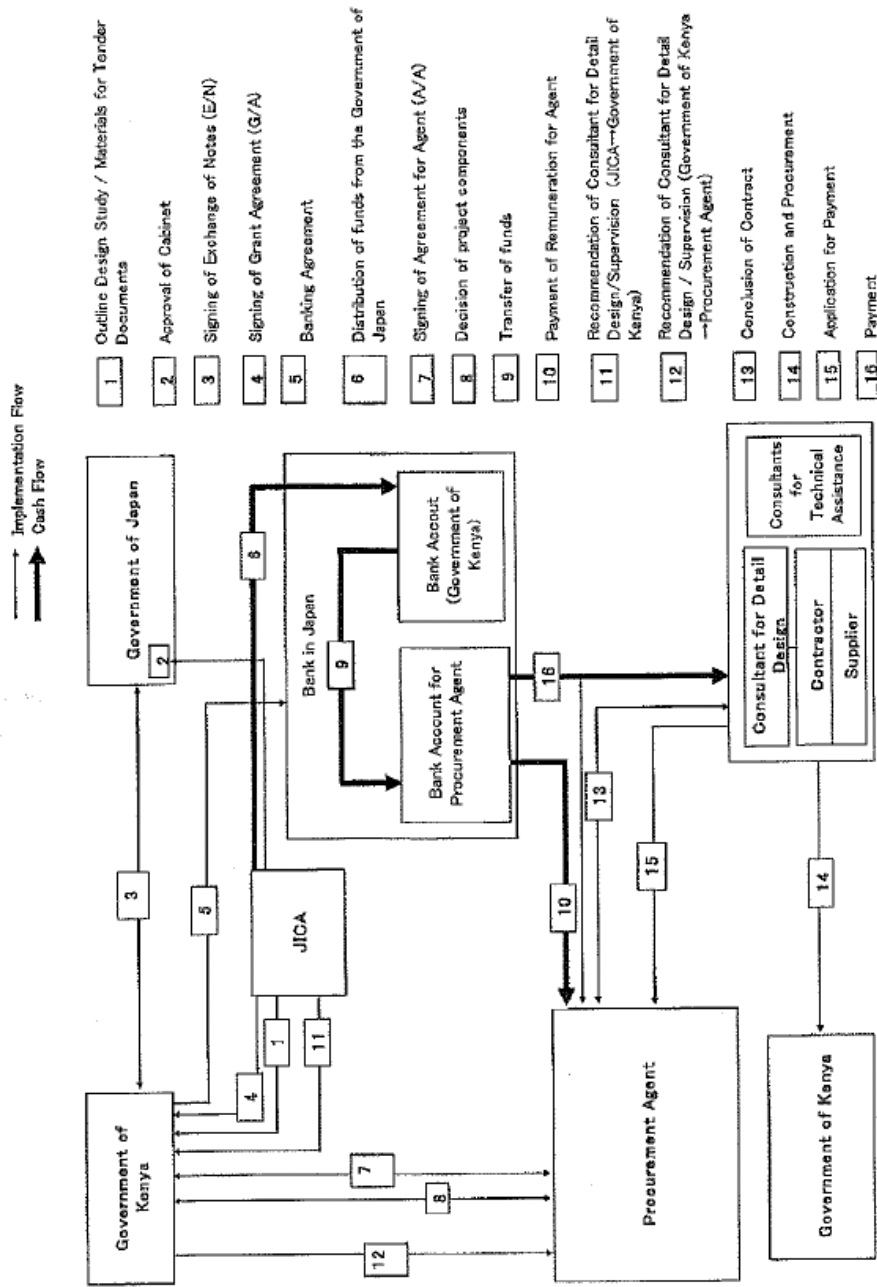
5) "Proper use of funds"

The Government of Kenya is required to take necessary actions so that the facilities constructed under the Grant Aid are properly and effectively used and to ensure sustainable operation and maintenance as well as to bear all the expenses other than those covered by the Grant Aid.

6) "Exported or Re-export"

The products purchased under the Grant shall not be exported or re-exported from Kenya.

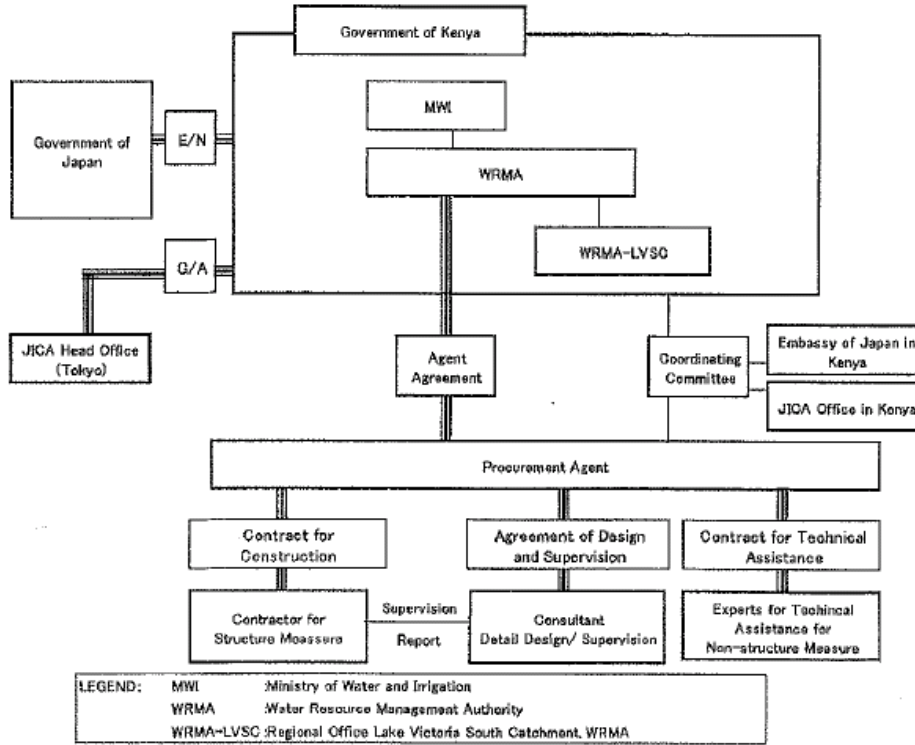
Flow of funds for implementation under the Grant Aid for Environment and Climate Change



**Chart of project implementing organizations
under the Grant Aid for Environment and Climate Change**

IMPLEMENTATION STRUCTURE

==== Contract
—— Report & Consultation



Project Cost Estimation

Items	Amount	Remarks
	(Million JPY)	
I. Construction Cost		Cost for constructing structural measures
Direct Cost	204.8	
Common Temporary Work	11.9	
Subtotal	216.7	
II. Technical Assistance	102.0	Cost for implementing and administering technical assistance (non-structural measures)
III. Detail Design and Construction Management	95.5	Cost to conduct detail design and construction management for structural measures
IV. Procurement Agent Fee	89.0	
Total	503.2	

* The above amount is subject to change during the course of the Outline Design Study

**The above contents are to be kept confidential until all contracts of the project is concluded.

Project Design Matrix (PDM) for Non-Structural Measures
 The Project for Community-Based Flood Disaster Management to Adapt to Climate Change in the Nyando River Basin in the Republic of Kenya
 Target Area : 24 Villages in Kisumu District and Nyando District of Nyanza Province in Kenya
 (12 Villages in Kisumu District: Ras Kariyaka, Nowiten, Bwanda, Otera, Kanuge, Oyela, Kanyengo, Komwaga, Kowiri, Kanget Uge, Kopudo, and Kanyaoonzo)
 (12 Villages in Nyando District: Koiat, Waiessa, Kamagaga, Wangaya Mombasa, Actuodho, Wakesi, Kojien, Kanyilam, Kadika, Nyechoha, Mesunc, and Kojunga)
 Duration : 23 months after the signing of Exchange of Notes
 Target Group : Community Based Flood Management Organizations of 24 villages

OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p>NARRATIVE SUMMARY</p> <p>OVERALL GOAL Capacity for the flood management to adapt to the climate change is strengthened in the Nyando River Basin.</p> <p>PROJECT PURPOSE Capacity for the flood management is strengthened in 24 target communities.</p> <p>OUTPUTS 1 Community Based Flood Management Organizations is established and strengthened in the Project Area. 2 CFMO becomes capable to conduct O&M for constructed structural measures. 3 CFMO becomes capable to implement flood disaster management activities. 4 Public awareness is widely promoted in the Project Area.</p>	<p>1 Number of affected people from flood disasters is reduced. 2 Flood management is replicated throughout the Nyando River Basin.</p> <p>Capacity for the flood management is strengthened by the CFMOs.</p> <p>1.1 By-laws is formulated for each CFMO. 1.2 Financial plan will be formulated for each CFMO.</p> <p>2 O&M manuals is formulated for each CFMO.</p> <p>3.1 Community flood management manual is formulated for each CFMO. 3.2 Evacuation plan is formulated for each CFMO.</p> <p>4.1 Education programs for disaster prevention is formulated and carried out in the targeted 16 schools. 4.2 Radio programs about flood management are broadcasted continuously. 4.3 Posters about flood management is prepared and used for the public relation activities.</p>	<p>1 Record of flood damage 2 Questionnaire survey</p> <p>1 Questionnaire survey in Lessons Learned Meeting 2 Number of residents registered in CFMOs</p> <p>1.1.1 By-laws of each CFMO 1.1.2 Number of meetings and participants 1.2.1 Financial plan of each CFMO 1.2.2 Manual for writing proposals for fundraising of each CFMO 1.2.3 Number of meetings and participants 2.1 O&M manuals of each CFMO 2.2 Number of lectures, on-site trainings, and participants 2.3 Questionnaire survey 3.1 Community flood management manual of each CFMO 3.2 Number of participants in the evacuation drills 4.1.1 Number of teaching materials 4.1.2 Number of textbooks for pupils 4.1.3 Result of assessment for teaching practice 4.1.4 Questionnaire survey of the pupils having received the education programs 4.1.5 Number of pupils 4.2.1 Record of broadcasted long and short radio programs 4.2.2 Questionnaire survey of listeners 4.3 Number of distributed posters</p>
<p>ACTIVITIES</p> <p>1.1 Organizing trainings for CFMOs 1.2 Financial trainings for CFMOs 1.3 O&M trainings for CFMOs 2.1 Community Flood management Manual for CFMOs 2.2 Evacuation drills for CFMOs 3.1 Education programs for disaster prevention 3.2 Radio programs about flood management 3.3 Posters about flood management</p>	<p>INPUTS</p> <p>Japanese Side 1 Procure the experts for supervising the non-structural measures 1.1 Japanese expert (10-SMM) 1.2 Local expert (2 persons and 36MM in total) 2 Procurement of local NGOs to implement the non-structural measures 3 Providing of equipment 3.1 O&M equipment 3.2 3 kinds of signboards to show hazard map, evacuation route, and evacuation places 3.3 Equipment for evacuation drill</p>	<p>1 GOK will replicate the experiences of the Project to other villages.</p> <p>Pre-Conditions 1 GOK policy on disaster management will continue to be highlighted. 2 GOK will support the CFMOs through WRUA.</p>

**Procurement Guidelines for the
Grant Aid for
Environment and Climate Change
(Type I-E)
(Provisional)**

January 2009

**Japan International Cooperation Agency
(JICA)**

PART I Basic Principles

I-I Introduction

These Guidelines (Type I-E) , which are prepared by Japan International Cooperation Agency (hereinafter referred to as "JICA") and are authorized by the Government of Japan, set forth the general rules to be followed by the Government of the recipient country (hereinafter referred to as "the Recipient") in using Japanese Grant (hereinafter referred to as "the Grant") for the procurement of the products and services for the implementation of the programme (hereinafter referred to as "the Programme") which is agreed upon in the Exchange of Notes (hereinafter referred to as "the E/N") between the Government of Japan and the Recipient. These Guidelines (hereinafter referred to "the Guidelines") are applicable to the Grant Aid for Environment and Climate Change.

The application of the Guidelines to a particular programme funded by the Grant will be stipulated in the Grant Agreement (hereinafter referred to as "the G/A") concluded between JICA and the Recipient.

The rights and obligations of the Recipient, procurement agent (hereinafter referred to as "the Agent") and the firm(s) which supplies or provides the products and services for the Programme (hereinafter referred to as "the Firm") are governed by the employment contract (hereinafter referred to as "the Agent Agreement") concluded between the Recipient and the Agent which is defined in the Agreed Minutes on procedural details (hereinafter referred to as "the A/M") signed together with the E/N and in the G/A, by the tender documents, and by the contracts concluded between the Agent and the Firm, and not by the Guidelines.

I-II Parties Concerned

In the Guidelines, the Grant Aid means a set of arrangements where, based on the E/N between the Government of Japan and the Recipient, JICA concludes the G/A with the Recipient and provides to the Recipient the Grant to be expended for procuring products and services necessary for the implementation of the Programme, whereas the Recipient implements the Programme using the Grant. The roles of the concerned parties, including the Government of Japan, JICA, the Recipient, the Agent and the Firm in relation to the implementation of the Programme under the Grant are understood as follows:

- 1) The Government of Japan extends the Grant for the Programme.
- 2) JICA executes the Grant by making payments of the amount agreed upon in the E/N and pays serious attention to ensure the accountability on proper and effective use of the Grant for the Programme.
- 3) The Recipient is the beneficiary of the Grant and is responsible for the implementation of the Programme. The Recipient entrusts the Agent with the procurement of the products and services.

4) The Agent is an impartial and specialized organization which provides procurement services of the products and services on behalf of the Recipient according to the Agent Agreement with the Recipient.

5) The Firm is the contractor who provides the products and services for the Programme in accordance with the contract with the Agent.

I-III Safety Considerations

The Recipient shall comply with all the applicable safety regulations and pay full attention to all the safety measures.

Part II Guidelines for the Use of the Agent

II-I General

II-I-1 Role of the Agent

The Agent shall conduct the procurement services of the products and services for the Programme on behalf of the Recipient. The Agent shall render services with due expertise and in a fair and impartial manner to ensure the smooth and proper implementation of the Programme in order to contribute to fulfilling the purpose of the assistance.

The Agent shall work to maintain rights and interests of the Recipient and maximize the impacts of Japan's assistance. The Agent is also required to pay attention to minimizing the burden of the Recipient.

II-I-2 Agent Agreement

The Recipient shall conclude an Agent Agreement, in principle within two (2) months after the date of signing of the G/A, with the Agent in accordance with the G/A.

After the approval of the Agent Agreement by JICA in a written form, the Agent shall conduct the services referred to in paragraph II-I-3 below on behalf of the Recipient.

II-I-3 Services of the Agent

The Agent shall conduct the services referred to in the Schedule I of the G/A.

II-II Approval of the Agent Agreement

II-II-1 General

The Agent Agreement is prepared as two identical documents and the copy of the Agent Agreement shall be submitted to JICA by the Recipient through the Agent. JICA confirms whether or not the Agent Agreement is concluded in conformity with the G/A and the Guidelines, and approves the Agent Agreement.

The Agent Agreement concluded between the Recipient and the Agent shall become effective after the approval by JICA in a written form.

II-II-2 Reference to the G/A

The Agent Agreement shall refer to the G/A as follows:

JICA shall execute the Grant to the Government of (name of recipient country) in accordance with the G/A signed on (date of signature) between JICA and the Government of (name of recipient country).

II-II-3 Scope of the Services

The scope of the Agent's services shall be clearly specified in the Agent Agreement. The Agent Agreement with the scope of Agent's services in conflict with the G/A shall not be approved by JICA.

II-II-4 Completion of the Services

The Agent Agreement shall clearly state that when the entire amount of the fund transferred from the Recipient's account in the name of the Recipient at a bank in Japan (hereinafter referred to as "the Recipient Account") to the account in the name of the Agent (hereinafter referred to as "the Procurement Account") has been paid for the procurement of the products and services, or when the remaining amount of the said fund has been transferred to the Recipient Account, the Agent's services shall be regarded as complete.

II-II-5 Agent's Fees

The amount and currency or calculations of Agent's fees shall be precisely and correctly stated in the Agent Agreement. The conditions and amount or calculation for additional fees to which the Agent is entitled shall be clearly stated.

II-II-6 Approval of the Agent Agreement

The Agent Agreement shall clearly state that it shall become effective after the approval by JICA in a written form.

II-II-7 Payment Methods

The Agent Agreement shall stipulate that "regarding all transfers of the fund to the Agent, the Recipient shall designate the Agent to act on behalf of the Recipient and issue a Blanket Disbursement Authorization to conduct the transfer of the fund (hereinafter referred to as "the Advances") to the Procurement Account from the Recipient Account."

The Agent Agreement shall clearly state that the payment to the Agent shall be made in Japanese yen from the Advances and that the final payment to the Agent shall be made when the total remaining amount become less than three percent (3%) of the Grant and its accrued interests excluding the Agent's fees.

II-II-8 Force Majeure

The conditions of the Agent Agreement shall contain a clause stating that failure on the part of the Agent to fulfill obligations under the Agent Agreement would not be considered a

default if such failure is the result of an event of force majeure. The scope of force majeure shall be defined in the conditions of the Agent Agreement.

II-II-9 Responsibilities and Obligations of the Recipient

The Agent Agreement shall clearly state the responsibilities and obligations of the Recipient in accordance with the G/A.

II-II-10 Amendment to the Agent Agreement

If an amendment to the Agent Agreement is required, the amended Agent Agreement shall clearly state that:

- (1) all the clauses except that which is / are amended, remain unchanged; and
- (2) the amendment to the Agent Agreement shall become effective only after the approval by JICA in a written form.

Part III Guidelines for the Procurement of the Products and Services by the Agent

III-I General

III-I-1 Products and Services Eligible for Procurement

The products and services to be procured shall be selected from those defined in the G/A. The guidelines issued by the Agent shall be applied to the selection of consultants (persons or juridical persons including universities, NGOs, and others with expertise and experience) necessary for the Programme.

III-I-2 Firm and Expert(s)

(1) In principle, a firm of any nationality could be contracted as long as the firm satisfies the conditions specified in the tender documents.

(2) Notwithstanding the provision (1) above, as a general rule, consultants that will be employed to do detail design and supervise the work for the Programme shall be Japanese nationals recommended by JICA, for the purpose of maintaining technical consistency with the preliminary examination and other related studies, conducted prior to the signing of the G/A (hereinafter referred to as "the Studies").

The recommendation of the consultant by JICA to the Recipient does not mean that JICA shall assume the responsibilities which the consultant shall bear to the Agent for the Recipient on the basis of the Contract

(The term "Japanese nationals" wherever used in the Guidelines means Japanese physical persons or Japanese juridical persons controlled by Japanese physical persons.)

(3) Expert(s) could be deployed to carry out technical assistance to support policy planning of the Recipient in view of achieving economic growth and contributing to climate stability. The expert(s) shall be recommended by JICA to maintain the conceptual consistency with the Studies. In principle, expert(s) is/are preferable to be Japanese nationals if appropriate.

(4) Furthermore, the Firm may be Japanese nationals and the products to be procured may be the products made in Japan or produced or manufactures by Japanese manufacturer(s) in any country if the Recipient requests to procure and / or if the said products have comparative advantages over products produced or manufactures by non- Japanese manufacturer(s).

III-I-3 Misprocurement

JICA requires that, under contracts funded by the Grant, tenderers and Firms observe the highest standard of ethics during the procurement and execution of such contracts. In this regard, JICA shall demand that the Recipient and the Agent shall reject a tender if it determines that the tenderer has engaged in corrupt or fraudulent practices in competing for the contract in question. JICA will recognize a firm as ineligible, for a period determined by JICA, to be awarded a contract funded by the Grant if it at any time determines that the Firm has engaged in corrupt or fraudulent practices in competing for, or in executing any other contracts funded by the Grant or other Japanese ODA.

When the authorities concerned of the Government of Japan decide to impose against a firm such administrative sanctions as debarment, exclusion of goods manufactured, etc., from Japanese governmental procurement, JICA may ask the Recipient and the Agent to exclude the goods manufactured by the sanctioned firm from the procurement under the Grant, for the period of the sanctions by such authorities concerned of the Government of Japan.

III-II Procurement Procedures

III-II-1 Transfer of the fund

The Agent shall take necessary measures for transferring the fund necessary for the procurement of the products and services from the Recipient Account to the Procurement Account prior to the procurement procedures. The fund transferred to the Procurement Account is called the Advances.

III-II-2 Method of Procurement

(1) Competitive Tendering

In implementing procurement, sufficient attention shall be paid so that there is no unfairness among tenderers who are eligible for the procurement of the products and services.

For this purpose, competitive tendering shall be employed in principle.

(2) Other Procurement Methods

If competitive tendering is deemed inappropriate or impractical due to any of the following special situations, the Agent is permitted to proceed with procurement on selective tendering , international shopping or direct contracting :

- 1) when spare parts or accessories, etc. for existing equipment or equipment manufactured by specified manufacture are procured (In this case direct contracting is expected);
- 2) when there are adequate reasons to maintain uniformity and continuity of the products and services provided under an existing contract (In this case direct contracting is expected);

- 3) when the number of firms to satisfy the conditions is limited (In this case selective tendering or international shopping is expected);
- 4) when it is quite doubtful that the prospective tenderers would be interested in participating in competitive tendering, and thereby the advantages of competitive tendering would be outweighed by the administrative burdens involved (In this case selective tendering or international shopping is expected);
- 5) part or all of the tender procedure was not successfully completed and re-tendering is implemented (In this case selective tendering or international shopping is expected);
- 6) when emergency procurement is required (In this case selective tendering or international shopping is expected);and
- 7) when consultants are to be selected (In this case, competitions among contents of Technical Proposals and financial proposal or direct contracting with the consultant recommended by JICA is expected).

When procurement method other than competitive tendering are employed, the Agent shall implement procedures in such a manner as to comply with the competitive tendering procedures described in the Guidelines to the fullest possible extent, in order to ensure the transparency of the selecting procedures.

(3) Modifications of the Programme

The Grant must only be used for procuring the products and services necessary for implementing the Programme, based on the Studies. Therefore, the Recipient is to implement each component based on the items listed on the report of the Studies prepared and submitted for the Recipient by JICA and / or concerned parties. However, on the occasion that the content the Programme shall be modified due to various reasons at the stage of determining the details or implementing the Programme, the Recipient must obtain prior approval from JICA under the consensus of committee established in the G/A through the Agent, provided that the modifications of the Programme are beyond the concept of the Studies.

The prior consent for the modifications is conducted by JICA to ensure that the modifications of the Programme are appropriate and to confirm whether any modifications are required on the contract price or not, however it does not mean that JICA will assume the legal or technical responsibilities for the substance of the modifications.

On the other hand, provided that the modifications of the Programme are minor than the concept of the Studies, the Recipient, through the Agent, must obtain post-identification from JICA.

The details of the procedures for modifications will be advised by JICA separately.

(4) Additional Procurement

If the Recipient may request an additional procurement by using the Remaining Amount described in (5) 1) below, the Agent is allowed to conduct an additional procurement, following the points mentioned below:

1) Procurement of the same products and services

The additional procurement may be implemented by a direct contracting with the successful tenderer of the initial tender when a competitive tendering is judged to be disadvantageous or uneconomical in such cases where the products and services to be additionally procured are identical with the initial tender and also the quantity to be additionally procured is limited, or there was no other participants than the successful tenderer in the initial tender. When a direct contracting with the same firm is not necessarily advantageous or appropriate in such case where a portion of the balance is relatively large, firms shall be selected through a new tendering procedure.

2) Other procurements

When the products and services other than those mentioned in (1) above are to be procured, the procurement shall be implemented in principle through a competitive tendering. In this case, the products and services for additional procurement shall be selected from among those in accordance with the G/A.

(5) Handling of the Remaining Amount

1) "The Remaining Amount" refers to the difference in amount between "the total amount of the Grant, accrued interests, and where available, the resources received as delay damages, compensations or penalty(ies) (hereinafter referred to as "the Charges")" and "the total payment amount to the Firm and the Agent."

2) In the case conditions described in 3) below are fulfilled, the Recipient may use the Remaining Amount to cover the change of the contract price due to the modifications of the Programme and to fund additional procurements needed in the implementation of the Programme (including changes in the type of procurement of services, etc.) by taking steps described in (6) below. Any funds that remain after the completion of all procurements are to be returned to JICA.

3) Conditions for using the Remaining Amount are as follows:

- (a) It must be used for purposes and scopes stipulated in the G/A;
- (b) It must be used in line with the procedure stipulated in the G/A;
- (c) It must be used in line with the aims and content listed in the Studies and other documents;
- (d) The procurements shall be of the products and services necessary for effectively implementing the relevant projects, and such procurements shall be completed within the period set at the beginning;
- (e) In the case of purchasing or additionally procuring spare parts, the amount used for this out of the Remaining Amount must not exceed twenty percent (20%) of the contract price of

each equipment (or anticipated price by tender, if more appropriate); and

(f) The reimbursement of the Remaining Amount shall be carried out as stipulated in the G/A.

(6) Authorization Process for Using the Remaining Amount

The following steps shall be taken to obtain prior approval of JICA to use the Remaining Amount:

1) the implementing agency of the Recipient submits a proposal for using the Remaining Amount to the committee stipulated in the G/A and obtains its consensus;

2) upon obtaining the committee's consensus, the implementing agency of the recipient country submits to JICA, through the Agent, a request form clearly indicating, together with the design modifications proposal and/or the proposal of additional procurement, the aim and specific reasons (including technical reasons) for the use of the Remaining Amount;

3) JICA, based on the request form mentioned in 2) above, considers from a technical standpoint whether or not to authorize the use of the Remaining Amount; and

4) JICA responds to the implementing agency of the Recipient, through the Agent, regarding the result mentioned in 3) above.

III-II-3 Size of Tender Lot

If a possible tender lot may be technically and administratively divided and such a division is likely to result in the broadest possible competition, the tender lot shall be divided into two or more. On the other hand, in the interest of obtaining the broadest possible competition, any one lot for which a tender is invited shall, whenever possible, be of a size large enough to attract tenderers.

III-II-4 Tender Conditions

The Agent shall fully study and consider technical specifications, construction period, required technical standards, prices, manufacturing, transportation, trade regulations, etc. regarding the products and services to be procured and finalize appropriate tender and procurement conditions after obtaining confirmation by the Recipient. Also, the price expected for the procurement (referential price) shall be set in advance for reference in the selection of firms.

III-II-5 Public Announcement

Public announcement shall be carried out in such a way that all potential tenderers will have fair opportunity to learn about and participate in the tender.

The invitation to prequalification or to tender shall be publicized at least in a newspaper of general circulation in the recipient country (or neighboring countries) or in Japan, and in the easily accessible webpage operated by the Agent. The items to be contained in the public announcement are as follows:

(1) name of the Grant;

- (2) names of the products and services to be procured;
- (3) name of the Agent and contact information including a location of its webpage (written as an agent for the Recipient);
- (4) required qualifications of tenderers;
- (5) date, time and place of the distribution and price of tender documents; and
- (6) other relevant information considered to be necessary for firms to determine whether to participate in the tender.

The Agent is required to publicize the information from (1) to (3) above in the newspapers if other details including (4) to (6) above are advertised on the webpage of the Agent.

III-II-6 Language

The tender invitation, tender documents and contracts should be prepared in principle in English, French or Spanish. In case that announcement is made in a newspaper in circulation in Japan, Japanese translation shall be attached when possible.

III-III Tender Documents

III-III-1 General

- (1) The tender documents should contain all information necessary to enable tenderers to prepare valid offers for the products and services to be procured for the Programme.
- (2) The rights and obligations of the Recipient, the Agent and the Firm of the products and services should be stipulated in the tender documents to be prepared by the Agent. The tender documents shall be prepared in consultation with the Recipient.
- (3) The tender documents shall clearly state that JICA shall execute the Grant to the Government of (name of recipient country) in accordance with the G/A signed on (date of signature) between JICA and the Government of (name of recipient country).
- (4) The tender documents shall clearly state that "JICA requires that, under contracts funded by the Grant, tenderers and the Firm observe the highest standard of ethics during the procurement and execution of such contracts. In this regard, JICA will demand that the Recipient and the Agent shall reject a tender if it determines that the tenderer has engaged in corrupt or fraudulent practices in competing for the contract in question. JICA will recognize a firm as ineligible, for a period determined by JICA, to be awarded a contract funded by the Grant if it at any time determines that the firm has engaged in corrupt or fraudulent practices in competing for, or in executing any other contracts funded by the Grant or other Japanese ODA. When the authorities concerned of the Government of Japan decide to impose against a firm such administrative sanctions as debarment, exclusion of goods manufactured, etc., from Japanese governmental procurement, JICA may ask the Recipient and the Agent to exclude the goods manufactured by the sanctioned firm from the procurement under the Grant, for the period of the sanctions by such authorities concerned of the Government of Japan."

III-III-2 Contents of the Tender Documents

The tender documents should consist of the following documents:

- (1) instruction to tenderers;
- (2) procurement conditions;
- (3) form of the tender; and
- (4) draft of the contract.

If a fee is charged for the tender documents, it should be reasonable and reflect the cost of implementation of the tender procedure.

III-III-3 Major Items Related to the Instruction to Tenderers

(1) The instruction to tenderers should clearly describe the procedure for question and answers, and correction regarding the tender documents, tender procedures, tender evaluations, and the other relevant issues of the tendering process.

(2) The instruction to tenderers should clearly describe the products and services to be procured, qualifications required of tenderers, existence of local agents, elimination of disqualified firms from the tender, eligible source countries, size of contract, place of delivery and date of shipment, insurance, transportation, bond, warranty, tax exemption described in the G/A and other pertinent terms.

(3) The instruction to tenderers should clearly describe that the tender price shall be stated in figures and words as firm and final, and if there is a difference between the price in words and that in figures, the price in words is deemed correct.

III-III-4 Procurement Conditions

(1) Clarity and Accuracy of Conditions

The procurement conditions should specify clearly and in detail the services to be performed, the products and services to be supplied and the relevant terms such as contents of the products and services, technical specifications, the place of delivery, etc.

The procurement conditions should identify the main factors or criteria to be taken into account in evaluation and comparison of tenders. The procurement conditions should be prepared so as to secure the broadest possible competitive tendering.

(2) Impartiality of the Technical Specifications

The technical specifications supplied with Procurement Conditions should be based on the related characteristics and required capacities of the products and services to be procured. Making reference to trademark names, catalogue numbers or similar classifications should be avoided unless in the case of the procurement of particular spare parts, etc.

(3) Standards

In the event that specifications require products to comply with industrial standards, technical specifications should be decided in appropriate manner, considering that the products meeting internationally accepted standards and domestically accepted standards and should be stated in the tender document.

III-III-5 Forms of Tender

The following forms of tender should be clarified:

- (1) tender qualification certificates;
- (2) tender specifications; and
- (3) tender price.

III-III-6 Draft of the Contract

The draft contract should clearly state "the contract terms" such as "the rights and obligations of the Recipient, the Agent and the Firm, etc." and the following items:

- (1) terms of payment;
- (2) warranty period;
- (3) performance bond;
- (4) non-performance of the contract;
- (5) force majeure; and
- (6) settlement of disputes.

III-IV Implementation of Tender

III-IV-1 Preparatory Period for the Tender

The allowable period for the preparation and submission of the tender should be determined with due consideration to the particular circumstances related to the Programme in the recipient country and the scale and complexity of the tender lots. Sufficient period before the date of tender should be allowed from the date when the documents are made available for potential tenderers.

III-IV-2 Guarantee for the Tender

The Agent may request that the tenderers submit bid bond (e.g. bank guarantees) for the tender. The amount of the bid bond, however, should not be so high as to discourage potential tenderers. The bid bonds submitted from the unsuccessful tenderers should be returned immediately after the award of the contract.

III-IV-3 Questions and Answers regarding the Tender Documents

The Agent, for the purpose of the smooth implementation of the tender, should accept questions about the tender documents from the purchasers of the documents and provide answers to the questions, in accordance with the following points:

- (1) a reasonable period should be set, respectively for accepting questions and providing answers to those questions; and
- (2) the answers should be given to all those who have purchased the tender documents well in advance of the date of tender so that the prospective tenderers can take proper measures.

III-IV-4 Correction and Alteration of the Tender Documents

Any additional information, supplementary explanations, correction of errors and alterations

related to the tender documents should be notified to all those who have purchased the tender documents well in advance of the date of tender so that prospective tenderers can take proper measures.

III-IV-5 Pre-qualification Examination of Tenderers

(1) The Agent may conduct a pre-qualification examination of tenderers in advance of the tender so that the invitation to the tender can be extended only to eligible firms.

(2) The pre-qualification examination should be performed not to limit the tenderers but to confirm the capability and resources of potential tenderers to perform the particular work satisfactorily and should not hinder the objective of the competitive tendering.

(3) In this case, the following points should be taken into consideration:

- 1) experience and past performance in contracts of a similar kind;
- 2) property foundation or financial credibility;
- 3) existence of local offices, etc. to be specified in the tender documents; and
- 4) their potentialities to use necessary personnel, equipment and facilities.

III-IV-6 Tender Procedures

(1) The tender documents should clearly indicate the deadline of the date and time for accepting the tendering as well as the date and place for opening the tender.

(2) The tenderer should be instructed to submit the following necessary tender documents:

- 1) tender qualification certificates;
- 2) tender specifications; and
- 3) tender price.

(3) All tenders should be opened in the presence of the Agent and tenderers or their representatives at the fixed date, time and place. The presence of tenderers is not requirement as far as transparency and necessary confidentiality are secured. Tenderers who do not attend the tender opening should not be disadvantaged in the respect of selection procedure.

(4) Any tender submitted after the specified deadline is not acceptable as a valid tender.

(5) In opening tenders with the attendance of tenderers, the name of each tenderer and the tender price concerned shall be read aloud and recorded.

III-IV-7 Supplementary Explanation and Modifications of the Tender during Tender Evaluation

(1) No tenderers shall be permitted to modify the contents of the tenders after the tenders have been opened.

(2) The Agent may request any tenderers to make a supplementary explanation but not permitted to request them for a substantial modifications of the contents of the tenders and a change in tender prices.

III-IV-8 Confidentiality of Tender Process

Until notification of the award has been sent to the successful tenderer, the Recipient and the Agent shall not disclose to the tenderers and to other people who are not officially concerned with the tender procedures, any information on the examination of the tenders, supplementary explanations and evaluations, or any information related to the recommendation of a successful tenderer.

III-IV-9 Examination of Tenders

The Agent shall examine the following items with regard to the submitted tenders:

- (1) serious errors in calculation;
- (2) attachment of requested documents;
- (3) attachment of requested certificates;
- (4) attachment of requested guarantees;
- (5) confirmation of proper signatures to the documents; and
- (6) conformity of the submitted tenders with the instruction of the tender documents.

In examining the tenders, if a tender does not substantially conform to the specifications, or contains inadmissible reservations or is otherwise not substantially responsive to the tender documents, it should be disqualified.

After the above examination, each tender that satisfies the conditions should be technically examined for evaluation and comparison, in principle beginning with those submitted from the tenderer with the lowest tender price.

III-IV-10 Tender Evaluation

(1) The tender evaluation shall be implemented on the basis of the conditions specified in the tender documents.

(2) Those tenders which substantially conform to the technical specifications, and are responsive to other stipulations of the tender documents, shall be judged in principle on the basis of the submitted price, and the tenderer who offers the lowest price shall be designated as the successful tenderer. In case the selection of successful tenderer solely based on the submitted prices is not appropriate or irrational in the respect of the natures of the products and services to be procured, other elements than the price such as length of delivery or construction periods, superiority of technical specifications, etc. might be considered by qualifying their degrees and evaluated comprehensively together with the price competitiveness. In such cases, method and standard of tender evaluation shall be clearly explained in the tender documents.

(3) In cases where satisfactory results in the respect of price or other relevant elements, if any, are not offered in the tender, the Agent may negotiate with the most advantageous tenderer (if this fails to obtain satisfactory results, the second ranking tenderer) to try and conclude a satisfactory contract (a contract ad libitum).

(4) If the tender is divided into several lots, the tender evaluation shall be performed for each lot.

III-IV-11 Tender Evaluation Report

The Agent shall prepare a detailed tender evaluation report clarifying the reasons for the successful tender and the disqualification, and submit it to the Recipient to obtain confirmation before concluding the contract with the successful tenderer. The Agent shall submit a detailed evaluation report of tenders to JICA for its information, while the notification of the results to the tenderers will not be premised on the confirmation by JICA.

III-IV-12 Notification of the Results

(1) The Agent, within the validity period specified in the tender documents, should notify all the tenderers of the results of the tender. In case notification of result within the validity period is not possible, the Agent shall notify all the tenderers of the extension of the period before the expiry of the original period.

(2) No tenderers shall be required, as a condition to be successful tenders, to bear responsibilities or obligations that are not described in the tender documents.

III-IV-13 Rejection of Tenders and Re-tender

(1) The Agent shall not implement the re-tendering with the same specifications merely for the purpose of reducing the price except when the lowest tender price has exceeded the referential price. The rejection of all tenders may only be justified in the following cases:

- 1) successful tender was not given even after the result of negotiation with the advantageous tenderers in such case where offer prices extremely exceed the referential price;
- 2) all tenders do not comply with the tender documents as a result of the examination and evaluation of the tenders;
- 3) it is clear that competition is impeded in the process; and
- 4) there is a rational reason to believe that the aim of procurement shall not be achieved by continuing the ongoing tender procedure.

(2) In case all the tenders are to be rejected and the re-tender to be called, the Agent should examine the causes and consider revising the specifications and other conditions specified in the original tender documents as well as procurement methods.

III-V Conclusion of the Contract

III-V-1 General

In order to procure the products and services in accordance with the G/A, the Agent shall conclude contracts with the Firm selected by tendering or other methods. If more than one lot is awarded to the same contractor, the contracts may be combined into one.

III-V-2 Reference to the G/A

The contract shall clearly state that JICA shall execute the Grant to the Government of (name of recipient country) in accordance with the G/A signed on (date of signature) between JICA and the Government of (name of recipient country).

III-V-3 Contents of the Products and Services

The contract shall clearly state the contents of the products and services to be procured. The contract of the procurement of the products and services which are not covered by the G/A shall not be concluded.

III-V-4 Contract Price

The amount of all contract prices and, where there is/are amendment(s) of the contract, amended contract prices (hereinafter jointly referred to as "the Contract Prices") and the Agent's Fee shall not exceed the amount of the Grant and its accrued interest. In case that there are the Charges, the total amount of the Contract Prices shall not exceed the sum of the Grant, its accrued interests and the Charges. Each of the Contract Prices and the Agent's Fee shall be precisely and correctly stated in both words and figures. If there is a discrepancy between the price in words and that in figures, the price in words is deemed correct.

III-V-5 Terms of Payment

The contract shall clearly state the terms of payment. The Agent shall make payment from the Advances, against the submission of the necessary documents from the Firm on the basis of the conditions specified in the contract, after the obligations of the Firm have been fulfilled. When the services are the object of procurement, the Agent may pay certain portion of the contract amount in advance to the Firm on the conditions that such the Firm submits the advance payment guarantee worth the amount of the advance payment to the Agent.

III-V-6 Warranty

The contract shall clearly state the contents and the period of warranty if warranty is provided to the products and services to be procured from the providers of such products and services.

III-V-7 Performance Guarantee

Each of the Firm may be requested to submit performance guarantees. Such performance guarantees shall be of an appropriate amount, and it shall be returned immediately after delivery of the products and completion of the services.

III-V-8 Non-performance of the Contract

The contract shall clearly state that if the performance of a contract by the Firm is delayed from the contracted period of execution or results in non-performance due to other reasons including bankruptcy, etc., the Agent is permitted to claim the payment of indemnities, forfeiture of the performance guarantees, or cancellation of the contract against the Firm

III-V-9 Force Majeure

The contract should contain a clause to the effect that failure on the part of the Firm to fulfill obligations under the contract would not be considered a default if such failure is the result of an event of force majeure as defined in the terms of the contract.

III-V-10 Consultation and Resolution Procedures

The procedures for consultation and resolution shall be clearly stipulated for both cases that the damage is ascribed to the Recipient / the Agent and/or the Firm or that the damage is ascribed to force majeure.

III-V-11 Disputes and Arbitration Procedures

The procedures for disputes and arbitration shall be clearly stipulated.

III-V-12 Modifications Procedure

The modifications procedures of the contract shall be clearly stipulated, when modification is deemed necessary by the Recipient / the Agent and the Firm.

III-V-13 Responsibilities and Obligations of Each Party

The contract shall clearly state the responsibilities and obligations of the Recipient, the Agent and the Firms.

III-V-14 Applicable Law

The contract shall clearly state the applicable law by which the contract is governed and interpreted.

III-V-15 Effectuation, Amendment, and Announcement of the Results of the Contract

(1) The contract shall become effective only after the signing of the contract between the Agent and the Firm.

(2) The Agent shall submit the copy of the contract with the Firm to JICA for its information.

(3) If an amendment to the contract is required, the Agent, obtaining the consent of the Recipient in advance, shall conclude a contract for the amendment with the Firm. The amended contract shall clearly state that "All clauses except that which is or are amended, remain unchanged". Also, the Agent shall submit a copy of the amended contract to JICA.

(4) The Agent shall, as soon as the contract is concluded, announce information on the contract such as names of procured items, name of the Firm, amount of contract and date of contract on the webpage of the Agent.

III-V-16 Reporting to JICA

The Recipient, through the Agent, shall periodically submit a written report on the progress of the Programme to JICA.



NEMA/NY/ER/0068
Application Reference No.
Registration No: 0002627

For official use

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA)

THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION ACT
ENVIRONMENTAL IMPACT ASSESSMENT LICENCE

This is to certify that the Project Report/Environmental Impact Assessment Study Report received from
.....KOWITL COMMUNITY BASED ORGANIZATION..... (Name
of individual/firm) P.O. BOX 666-40100, KISUMU..... (Address)
submitted to the National Environment Management Authority in accordance with the Environmental Impact
Assessment & Audit Regulations regarding ...PROPOSED DEVELOPMENT OF AN EVACUATION.....
.....CENTRE.....
(title of project) whose objective is to carry on ...PROVISION OF EMERGENCY TEMPORARY SHELTER
.....DURING FLOODS.....
..... (briefly describe purpose) located
at ...KOMWAGA VILLAGE, UPPER BWANDA SUB-LOCATION, BWANDA LOCATION, KADIBO.....
.....DIVISION, KISUMU EAST DISTRICT..... (locality and district)
has been reviewed and a licence is hereby issued for implementation of the project, subject to attached
conditions.

Dated this 5TH day FEB of 20 09.

Signature 

(SEAL)

Director General
The National Environment Management Authority

CONDITIONS OF LICENCE

1. This licence is valid for a period of 24 MONTHS (time within which the project should commence) from the date hereof.
2. The Director-General shall be notified of any transfer/variation/surrender of this licence.

3. The proponent shall ensure strict adherence to the Environmental Management Plan developed throughout the project cycle.
4. The proponent shall collaborate with the EIA Expert(s) and the contractor(s) to ensure that the proposed mitigation measures are adhered to during the construction phase and where necessary appropriate mending-up activities undertaken and a report of the same submitted to NEMA. Emphasis must be given to control of dust, noise, vibrations and occupational hazards and provision of sanitary accommodation to construction workforce.
5. The proponent shall comply with the relevant principal laws, by-laws and guidelines issued for development of such a project within the jurisdiction of Municipal Council of Kisumu and other relevant Authorities.
6. The proponent shall ensure that the development adheres to zoning specification issued for development of such a project within the jurisdiction of Municipal Council of Kisumu, Water Resources and Management Authority with emphasis on density requirement and approved land use for the area.
7. The proponent shall ensure that during the construction phase, the operation adhere to The Occupational Safety and Health Act no. 15 of 2007.
8. The proponent shall ensure environmental protection facilities or measures to prevent pollution and ecological deterioration such as routine clearance of culverts and lining of toilets are designed, constructed and employed simultaneously with the proposed project.
9. The proponent shall ensure that records on condition of licenses/approval and project monitoring and evaluation shall be kept on the project site for inspection by NEMA's Environment inspectors.
10. The proponent shall submit an Environmental Audit Report in the first year of occupation/operation/commissioning to confirm the efficacy and the adequacy of the Environmental management Plan.
11. The proponent shall comply with NEMA's improvement orders throughout the project cycle.



NEMA/NY/PR/0010
Application Reference No.
Registration No: 002628

For official use.

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA)
THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION ACT
ENVIRONMENTAL IMPACT ASSESSMENT LICENCE

This is to certify that the Project Report/Environmental Impact Assessment Study Report received from
.....KOPUDO..VILLAGE..DEVELOPMENT..COMMUNITY..BASED..ORGANIZATION..... (Name
of individual/firm)..... P.O.. BOX.. 666-40100.. KISUMU..... (Address)
submitted to the National Environment Management Authority in accordance with the Environmental Impact
Assessment & Audit Regulations regarding PROPOSED TWO CULVERTS AND A FOOT BRIDGE
.....
(title of project) whose objective is to carry on FLOOD MITIGATION
.....
..... (briefly describe purpose) located
at KAMGET..UGWE..VILLAGE,..CENTRAL..BWANDA..SUB-LOCATION,..BWANDA..LOCATION
.....
KISUMU..EAST..DISTRICT..... (locality and district)
has been reviewed and a licence is hereby issued for implementation of the project, subject to attached
conditions.

Dated this.....5TH.....day..FEB.....of 20..09.

Signature.....*Ani Jomzi*.....
(SEAL)

Director General
The National Environment Management Authority

CONDITIONS OF LICENCE

1. This licence is valid for a period of 24..MONTHS.. (time within which the project should commence) from the date hereof.
2. The Director-General shall be notified of any transfer/variation/surrender of this licence.

3. The proponent shall ensure strict adherence to the Environmental Management Plan developed throughout the project cycle.
4. The proponent shall collaborate with the EIA Expert(s) and the contractor(s) to ensure that the proposed mitigation measures are adhered to during the construction phase and where necessary appropriate mending-up activities undertaken and a report of the same submitted to NEMA. Emphasis must be given to control of dust, noise, vibrations and occupational hazards and provision of sanitary accommodation to construction workforce.
5. The proponent shall comply with the relevant principal laws, by-laws and guidelines issued for development of such a project within the jurisdiction of Municipal Council of Kisumu and other relevant Authorities.
6. The proponent shall ensure that the development adheres to zoning specification issued for development of such a project within the jurisdiction of Municipal Council of Kisumu, Water Resources and Management Authority with emphasis on density requirement and approved land use for the area.
7. The proponent shall ensure that during the construction phase, the operation adhere to The Occupational Safety and Health Act no. 15 of 2007.
8. The proponent shall ensure environmental protection facilities or measures to prevent pollution and ecological deterioration such as routine clearance of culverts are designed, constructed and employed simultaneously with the proposed project.
9. The proponent shall ensure that records on condition of licenses/approval and project monitoring and evaluation shall be kept on the project site for inspection by NEMA's Environment inspectors.
10. The proponent shall submit an Environmental Audit Report in the first year of occupation/operation/commissioning to confirm the efficacy and the adequacy of the Environmental management Plan.
11. The proponent shall comply with NEMA's improvement orders throughout the project cycle.



NEMA/NY/PR/0011
 Application Reference No.
 Registration No. **0002629**

For official use

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA)

THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION ACT
 ENVIRONMENTAL IMPACT ASSESSMENT LICENCE

This is to certify that the Project Report/Environmental Impact Assessment Study Report received from
KAPODO VILLAGE DEVELOPMENT COMMUNITY BASED ORGANIZATION..... (Name
 of individual/firm)P.O. BOX 666-40100, KISUMU..... (Address)
 submitted to the National Environment Management Authority in accordance with the Environmental Impact
 Assessment & Audit Regulations regarding ...PROPOSED BOREHOLE DRILLING.....

 (title of project) whose objective is to carry onPROVISION OF WATER FOR DOMESTIC USE.....

 (briefly describe purpose) located
 at ...KOPUDO VILLAGE, ANYURO SUB-LOCATION, KANYAGWAL LOCATION, KISUMU.....
 ..EAST DISTRICT..... (locality and district)
 has been reviewed and a licence is hereby issued for implementation of the project, subject to attached
 conditions.

Dated this...5TH...day...FEB...of 20...09..

Signature.....*[Handwritten Signature]*.....
 (SEAL)

Director General
 The National Environment Management Authority

CONDITIONS OF LICENCE

1. This licence is valid for a period of...24...MONTHS. (time within which the project should commence) from the date hereof.
2. The Director-General shall be notified of any transfer/variation/surrender of this licence.

3. The proponent shall ensure strict adherence to the Environmental Management Plan developed throughout the project cycle.
4. The proponent shall collaborate with the EIA Expert(s) and the contractor(s) to ensure that the proposed mitigation measures are adhered to during the construction phase and where necessary appropriate mending-up activities undertaken and a report of the same submitted to NEMA. Emphasis must be given to control of dust, noise, vibrations and occupational hazards and provision of sanitary accommodation to construction workforce.
5. The proponent shall comply with the relevant principal laws, by-laws and guidelines issued for development of such a project within the jurisdiction of Municipal Council of Kisumu and other relevant Authorities.
6. The proponent shall ensure that the development adheres to zoning specification issued for development of such a project within the jurisdiction of Municipal Council of Kisumu, Water Resources and Management Authority with emphasis on density requirement and approved land use for the area.
7. The proponent shall ensure that during the construction phase, the operation adhere to The Occupational Safety and Health Act no. 15 of 2007.
8. The proponent shall ensure environmental protection facilities or measures to prevent pollution and ecological deterioration such as cattle troughs, toilets and bathrooms are designed, constructed and employed simultaneously with the proposed project.
9. The proponent shall ensure that records on condition of licenses/approval and project monitoring and evaluation shall be kept on the project site for inspection by NEMA's Environment inspectors.
10. The proponent shall submit an Environmental Audit Report in the first year of occupation/operation/commissioning to confirm the efficacy and the adequacy of the Environmental management Plan.
11. The proponent shall comply with NEMA's improvement orders throughout the project cycle.



NEMA/NY/PR/0012
Application Reference No. _____
Registration No. **0002630**

For official use

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA)
THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION ACT
ENVIRONMENTAL IMPACT ASSESSMENT LICENCE

This is to certify that the Project Report/Environmental Impact Assessment Study Report received from
.....KANYIAMO DEVELOPMENT COMMUNITY BASED ORGANIZATION..... (Name
of individual/firm) P.O. BOX 656-40100, KISUMU..... (Address)
submitted to the National Environment Management Authority in accordance with the Environmental Impact
Assessment & Audit Regulations regarding PROPOSED CONSTRUCTION OF TWO CULVERTS.....
.....
(title of project) whose objective is to carry on FLOOD MITIGATION.....
.....
..... (briefly describe purpose) located
at KANYIAMO VILLAGE, OGENYA SUB-LOCATION, KANYAGWAL LOCATION, KISUMU.....
..... EAST DISTRICT..... (locality and district)
has been reviewed and a licence is hereby issued for implementation of the project, subject to attached
conditions.

Dated this 5TH day FEB of 2009

Signature 

(SEAL)

Director General
The National Environment Management Authority

CONDITIONS OF LICENCE

1. This licence is valid for a period of 24 MONTHS (time within which the project should commence) from the date hereof.
2. The Director-General shall be notified of any transfer/variation/surrender of this licence.

3. The proponent shall ensure strict adherence to the Environmental Management Plan developed throughout the project cycle.
4. The proponent shall collaborate with the EIA Expert(s) and the contractor(s) to ensure that the proposed mitigation measures are adhered to during the construction phase and where necessary appropriate mending-up activities undertaken and a report of the same submitted to NEMA. Emphasis must be given to control of dust, noise, vibrations and occupational hazards and provision of sanitary accommodation to construction workforce.
5. The proponent shall comply with the relevant principal laws, by-laws and guidelines issued for development of such a project within the jurisdiction of Nyando County Council and other relevant Authorities.
6. The proponent shall ensure that the development adheres to zoning specification issued for development of such a project within the jurisdiction of Nyando County Council with emphasis on density requirement and approved land use for the area.
7. The proponent shall ensure that during the construction phase, the operation adhere to The Occupational Safety and Health Act no. 15 of 2007.
8. The proponent shall ensure environmental protection facilities or measures to prevent pollution and ecological deterioration such as routine clearance of culverts are designed, constructed and employed simultaneously with the proposed project.
9. The proponent shall ensure that records on condition of licenses/approval and project monitoring and evaluation shall be kept on the project site for inspection by NEMA's Environment inspectors.
10. The proponent shall submit an Environmental Audit Report in the first year of occupation/operation/commissioning to confirm the efficacy and the adequacy of the Environmental management Plan.
11. The proponent shall comply with NEMA's improvement orders throughout the project cycle.



NEMA/NY/PR/0013
Application Reference No. **0002631**
Registration No.

For official use

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA)

THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION ACT
ENVIRONMENTAL IMPACT ASSESSMENT LICENCE

This is to certify that the Project Report/Environmental Impact Assessment Study Report received from
.....NYACHIRA - KOLAL SELF-HELP GROUP..... (Name
of individual/firm) P.O. BOX 666-40100, KISUMU..... (Address)
submitted to the National Environment Management Authority in accordance with the Environmental Impact
Assessment & Audit Regulations regarding PROPOSED EVACUATION CENTRE.....
.....
(title of project) whose objective is to carry on PROVISION OF EMERGENCY TEMPORARY.....
.....SHELTER DURING FLOODS.....
.....
..... (briefly describe purpose) located
at KOLAL VILLAGE, KORE SUB-LOCATION, OMBEYL LOCATION, NYANDQ DIVISION.....
.....NYANDQ DISTRICT..... (locality and district)
has been reviewed and a licence is hereby issued for implementation of the project, subject to attached
conditions.

Dated this 5TH..... day FEB..... of 20..09.

Signature..... .....

(SEAL)

Director General
The National Environment Management Authority

CONDITIONS OF LICENCE

1. This licence is valid for a period of 24 MONTHS (time within which the project should commence) from the date hereof.
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5. The proponent shall comply with the relevant principal laws, by-laws and guidelines issued for development of such a project within the jurisdiction of Nyando County Council and other relevant Authorities.
6. The proponent shall ensure that the development adheres to zoning specification issued for development of such a project within the jurisdiction of Nyando County Council with emphasis on density requirement and approved land use for the area.
7. The proponent shall ensure that during the construction phase, the operation adhere to The Occupational Safety and Health Act no. 15 of 2007.
8. The proponent shall ensure environmental protection facilities or measures to prevent pollution and ecological deterioration such as lining of the toilets are designed, constructed and employed simultaneously with the proposed project.
9. The proponent shall ensure that records on condition of licenses/approval and project monitoring and evaluation shall be kept on the project site for inspection by NEMA's Environment inspectors.
10. The proponent shall submit an Environmental Audit Report in the first year of occupation/operation/commissioning to confirm the efficacy and the adequacy of the Environmental management Plan.
11. The proponent shall comply with NEMA's improvement orders throughout the project cycle.



NEMA/NY/PR/0014
Application Reference No.
Registration No. **0002632**

For official use

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA)

THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION ACT
ENVIRONMENTAL IMPACT ASSESSMENT LICENCE

This is to certify that the Project Report/Environmental Impact Assessment Study Report received from
..... WASIESE MIGINGO COMMUNITY (Name
of individual/firm) P.O. BOX 666-40100, KISUMU (Address)
submitted to the National Environment Management Authority in accordance with the Environmental Impact
Assessment & Audit Regulations regarding PROPOSED FOOT BRIDGE
.....
(title of project) whose objective is to carry on PROVISION OF ACCESS TO THE COMMUNITY
..... COMMUNICATION
.....
..... (briefly describe purpose) located
at WASIESE VILLAGE, KORE SUB-LOCATION, NYANDU DISTRICT
..... (locality and district)
has been reviewed and a licence is hereby issued for implementation of the project, subject to attached
conditions.

Dated this 5TH day, FEB of 20 09

Signature 

(SEAL)

Director General
The National Environment Management Authority

CONDITIONS OF LICENCE

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5. The proponent shall comply with the relevant principal laws, by-laws and guidelines issued for development of such a project within the jurisdiction of Nyando County Council and other relevant Authorities.
6. The proponent shall ensure that the development adheres to zoning specification issued for development of such a project within the jurisdiction of Nyando County Council with emphasis on density requirement and approved land use for the area.
7. The proponent shall ensure that during the construction phase, the operation adhere to The Occupational Safety and Health Act no. 15 of 2007.
8. The proponent shall ensure environmental protection facilities or measures to prevent pollution and ecological deterioration such as the periodic replacement of wooden parts to be submerged in water are designed, constructed and employed simultaneously with the proposed project.
9. The proponent shall ensure that records on condition of licenses/approval and project monitoring and evaluation shall be kept on the project site for inspection by NEMA's Environment inspectors.
10. The proponent shall submit an Environmental Audit Report in the first year of occupation/operation/commissioning to confirm the efficacy and the adequacy of the Environmental management Plan.
11. The proponent shall comply with NEMA's improvement orders throughout the project cycle.



NEMA/NY/PR/0015
Application Reference No. _____
Registration No:.....0002633.....

For official use

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA)

THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION ACT
ENVIRONMENTAL IMPACT ASSESSMENT LICENCE

This is to certify that the Project Report/Environmental Impact Assessment Study Report received from
.....KAMAGAGA SELF HELP GROUP..... (Name
of individual/firm)P.O. BOX 666-40100, KISUMU..... (Address)
submitted to the National Environment Management Authority in accordance with the Environmental Impact
Assessment & Audit Regulations regardingPROPOSED DEVELOPMENT OF EVACUATION.....
.....CENTRE.....
(title of project) whose objective is to carry onPROVISION OF TEMPORARY SHELTER DURING.....
.....FLOODS.....
..... (briefly describe purpose) located
atKAMAGAGA VILLAGE, AHERO IRRIGATION SCHEME SUB-LOCATION, OMBEVI.....
.....LOCATION, NYANDU DISTRICT..... (locality and district)
has been reviewed and a licence is hereby issued for implementation of the project, subject to attached
conditions.

Dated this.....5TH.....day.....FEB.....of 20..09..

Signature.....*A. J. Mwangi*.....

(SEAL)

Director General
The National Environment Management Authority

CONDITIONS OF LICENCE

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6. The proponent shall ensure that the development adheres to zoning specification issued for development of such a project within the jurisdiction of Nyando County Council with emphasis on density requirement and approved land use for the area.
7. The proponent shall ensure that during the construction phase, the operation adhere to The Occupational Safety and Health Act no. 15 of 2007.
8. The proponent shall ensure environmental protection facilities or measures to prevent pollution and ecological deterioration such as toilets and bathrooms are designed, constructed and employed simultaneously with the proposed project.
9. The proponent shall ensure that records on condition of licenses/approval and project monitoring and evaluation shall be kept on the project site for inspection by NEMA's Environment inspectors.
10. The proponent shall submit an Environmental Audit Report in the first year of occupation/operation/commissioning to confirm the efficacy and the adequacy of the Environmental management Plan.
11. The proponent shall comply with NEMA's improvement orders throughout the project cycle.




NEMA/NY/PR/0016
Application Reference No.
Registration No: 0002631

For official use

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA)
THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION ACT
ENVIRONMENTAL IMPACT ASSESSMENT LICENCE

This is to certify that the Project Report/Environmental Impact Assessment Study Report received from
..... AHERO.. IRRIGATION.. MOMBASA.. CAMP.. COMMUNITY..... (Name
of individual/firm) P.O..... BOX.. 666.. 40100, KISUMU..... (Address)
submitted to the National Environment Management Authority in accordance with the Environmental Impact
Assessment & Audit Regulations regarding ... PROPOSED.. BOREHOLE.. DRILLING.. AND.. SIX.....
... CULVERTS.....
(title of project) whose objective is to carry on PROVISION.. OF.. WATER.. FOR.. DOMESTIC.. USE.....
... AND.. FLOOD.. MITIGATION.....
..... (briefly describe purpose) located
at ... MOMBASA.. VILLAGE, .. AHERO.. IRRIGATION.. SCHEME... SUB-LOCATION, .. NYANDO.....
... DISTRICT..... (locality and district)
has been reviewed and a licence is hereby issued for implementation of the project, subject to attached
conditions.

Dated this 5TH day .. FEB of 2009....

Signature..... .....

(SEAL)

Director General
The National Environment Management Authority

CONDITIONS OF LICENCE

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5. The proponent shall comply with the relevant principal laws, by-laws and guidelines issued for development of such a project within the jurisdiction of Nyando County Council and other relevant Authorities.
6. The proponent shall ensure that the development adheres to zoning specification issued for development of such a project within the jurisdiction of Nyando County Council with emphasis on density requirement and approved land use for the area.
7. The proponent shall ensure that during the construction phase, the operation adhere to The Occupational Safety and Health Act no. 15 of 2007.
8. The proponent shall ensure environmental protection facilities or measures to prevent pollution and ecological deterioration such as routine clearance of culverts and use of cattle troughs are designed, constructed and employed simultaneously with the proposed project.
9. The proponent shall ensure that records on condition of licenses/approval and project monitoring and evaluation shall be kept on the project site for inspection by NEMA's Environment inspectors.
10. The proponent shall submit an Environmental Audit Report in the first year of occupation/operation/commissioning to confirm the efficacy and the adequacy of the Environmental management Plan.
11. The proponent shall comply with NEMA's improvement orders throughout the project cycle.



NEMA/NY/PR/0017
Application Reference No.
Registration No. **0002635**

For official use

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA)

THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION ACT
ENVIRONMENTAL IMPACT ASSESSMENT LICENCE

This is to certify that the Project Report/Environmental Impact Assessment Study Report received from
.....ACHUODHO INTEGRATED SELF HELP GROUP..... (Name
of individual/firm)..... P.O. BOX 666-40100, KISUMU..... (Address)
submitted to the National Environment Management Authority in accordance with the Environmental Impact
Assessment & Audit Regulations regarding ...PROPOSED BOREHOLE DRILLING AND.....
..CONSTRUCTION OF TWO CULVERTS.....
(title of project) whose objective is to carry onPROVISION OF WATER FOR DOMESTIC USE.....
.....AND MITIGATION AGAINST FLOOD WATERS.....
.....
..... (briefly describe purpose) located
atACHUODHO VILLAGE, ABUMBA SUB-LOCATION, OMBEYI LOCATION, NYANDO.....
.....DISTRICT..... (locality and district)
has been reviewed and a licence is hereby issued for implementation of the project, subject to attached
conditions.

Dated this.....5TH.....day.....FEB.....of 20...09

Signature.....*A. S. Mwangi*.....

(SEAL)

Director General
The National Environment Management Authority

CONDITIONS OF LICENCE

1. This licence is valid for a period of ..24..MONTHS. (time within which the project should commence) from the date hereof.
2. The Director-General shall be notified of any transfer/variation/surrender of this licence.

3. The proponent shall ensure strict adherence to the Environmental Management Plan developed throughout the project cycle.
4. The proponent shall collaborate with the EIA Expert(s) and the contractor(s) to ensure that the proposed mitigation measures are adhered to during the construction phase and where necessary appropriate mending-up activities undertaken and a report of the same submitted to NEMA. Emphasis must be given to control of dust, noise, vibrations and occupational hazards and provision of sanitary accommodation to construction workforce.
5. The proponent shall comply with the relevant principal laws, by-laws and guidelines issued for development of such a project within the jurisdiction of Nyando County Council and other relevant Authorities.
6. The proponent shall ensure that the development adheres to zoning specification issued for development of such a project within the jurisdiction of Nyando County Council with emphasis on density requirement and approved land use for the area.
7. The proponent shall ensure that during the construction phase, the operation adhere to The Occupational Safety and Health Act no. 15 of 2007.
8. The proponent shall ensure environmental protection facilities or measures to prevent pollution and ecological deterioration such as routine clearance of culverts, use of cattle troughs and lining of toilets are designed, constructed and employed simultaneously with the proposed project.
9. The proponent shall ensure that records on condition of licenses/approval and project monitoring and evaluation shall be kept on the project site for inspection by NEMA's Environment inspectors.
10. The proponent shall submit an Environmental Audit Report in the first year of occupation/operation/commissioning to confirm the efficacy and the adequacy of the Environmental management Plan.
11. The proponent shall comply with NEMA's improvement orders throughout the project cycle.



NEMA/NY/PR/0018
Application Reference No.
Registration No. **0092636**


For official use

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA)

THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION ACT
ENVIRONMENTAL IMPACT ASSESSMENT LICENCE

This is to certify that the Project Report/Environmental Impact Assessment Study Report received from
.....WAKESI...KEYO...COMMUNITY...PROJECT..... (Name
of individual/firm) P.O. BOX 666-40100, KISUMU..... (Address)
submitted to the National Environment Management Authority in accordance with the Environmental Impact
Assessment & Audit Regulations regarding ..PROPOSED BOREHOLE DRILLING AND CONSTRUCTION
..OF ONE CULVERT.....
(title of project) whose objective is to carry on PROVISION OF WATER FOR DOMESTIC USE.....
.....AND MITIGATION AGAINST FLOOD WATERS.....
..... (briefly describe purpose) located
at ...WAKESI VILLAGE, NYALUNYA SUB-LOCATION, OMBEYI LOCATION, NYANDO.....
.....DISTRICT..... (locality and district)
has been reviewed and a licence is hereby issued for implementation of the project, subject to attached
conditions.

Dated this.....5TH.....day.....FEB.....of 20...09.

Signature.....

(SEAL)

Director General
The National Environment Management Authority

CONDITIONS OF LICENCE

1. This licence is valid for a period of 24 MONTHS.. (time within which the project should commence) from the date hereof.
2. The Director-General shall be notified of any transfer/variation/surrender of this licence.

3. The proponent shall ensure strict adherence to the Environmental Management Plan developed throughout the project cycle.
4. The proponent shall collaborate with the EIA Expert(s) and the contractor(s) to ensure that the proposed mitigation measures are adhered to during the construction phase and where necessary appropriate mending-up activities undertaken and a report of the same submitted to NEMA. Emphasis must be given to control of dust, noise, vibrations and occupational hazards and provision of sanitary accommodation to construction workforce.
5. The proponent shall comply with the relevant principal laws, by-laws and guidelines issued for development of such a project within the jurisdiction of Nyando County Council and other relevant Authorities.
6. The proponent shall ensure that the development adheres to zoning specification issued for development of such a project within the jurisdiction of Nyando County Council with emphasis on density requirement and approved land use for the area.
7. The proponent shall ensure that during the construction phase, the operation adhere to The Occupational Safety and Health Act no. 15 of 2007.
8. The proponent shall ensure environmental protection facilities or measures to prevent pollution and ecological deterioration such as the routine clearance of culverts are designed, constructed and employed simultaneously with the proposed project.
9. The proponent shall ensure that records on condition of licenses/approval and project monitoring and evaluation shall be kept on the project site for inspection by NEMA's Environment inspectors.
10. The proponent shall submit an Environmental Audit Report in the first year of occupation/operation/commissioning to confirm the efficacy and the adequacy of the Environmental management Plan.
11. The proponent shall comply with NEMA's improvement orders throughout the project cycle.



NEMA/NY/PR/0019
Application Reference No.
Registration No. **0002637**

For official use

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA)

THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION ACT
ENVIRONMENTAL IMPACT ASSESSMENT LICENCE

This is to certify that the Project Report/Environmental Impact Assessment Study Report received from
.....KOJLEM SELF-HELP GROUP..... (Name
of individual/firm) P.O. BOX 666-40100, KISUMU..... (Address)
submitted to the National Environment Management Authority in accordance with the Environmental Impact
Assessment & Audit Regulations regardingPROPOSED BOREHOLE DRILLING.....
..... (title of project) whose objective is to carry onPROVISION OF WATER FOR DOMESTIC USE.....
..... (briefly describe purpose) located
at ...KOJLEM VILLAGE, ...MAGINA SUB-LOCATION, NYANDO DISTRICT.....
..... (locality and district)
has been reviewed and a licence is hereby issued for implementation of the project, subject to attached
conditions.

Dated this.....5TH.....day.....FEB.....of 20..09.

Signature.....*Anjamazi*.....

(SEAL)

Director General
The National Environment Management Authority

CONDITIONS OF LICENCE

1. This licence is valid for a period of 24 MONTHS... (time within which the project should commence) from the date hereof.
2. The Director-General shall be notified of any transfer/variation/surrender of this licence.

3. The proponent shall ensure strict adherence to the Environmental Management Plan developed throughout the project cycle.
4. The proponent shall collaborate with the EIA Expert(s) and the contractor(s) to ensure that the proposed mitigation measures are adhered to during the construction phase and where necessary appropriate mending-up activities undertaken and a report of the same submitted to NEMA. Emphasis must be given to control of dust, noise, vibrations and occupational hazards and provision of sanitary accommodation to construction workforce.
5. The proponent shall comply with the relevant principal laws, by-laws and guidelines issued for development of such a project within the jurisdiction of Nyando County Council and other relevant Authorities.
6. The proponent shall ensure that the development adheres to zoning specification issued for development of such a project within the jurisdiction of Nyando County Council with emphasis on density requirement and approved land use for the area.
7. The proponent shall ensure that during the construction phase, the operation adhere to The Occupational Safety and Health Act no. 15 of 2007.
8. The proponent shall ensure environmental protection facilities or measures to prevent pollution and ecological deterioration such as cattle troughs, toilets and bathrooms are designed, constructed and employed simultaneously with the proposed project.
9. The proponent shall ensure that records on condition of licenses/approval and project monitoring and evaluation shall be kept on the project site for inspection by NEMA's Environment inspectors.
10. The proponent shall submit an Environmental Audit Report in the first year of occupation/operation/commissioning to confirm the efficacy and the adequacy of the Environmental management Plan.
11. The proponent shall comply with NEMA's improvement orders throughout the project cycle.



NEMA/NY/PR/0020
Application Reference No.
Registration No. **0002638**

For official use

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA)

THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION ACT
ENVIRONMENTAL IMPACT ASSESSMENT LICENCE

This is to certify that the Project Report/Environmental Impact Assessment Study Report received from
..... KANYILUM MAGINA SELF HELP GROUP..... (Name
of individual/firm) ... P.O. BOX 666-40100, KISUMU..... (Address)
submitted to the National Environment Management Authority in accordance with the Environmental Impact
Assessment & Audit Regulations regarding PROPOSED BOREHOLE DRILLING AND.....
..... CONSTRUCTION OF A STORE.....
(title of project) whose objective is to carry on PROVISION OF WATER FOR DOMESTIC USE.....
..... AND FOOD STORAGE FACILITY.....
.....
..... (briefly describe purpose) located
at KANYIUM VILLAGE, MAGINA SUB-LOCATION, WAWIDHI LOCATION, NYANDO.....
..... DISTRICT..... (locality and district)
has been reviewed and a licence is hereby issued for implementation of the project, subject to attached
conditions.

Dated this 5TH day FEB of 2009...

Signature 
(SEAL)

Director General
The National Environment Management Authority

CONDITIONS OF LICENCE

1. This licence is valid for a period of 24 MONTHS (time within which the project should commence) from the date hereof.
2. The Director-General shall be notified of any transfer/variation/surrender of this licence.

3. The proponent shall ensure strict adherence to the Environmental Management Plan developed throughout the project cycle.
4. The proponent shall collaborate with the EIA Expert(s) and the contractor(s) to ensure that the proposed mitigation measures are adhered to during the construction phase and where necessary appropriate mending-up activities undertaken and a report of the same submitted to NEMA. Emphasis must be given to control of dust, noise, vibrations and occupational hazards and provision of sanitary accommodation to construction workforce.
5. The proponent shall comply with the relevant principal laws, by-laws and guidelines issued for development of such a project within the jurisdiction of Nyando County Council and other relevant Authorities.
6. The proponent shall ensure that the development adheres to zoning specification issued for development of such a project within the jurisdiction of Nyando County Council with emphasis on density requirement and approved land use for the area.
7. The proponent shall ensure that during the construction phase, the operation adhere to The Occupational Safety and Health Act no. 15 of 2007.
8. The proponent shall ensure environmental protection facilities or measures to prevent pollution and ecological deterioration such as waste management and toilet lining are designed, constructed and employed simultaneously with the proposed project.
9. The proponent shall ensure that records on condition of licenses/approval and project monitoring and evaluation shall be kept on the project site for inspection by NEMA's Environment inspectors.
10. The proponent shall submit an Environmental Audit Report in the first year of occupation/operation/commissioning to confirm the efficacy and the adequacy of the Environmental management Plan.
11. The proponent shall comply with NEMA's improvement orders throughout the project cycle.



NEMA/NY/PR/0021
Application Reference No. _____
Registration No. **0002639**

For official use

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA)

THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION ACT
ENVIRONMENTAL IMPACT ASSESSMENT LICENCE

This is to certify that the Project Report/Environmental Impact Assessment Study Report received from
.....KADIKA SELF HELP GROUP..... (Name
of individual/firm) P.O. BOX 666-40100, KISUMU..... (Address)
submitted to the National Environment Management Authority in accordance with the Environmental Impact
Assessment & Audit Regulations regarding ...PROPOSED ONE CULVERT, A FOOT BRIDGE AND...
...A BLOCK FOR FLOOD MITIGATION.....
(title of project) whose objective is to carry onMITIGATION AGAINST FLOOD WATERS.....
.....
..... (briefly describe purpose) located
at.....KADIKA VILLAGE, MAGINA SUB-LOCATION, NYANDO DISTRICT.....
..... (locality and district)
has been reviewed and a licence is hereby issued for implementation of the project, subject to attached
conditions.

Dated this.....5TH.....day.....FEB.....of 20..09.

Signature.....*A. Mwangi*.....

(SEAL)

Director General
The National Environment Management Authority

CONDITIONS OF LICENCE

1. This licence is valid for a period of24 MONTHS (time within which the project should commence) from the date hereof.
2. The Director-General shall be notified of any transfer/variation/surrender of this licence.

3. The proponent shall ensure strict adherence to the Environmental Management Plan developed throughout the project cycle.
4. The proponent shall collaborate with the EIA Expert(s) and the contractor(s) to ensure that the proposed mitigation measures are adhered to during the construction phase and where necessary appropriate mending-up activities undertaken and a report of the same submitted to NEMA. Emphasis must be given to control of dust, noise, vibrations and occupational hazards and provision of sanitary accommodation to construction workforce.
5. The proponent shall comply with the relevant principal laws, by-laws and guidelines issued for development of such a project within the jurisdiction of Nyando County Council and other relevant Authorities.
6. The proponent shall ensure that the development adheres to zoning specification issued for development of such a project within the jurisdiction of Nyando County Council with emphasis on density requirement and approved land use for the area.
7. The proponent shall ensure that during the construction phase, the operation adhere to The Occupational Safety and Health Act no. 15 of 2007.
8. The proponent shall ensure environmental protection facilities or measures to prevent pollution and ecological deterioration such as routine clearing of culverts and use of cattle troughs are designed, constructed and employed simultaneously with the proposed project.
9. The proponent shall ensure that records on condition of licenses/approval and project monitoring and evaluation shall be kept on the project site for inspection by NEMA's Environment inspectors.
10. The proponent shall submit an Environmental Audit Report in the first year of occupation/operation/commissioning to confirm the efficacy and the adequacy of the Environmental management Plan.
11. The proponent shall comply with NEMA's improvement orders throughout the project cycle.



NEMA/NY/PR/0022
Application Reference No.
Registration No. 0002640

For official use

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA)

THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION ACT
ENVIRONMENTAL IMPACT ASSESSMENT LICENCE

This is to certify that the Project Report/Environmental Impact Assessment Study Report received from
.....NYACHODA..SELF..HELP..GROUP..... (Name
of individual/firm).....P.O....BOX..666--40100,,KISUMU..... (Address)
submitted to the National Environment Management Authority in accordance with the Environmental Impact
Assessment & Audit Regulations regardingPROPOSED..CONSTRUCTION..OF..TWO..CULVERTS..
AND...A..FOOT..BRIDGE.....
(title of project) whose objective is to carry onMITIGATION..AGAINST..FLOOD..WATERS..AND.....
.....FACILITATE..COMMUNICATION.....
..... (briefly describe purpose) located
at.....NYACHODA..VILLAGE,,AYWEYO..SUB-LOCATION,,NYANDO..DISTRICT.....
..... (locality and district)
has been reviewed and a licence is hereby issued for implementation of the project, subject to attached
conditions.

Dated this.....5TH.....day.....FEB.....of 20..09.

Signature.....*A. J. Mungizi*.....

(SEAL)

Director General
The National Environment Management Authority

CONDITIONS OF LICENCE

1. This licence is valid for a period of ...24... MONTHS (time within which the project should commence) from the date hereof.
2. The Director-General shall be notified of any transfer/variation/surrender of this licence.

3. The proponent shall ensure strict adherence to the Environmental Management Plan developed throughout the project cycle.
4. The proponent shall collaborate with the EIA Expert(s) and the contractor(s) to ensure that the proposed mitigation measures are adhered to during the construction phase and where necessary appropriate mending-up activities undertaken and a report of the same submitted to NEMA. Emphasis must be given to control of dust, noise, vibrations and occupational hazards and provision of sanitary accommodation to construction workforce.
5. The proponent shall comply with the relevant principal laws, by-laws and guidelines issued for development of such a project within the jurisdiction of Nyando County Council and other relevant Authorities.
6. The proponent shall ensure that the development adheres to zoning specification issued for development of such a project within the jurisdiction of Nyando County Council with emphasis on density requirement and approved land use for the area.
7. The proponent shall ensure that during the construction phase, the operation adhere to The Occupational Safety and Health Act no. 15 of 2007.
8. The proponent shall ensure environmental protection facilities or measures to prevent pollution and ecological deterioration such as mechanism for clearing of culverts are designed, constructed and employed simultaneously with the proposed project.
9. The proponent shall ensure that records on condition of licenses/approval and project monitoring and evaluation shall be kept on the project site for inspection by NEMA's Environment inspectors.
10. The proponent shall submit an Environmental Audit Report in the first year of occupation/operation/commissioning to confirm the efficacy and the adequacy of the Environmental management Plan.
11. The proponent shall comply with NEMA's improvement orders throughout the project cycle.



NEMA/NY/PR/0023
Application Reference No.
Registration No: **0002641**
For official use

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA)

THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION ACT
ENVIRONMENTAL IMPACT ASSESSMENT LICENCE

This is to certify that the Project Report/Environmental Impact Assessment Study Report received from
.....MASUNE KONDIJO WATER USERS SELF HELP GROUP..... (Name
of individual/firm) P.O. BOX 666-40100, KISUMU..... (Address)
submitted to the National Environment Management Authority in accordance with the Environmental Impact
Assessment & Audit Regulations regarding PROPOSED BOREHOLE DRILLING.....
.....
(title of project) whose objective is to carry on PROVISION OF WATER FOR DOMESTIC USE.....
.....
..... (briefly describe purpose) located
at MASUNE VILLAGE, AYWELO SUB-LOCATION, NYANDO DISTRICT.....
..... (locality and district)
has been reviewed and a licence is hereby issued for implementation of the project, subject to attached
conditions.

Dated this..... 5TH..... day FEB..... of 2009...

Signature..... *A. Njiru*.....

(SEAL)

Director General
The National Environment Management Authority

CONDITIONS OF LICENCE

1. This licence is valid for a period of 24 MONTHS (time within which the project should commence) from the date hereof.
2. The Director-General shall be notified of any transfer/variation/surrender of this licence.

3. The proponent shall ensure strict adherence to the Environmental Management Plan developed throughout the project cycle.
4. The proponent shall collaborate with the EIA Expert(s) and the contractor(s) to ensure that the proposed mitigation measures are adhered to during the construction phase and where necessary appropriate mending-up activities undertaken and a report of the same submitted to NEMA. Emphasis must be given to control of dust, noise, vibrations and occupational hazards and provision of sanitary accommodation to construction workforce.
5. The proponent shall comply with the relevant principal laws, by-laws and guidelines issued for development of such a project within the jurisdiction of Nyando County Council and other relevant Authorities.
6. The proponent shall ensure that the development adheres to zoning specification issued for development of such a project within the jurisdiction of Nyando County Council with emphasis on density requirement and approved land use for the area.
7. The proponent shall ensure that during the construction phase, the operation adhere to The Occupational Safety and Health Act no. 15 of 2007.
8. The proponent shall ensure environmental protection facilities or measures to prevent pollution and ecological deterioration such as toilet lining mechanisms are designed, constructed and employed simultaneously with the proposed project.
9. The proponent shall ensure that records on condition of licenses/approval and project monitoring and evaluation shall be kept on the project site for inspection by NEMA's Environment inspectors.
10. The proponent shall submit an Environmental Audit Report in the first year of occupation/operation/commissioning to confirm the efficacy and the adequacy of the Environmental management Plan.
11. The proponent shall comply with NEMA's improvement orders throughout the project cycle.



NEMA/NY/PR/0024
Application Reference No. **0002642**
Registration No.

For official use

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA)
THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION ACT
ENVIRONMENTAL IMPACT ASSESSMENT LICENCE

This is to certify that the Project Report/Environmental Impact Assessment Study Report received from
.....KANJUNGA VILLAGE SELF HELP GROUP..... (Name
of individual/firm)P.O. BOX 666-40100, KISUMU..... (Address)
submitted to the National Environment Management Authority in accordance with the Environmental Impact
Assessment & Audit Regulations regardingPROPOSED CONSTRUCTION OF TWO FOOT.....
.....BRIDGES.....
(title of project) whose objective is to carry onTO FACILITATE COMMUNICATION DURING FLOODS.....
.....
..... (briefly describe purpose) located
atKANJUNGA VILLAGE, NYAKONGO SUB-LOCATION WAWIDHI LOCATION.....
..... (locality and district)
has been reviewed and a licence is hereby issued for implementation of the project, subject to attached
conditions.

Dated this5TH..... dayFEB..... of 2009...

Signature*Anjanzi*.....
(SEAL)

Director General
The National Environment Management Authority

CONDITIONS OF LICENCE

1. This licence is valid for a period of 24 MONTHS (time within which the project should commence) from the date hereof.
2. The Director-General shall be notified of any transfer/variation/surrender of this licence.

3. The proponent shall ensure strict adherence to the Environmental Management Plan developed throughout the project cycle.
4. The proponent shall collaborate with the EIA Expert(s) and the contractor(s) to ensure that the proposed mitigation measures are adhered to during the construction phase and where necessary appropriate mending-up activities undertaken and a report of the same submitted to NEMA. Emphasis must be given to control of dust, noise, vibrations and occupational hazards and provision of sanitary accommodation to construction workforce.
5. The proponent shall comply with the relevant principal laws, by-laws and guidelines issued for development of such a project within the jurisdiction of Nyando County Council and other relevant Authorities.
6. The proponent shall ensure that the development adheres to zoning specification issued for development of such a project within the jurisdiction of Nyando County Council with emphasis on density requirement and approved land use for the area.
7. The proponent shall ensure that during the construction phase, the operation adhere to The Occupational Safety and Health Act no. 15 of 2007.
8. The proponent shall ensure environmental protection facilities or measures to prevent pollution and ecological deterioration such as ground water conservation mechanisms are designed, constructed and employed simultaneously with the proposed project.
9. The proponent shall ensure that records on condition of licenses/approval and project monitoring and evaluation shall be kept on the project site for inspection by NEMA's Environment inspectors.
10. The proponent shall submit an Environmental Audit Report in the first year of occupation/operation/commissioning to confirm the efficacy and the adequacy of the Environmental management Plan.
11. The proponent shall comply with NEMA's improvement orders throughout the project cycle.



NEMA/NY/PB/0001
Application Reference No. **0002644**
Registration No.

For official use

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA)

THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION ACT
ENVIRONMENTAL IMPACT ASSESSMENT LICENCE

This is to certify that the Project Report/Environmental Impact Assessment Study Report received from
.....**BWANDA - KOLWA FLOOD CONTROL SELF-HELP GROUP**..... (Name
of individual/firm).....**P.O. BOX 666-40100, KISUMU**..... (Address)
submitted to the National Environment Management Authority in accordance with the Environmental Impact
Assessment & Audit Regulations regarding**PROPOSED DEVELOPMENT OF TWO WATER PANS**.....
.....**AND FIVE CULVERT FOR FLOOD MITIGATION**.....
(title of project) whose objective is to carry on**FLOOD MITIGATION**.....
.....
..... (briefly describe purpose) located
at**BWANDA VILLAGE, KASULE SUB-LOCATION, CENTRAL KOLWA LOCATION, KADIRO**.....
.....**DIVISION, KISUMU EAST DISTRICT**..... (locality and district)
has been reviewed and a licence is hereby issued for implementation of the project, subject to attached
conditions.

Dated this.....**5TH**.....day.....**FEB**.....of 20**09**...

Signature..........

(SEAL)

Director General
The National Environment Management Authority

CONDITIONS OF LICENCE

1. This licence is valid for a period of **24 MONTHS** (time within which the project should commence) from the date hereof.
2. The Director-General shall be notified of any transfer/variation/surrender of this licence.

3. The proponent shall ensure strict adherence to the Environmental Management Plan developed throughout the project cycle.
4. The proponent shall collaborate with the EIA Expert(s) and the contractor(s) to ensure that the proposed mitigation measures are adhered to during the construction phase and where necessary appropriate mending-up activities undertaken and a report of the same submitted to NEMA. Emphasis must be given to control of dust, noise, vibrations and occupational hazards and provision of sanitary accommodation to construction workforce.
5. The proponent shall comply with the relevant principal laws, by-laws and guidelines issued for development of such a project within the jurisdiction of Municipal Council of Kisumu and other relevant Authorities.
6. The proponent shall ensure that the development adheres to zoning specification issued for development of such a project within the jurisdiction of Municipal Council of Kisumu, Water Resources and Management Authority with emphasis on density requirement and approved land use for the area.
7. The proponent shall ensure that during the construction phase, the operation adhere to The Occupational Safety and Health Act no. 15 of 2007.
8. The proponent shall ensure environmental protection facilities or measures to prevent pollution and ecological deterioration such as routine clearance of culverts and lining of toilets are designed, constructed and employed simultaneously with the proposed project.
9. The proponent shall ensure that records on condition of licenses/approval and project monitoring and evaluation shall be kept on the project site for inspection by NEMA's Environment inspectors.
10. The proponent shall submit an Environmental Audit Report in the first year of occupation/operation/commissioning to confirm the efficacy and the adequacy of the Environmental management Plan.
11. The proponent shall comply with NEMA's improvement orders throughout the project cycle.



NEMA/NZ/PR/0002
Application Reference No. _____
Registration No. **0002645**

For official use

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA)

THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION ACT
ENVIRONMENTAL IMPACT ASSESSMENT LICENCE

This is to certify that the Project Report/Environmental Impact Assessment Study Report received from
.....MOWLEM UNIT SELF HELP GROUP..... (Name
of individual/firm)P.O. BOX 656-40100, KISUMU..... (Address)
submitted to the National Environment Management Authority in accordance with the Environmental Impact
Assessment & Audit Regulations regardingPROPOSED DEVELOPMENT OF AN EVACUATION
.....CENTRE, AND BOREHOLE DRILLING.....
(title of project) whose objective is to carry on.....PROVISION OF SUSTAINABLE DEVELOPMENT.....
.....AND CLEAN PORTABLE WATER.....
..... (briefly describe purpose) located
atMOWLEM VILLAGE, NYALUNYA SUB-LOCTION, KISUMU EAST DISTRICT.....
..... (locality and district)
has been reviewed and a licence is hereby issued for implementation of the project, subject to attached
conditions.

Dated this.....5TH.....day.....FEB.....of 2009.....

Signature.....*Angungi*.....

(SEAL)

Director General
The National Environment Management Authority

CONDITIONS OF LICENCE

- This licence is valid for a period of **24 MONTHS**, (time within which the project should commence) from the date hereof.
- The Director-General shall be notified of any transfer/variation/surrender of this licence.

3. The proponent shall ensure strict adherence to the Environmental Management Plan developed throughout the project cycle.
4. The proponent shall collaborate with the EIA Expert(s) and the contractor(s) to ensure that the proposed mitigation measures are adhered to during the construction phase and where necessary appropriate mending-up activities undertaken and a report of the same submitted to NEMA. Emphasis must be given to control of dust, noise, vibrations and occupational hazards and provision of sanitary accommodation to construction workforce.
5. The proponent shall comply with the relevant principal laws, by-laws and guidelines issued for development of such a project within the jurisdiction of Municipal Council of Kisumu and other relevant Authorities.
6. The proponent shall ensure that the development adheres to zoning specification issued for development of such a project within the jurisdiction of Municipal Council of Kisumu, Water Resources and Management Authority with emphasis on density requirement and approved land use for the area.
7. The proponent shall ensure that during the construction phase, the operation adhere to The Occupational Safety and Health Act no. 15 of 2007.
8. The proponent shall ensure environmental protection facilities or measures to prevent pollution and ecological deterioration such as routine clearance of culverts and lining of toilets are designed, constructed and employed simultaneously with the proposed project.
9. The proponent shall ensure that records on condition of licenses/approval and project monitoring and evaluation shall be kept on the project site for inspection by NEMA's Environment inspectors.
10. The proponent shall submit an Environmental Audit Report in the first year of occupation/operation/commissioning to confirm the efficacy and the adequacy of the Environmental management Plan.
11. The proponent shall comply with NEMA's improvement orders throughout the project cycle.



NEMA/NY/PR/0003
Application Reference No: _____
Registration No: **0002646**

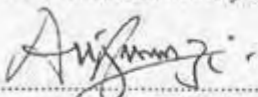
For official use

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA)

THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION ACT
ENVIRONMENTAL IMPACT ASSESSMENT LICENCE

This is to certify that the Project Report/Environmental Impact Assessment Study Report received from
.....RAE..FLOOD..CONTROL..SELF..HELP..GROUP..... (Name
of individual/firm).....P.O..BOX..666-40100,KISUMU..... (Address)
submitted to the National Environment Management Authority in accordance with the Environmental Impact
Assessment & Audit Regulations regardingPROPOSED..DEVELOPMENT..OF..SIX..CULVERTS.....
.....
(title of project) whose objective is to carry on ...FLOOD..MITIGATION.....
.....
..... (briefly describe purpose) located
at ...KASULE..SUB-LOCATION, KISUMU..EAST..DISTRICT.....
..... (locality and district)
has been reviewed and a licence is hereby issued for implementation of the project, subject to attached
conditions.

Dated this5TH.....day.....FEB.....of 20...09.

Signature.....

(SEAL)

Director General
The National Environment Management Authority

CONDITIONS OF LICENCE

1. This licence is valid for a period of 24 MONTHS (time within which the project should commence) from the date hereof.
2. The Director-General shall be notified of any transfer/variation/surrender of this licence.

3. The proponent shall ensure strict adherence to the Environmental Management Plan developed throughout the project cycle.
4. The proponent shall collaborate with the EIA Expert(s) and the contractor(s) to ensure that the proposed mitigation measures are adhered to during the construction phase and where necessary appropriate mending-up activities undertaken and a report of the same submitted to NEMA. Emphasis must be given to control of dust, noise, vibrations and occupational hazards and provision of sanitary accommodation to construction workforce.
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10. The proponent shall submit an Environmental Audit Report in the first year of occupation/operation/commissioning to confirm the efficacy and the adequacy of the Environmental management Plan.
11. The proponent shall comply with NEMA's improvement orders throughout the project cycle.



NEMA/NY/PR/0004
Application Reference No.
Registration No: 0002647

For official use

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA)
THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION ACT
ENVIRONMENTAL IMPACT ASSESSMENT LICENCE

This is to certify that the Project Report/Environmental Impact Assessment Study Report received from
.....OTERA BAHATI SELE HELP GROUP..... (Name
of individual/firm) P.O. BOX 666-40100, KISUMU..... (Address)
submitted to the National Environment Management Authority in accordance with the Environmental Impact
Assessment & Audit Regulations regarding PROPOSED DEVELOPMENT OF FIVE CULVERTS.....
.....
(title of project) whose objective is to carry on FLOOD MITIGATION.....
.....
..... (briefly describe purpose) located
atOTERA VILLAGE, NYALUNYA SUB-LOCATION, KOLWA LOCATION, KISUMU EAST.....
.....DISTRICT..... (locality and district)
has been reviewed and a licence is hereby issued for implementation of the project, subject to attached
conditions.

Dated this 5TH day FEB of 2009.....

Signature 

(SEAL)

Director General
The National Environment Management Authority

CONDITIONS OF LICENCE

1. This licence is valid for a period of 24 MONTHS (time within which the project should commence) from the date hereof.
2. The Director-General shall be notified of any transfer/variation/surrender of this licence.

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NEMA/NY/PR/0005
Application Reference No.
Registration No: **0002648**

For official use

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA)

THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION ACT
ENVIRONMENTAL IMPACT ASSESSMENT LICENCE

This is to certify that the Project Report/Environmental Impact Assessment Study Report received from
.....KAMUGA..DISASTER..MANAGEMENT..AND..FOOD..SECURITY..GROUP..... (Name
of individual/firm)..... P.O. BOX 666-40100, KISUMU..... (Address)
submitted to the National Environment Management Authority in accordance with the Environmental Impact
Assessment & Audit Regulations regarding ...PROPOSED BOREHOLE DRILLING AND CULVERT...
.....
(title of project) whose objective is to carry onFLOOD MITIGATION AND PROVISION OF.....
.....WATER FOR DOMESTIC USE.....
.....
..... (briefly describe purpose) located
at...NYALUNYA SUB-LOCATION, KOLWA CENTRAL LOCATION, KISUMU EAST DISTRICT
..... (locality and district)
has been reviewed and a licence is hereby issued for implementation of the project, subject to attached
conditions.

Dated this.....5TH.....day...FEB.....of 20..09..

Signature.....*Anjamazi*.....

(SEAL)

Director General
The National Environment Management Authority

CONDITIONS OF LICENCE

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11. The proponent shall comply with NEMA's improvement orders throughout the project cycle.



NEMA/SY/PR/0006
Application Reference No. _____
Registration No. **0002649**.....

For official use:

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA)

THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION ACT
ENVIRONMENTAL IMPACT ASSESSMENT LICENCE

This is to certify that the Project Report/Environmental Impact Assessment Study Report received from
.....**OYOLA FLOOD MANAGEMENT SELF HELP GROUP**..... (Name
of individual/firm) **P.O. BOX 666-40100, KISUMU**..... (Address)
submitted to the National Environment Management Authority in accordance with the Environmental Impact
Assessment & Audit Regulations regarding **PROPOSED BOREHOLE DRILLING AND SIX**.....
..... **CULVERTS**.....
(title of project) whose objective is to carry on ... **PROVISION OF WATER FOR DOMESTIC USE**.....
..... **AND MITIGATION AGAINST FLOOD WATERS**.....
.....
..... (briefly describe purpose) located
at ... **OYOLA VILLAGE, KASULE SUB-LOCATION, KADIBO LOCATION, KISUMU**.....
..... **EAST DISTRICT**..... (locality and district)
has been reviewed and a licence is hereby issued for implementation of the project, subject to attached
conditions.

Dated this..... **5TH**..... day..... **FEB**..... of 20..... **09**

Signature..... .....

(SEAL)

Director General
The National Environment Management Authority

CONDITIONS OF LICENCE

1. This licence is valid for a period of ...**24 MONTHS** (time within which the project should commence) from the date hereof.
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11. The proponent shall comply with NEMA's improvement orders throughout the project cycle.



NEMA/NY/PR/0607
Application Reference No. _____
Registration No. **0002650**

For official use

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA)

THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION ACT
ENVIRONMENTAL IMPACT ASSESSMENT LICENCE

This is to certify that the Project Report/Environmental Impact Assessment Study Report received from
.....KANYANGO COMMUNITY DEVELOPMENT GROUP..... (Name
of individual/firm) P.O. BOX 666-40100, KISUMU..... (Address)
submitted to the National Environment Management Authority in accordance with the Environmental Impact
Assessment & Audit Regulations regarding ...PROPOSED CONSTRUCTION OF ONE WIER AND...
...THREE CULVERTS.....
(title of project) whose objective is to carry on ...FLOOD MITIGATION.....
.....
..... (briefly describe purpose) located
at ...KANYANGO VILLAGE, UPPER BWANDA SUB-LOCATION, BWANDA LOCATION,.....
...KISUMU EAST DISTRICT..... (locality and district)
has been reviewed and a licence is hereby issued for implementation of the project, subject to attached
conditions.

Dated this5TH..... day FEB..... of 20..09.

Signature..........

(SEAL)

Director General
The National Environment Management Authority

CONDITIONS OF LICENCE

1. This licence is valid for a period of ...2.4...MONTHS (time within which the project should commence) from the date hereof.
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NEMA/NY/PR/0009
Application Reference No. **0002651**
Registration No.

For official use

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA)

THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION ACT
ENVIRONMENTAL IMPACT ASSESSMENT LICENCE

This is to certify that the Project Report/Environmental Impact Assessment Study Report received from
.....KOWITI..COMMUNITY..BASED..ORGANIZATION..... (Name
of individual/firm)P.O..BOX..666-40100..KISUMU..... (Address)
submitted to the National Environment Management Authority in accordance with the Environmental Impact
Assessment & Audit Regulations regardingPROPOSED..CONSTRUCTION..OF..STORAGE..AND.....
.....CULVERT.....
(title of project) whose objective is to carry on ..PROVISION..OF..STORAGE..FACILITY..AND.....
.....STORM..WATER..DRAINAGE..CONTROL.....
..... (briefly describe purpose) located
at ..KOWITI..VILLAGE,..UPPER..BWANDA..SUB-LOCATION,..KISUMU..EAST..DISTRICT.....
..... (locality and district)
has been reviewed and a licence is hereby issued for implementation of the project, subject to attached
conditions.

Dated this.....5TH.....day..FEB.....of 20..09.

Signature..........

(SEAL)

Director General
The National Environment Management Authority

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AP.4.3 Letter of Consent by 24 Villages

(1) Rae Kanyaika

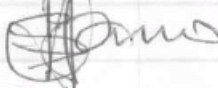

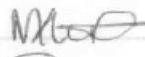


Rae Flood Control Self Help Group,
P.O. Box 2280
KISUMU
2/12/2008

The Managing Director,
JICA
P.O. Box 3325
KISUMU

RE: AGREEMENT FOR THE SUPPLY OF SEVEN CALVERTS TO RAE UNIT

Following our community's action plan, we the undersigned on behalf of the unit have no objection if you could arrange and supply the said calverts and install them accordingly.

Your timely action will be highly appreciated.

Chairman:	Silvester Apamo	
Vice "	Tom Owiti	
Secretary	Monica Achieng	
Vice "	Zephania Odeyo	
Treasurer	Mary Aguko	

(2) Mowlem

MOWLEM UNIT SELF HELP GROUP

P.O. BOX 2280

KISUMU

2/12/08.

TO WHOM IT MAY CONCERN.

We the undersigned members of the Mowlem unit self help group have agreed that the evacuation centre, ten toilets and drilling of borehole to be done at the Rae Kanyaika Primary School since it's our choice and it will serve community well.

1. Joseph Arodi Nyamori – Chairman *J.A. Nyamori*.....
2. Arthur Waore Ayugi - Secretary *A. Waore Ayugi*.....
3. Pamela Akinyi Ochieng – Treasurer *P. Akinyi Ochieng*.....
4. John Abok Samo - Vice chairman *John Abok Samo*.....
5. Mary Kidiga - Assistant secretary *Mary Kidiga*.....
6. Isaiah Ooyi - Committee member *Isaiah Ooyi*.....
7. Gordon Agedi - Committee member *Gordon Agedi*.....
8. Alex Seda Munga - Committee member *Alex Seda Munga*.....
9. Margaret Arodi - Committee member *Margaret Arodi*.....
10. Philister Arodi - Committee member *Philister Arodi*.....

(3) Bwanda

**BWANDA -KOLWA FLOOD CONTROL SELF HELP GROUP
P.O BOX 105 KISUMU**

Date: 1st December 2008

Team Leader
JICA Study Team
Kisumu

Dear Sir,

Ref: Notification on proposed project

In reference to the above we as the members of this self Help Group do pledge our total commitment and appreciation towards the proposed culverts construction for our community. The five culverts will be constructed on public road and therefore there is no objection. We are thankful for the projects and hope for more.

Thanking you in advance,
Yours faithfully,




Rev Walter O. Oluoch
Secretary

Tobias Odoyo Nyagwa


.....
Signature

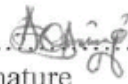
Chairman

Mary Otieno


.....
Signature


Treasurer

Daudi Odera


.....
Signature

Committee Member

Maurice Njura


.....
Signature

Committee Member

(4) Otera

FROM OTERA BAHATI SELF
HELP GROUP (COMMUNITY)
P.O. BOX 285
KISUMU – KENYA
2ND DEC. 2008.

TO JICA
P.O. BOX
KISUMU.

Dear Sir,

RE: FIVE CULVERTS CONSTRUCTION.

We have no objection to the structures proposed for construction being five culverts, we agree to the construction of the above structures.

Yours Faithfully,

Otera Coommunity.

Names	Position	Sign.
1. Grace Opiyo	Chairperson	.....
2. Vincent Odhiambo	Secretary	.....
3. Sarah Omondi	Treasurer	.....
4. Bernard Okiri	Welfare Chairman	.....
5. John Juma	Adm. Rep.	.....
6. Peter Ogonda	Farmer rep.	.....
7. Christine Juma	Women Rep.	.....
8. Raphael Odwar	Elder rep.	.....
9. Priscah Okuro	Women leader	.....
10. Joseph Opiyo	Church leader	.....

Other Members

	Sign.
1. George Obuon
2. Philister Waga
3. Eunice Onyango
4. Rosemary Adhiambo
5. Samuel Okeyo

(5) Kamuga

1-12-2008

5 Kamuga

KAMUGA FLOOD MANAGEMENT/FOOD SECURITY
DEVELOPMENT GROUP.

P. O. BOX 4670

KONDELE - KISUMU

10

THE JAPAN INTERNATIONAL COOP. AGENCY
(JICA)

Dear Sir
RE: ACKNOWLEDGEMENT LETTER

We acknowledge with a lot of appreciation your acceptance to undertake to develop the following Projects for Kamuga Community in Nyalunya Sub-Location in Kolwa central location.

(i) Drilling of a bore hole for obtaining drinking water and for domestic use.

(ii) Constructing modern pit latrines for both males and females each of five (5) doors for flood victims finding refuge in Ofunyu Primary school.

(iii) Improving the evacuation route by placing culverts (2) on the water passing ways for flood victims seeking refuge in Ofunyu Primary school which is our evacuation centre.

Looking forward to your maximum cooperation.
Yours faithfully

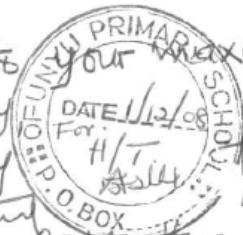
Chairman
[Signature]

Secretary
[Signature]

Treasurer
AUC A. A. A. A.

(i) Committee member
[Signature]

(ii) Committee member
[Signature]



(6) Oyola

Oyola Self Help Group

P.O Box 9710

Winam-Kisumu.

01/12/2008.

To whom it may concern,

Re: Drilling of borehole and culvert placement in Oyala village

We the community of Oyala hereby state that we have no objection of any kind to the construction of the above mentioned structures in our village. We agree to their construction and we know that the structures i.e. the borehole and the culverts shall be of great assistance to us the community of Oyola.

This letter is a result of community agreement to the construction of the above mentioned structures and assures no objection whatsoever from the community.

Thank you for your humble consideration.

Yours,



Dorcas Omollo

Secretary

cc.

1. CBO file
2. JICA Study Team

(7) Kanyango

**KANYANGO COMMUNITY
DEV. GROUP,
P.O. BOX 65,
NYANG'ANDE.**

2ND DECEMBER 2008.

TO WHOM IT MAY CONCERN,

Dear Sir,

**RE: PROPOSED CONSTRUCTION OF WEIR & INSTALLATION
OF CULVERTS**

We write to respond as follows: -

That, following our meeting and subsequent discussion as regards the above issue, Kanyango Community Development Group wishes to re-affirm their commitment and support for the implementation of the said project.


We have no objection whatsoever for the construction of the above structures.

Thanking you in advance for your co-operation.

Yours faithfully,


CHAIRMAN
Fred Odeny
Kanyango Comm. Dev. G


SECRETARY
Ben Ochieng'
Kanyango Comm. Dev. G


TREASURER
Monica Juma
Kanyango Comm. Dev. G

(8) Komwaga

KOMWAGA DEVELOPMENT GROUP
UPPER BWANDA SUB-LOCATION
BWANDA LOCATION
P.O. BOX 18 AHERO

8 Komwaga

3RD DECEMBER 2008

KISUMU OFFICE

LAVICTORS HOUSE, OFF RING, ROAD, MILIMANI.

P.O. BOX 3325 KISUMU KENYA

Dear Sir

REF: LAND PROPOSED FOR EVACUATION CENTER, TOILETS,
AND BATH-ROOM-FOR KOMWAGA DEVELOPMENT GROUP

The Komwaga development group are assuring you that the land they set aside for the above mentioned ^{Project} which you should undertake has no objection from the community at all, with the following signatories

yours faithfully

Komwaga development group Secretary
Helicia Achieng

The chairman - Aloyce Mayoga - 2635965 - ~~Alzy~~

" Secretary - Helicia Achieng - 20314620 - ~~Hy~~

" Treasures - pamella Adhumbi - 11808304 - ~~P~~

Members of the group	ID No
1. Benter Anyango Akello (village elder)	2628307 Hy
2. Joseph warera Boyi (member)	6327285 Hy
3. Alfred Ojwando Ajuang (member)	6169275 P
4. Lucy Adko Diowe (member)	6523535 Hy

(9) Kowiti

KOWITI CBO

P.O BOX 8

MYANGANDE

2-12-2008

THE MANAGER

JICA

RE: ACCEPTANCE TO CONSTRUCT TOILETS AND STORAGE AT RERU AIC PRI-SCHOOL BY KOWITI CBO.

We hereby wish to state that we have reached the agreement on the above mentioned. The school is belonging to the community and therefore is in a better position to serve all members. Furthermore the school has enough land for the project.

The CBO is assuring you that the construction of storage and the toilets is going to be convenient to all the members. This is because we have reached a consensus which is unanimous.

Thanks in advance for your cooperation.

Chairperson Kowiti CBO -

Ahmed

Secretary Kowiti CBO -

Ahmed

Treasurer Kowiti CBO -

Ahmed

Member Kowiti CBO -

Ahmed

Member Kowiti CBO -

Ahmed

(10) Kamget Ugwe

Kam-Get Development Project Group

Kamget

Central Bwanda,

Kadibo, Kisumu.

04/12/2008.

To whom it may concern,

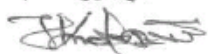
Dear Sir,


Re: Construction of footbridge and Installation of two culverts

We the community of Kamget declare that we have no objection of any kind to the construction of a footbridge and installation of the above mentioned culverts in our village. We agree for the above structures to be constructed in our community and we know that these structures shall be of great assistance to us the community of Kamget.

We are thankful for assistance given to us.

Yours,

Chairman Johnson Ojawa
for chairman


Secretary Johnson Ojawa


cc.

1. CBO file
2. JICA Study Team

(11) Kopudo

KOPUDO COMMUNITY
BASED DEV. GROUP
NYANDE

8/12/08

THE JICA TEAM
KISUMU

Dear Sir,

**RE: DRILING OF BOREHOLE AT OUR EVACUATION CENTRE BWANDA
PRIMARY SCHOOL**

We the community of Kopudo declare that we have no objection to the construction of borehole in our village at the above school.

This letter is a result of the community agreement in a meeting held on 9th December 2008 to the construction of the above structure.

We will appreciate any assistance afforded to use.

Yours,


S. R. AMBOY
CHAIRMAN

cc:
Uhai Kisumu

(12) Kanyiaomo

Kanyiamo Development Project Group

Kanyiamo Village

Kanyagwal,

Kadibo, Kisumu.

03/12/2008.

To whom it may concern,

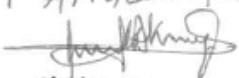
Dear Sir,

Re: Installation of two culverts

We the community of Kanyiamo declare that we have no objection of any kind to the installation of the above mentioned culverts in our village. We agree to their Installation and we know that the culverts shall be of great assistance to us the community of Kanyiamo.


We will appreciate any help afforded to us.

Yours,

FANUEL AKONGO


Chairman

cc. ID 1683971

ROSE A. ONYANGO


Secretary

ID 11382718

1. CBO file
2. JICA Study Team

(13) Kolal

NYACHIRA KOLAL SELF HELP GROUP
BOX 289,
AHERO

2ND DECEMBER, 2008

TO J.I.C.A TEAM,

RE: CONSTRUCTION OF EVACUATIONAL CENTRE

We the Kolal community do hereby confirm our irrevocable consent and aver our steadfast willingness and readiness to make the above project a success.

We would like to inform you further that we have unanimously agreed that it be situated at land parcel No 3345 which is within and belongs to the S.D.A Church. Any view, opinion contrary to what is stated here is retrogressive and malicious and should be treated with the contempt it deserves.

We wish to take this early opportunity to express our sincere gratitude and appreciation for your kind gesture. The project when completed shall create many opportunities for our people and will be a valuable asset to the community at large.

Thanking you in advance

Yours faithfully

Chairperson.....Alice Mwachome.....Signature.....

Secretary.....John Owayo.....Signature.....

Members

1. MAURICE O-KIRANISignature.....

2. MATTHEW K. OUMASignature.....

3. MILLICENT AKINYISignature.....

4. Jackline TABUSignature.....Akinyi

5. Alice OKOTUSignature.....

6. Jackline OdhiamboSignature.....

7.Signature.....

(14) Wasiese

Wasiese Migingo Community Group

Kore Sub-Location

Ahero

03/12/2008.

To whom it may concern,

Dear Sir,

Re: Construction of foot bridge in Wasiese village

We the community of Wasiese declare that we have no objection of any kind to the construction of the above mentioned structures in our village. We agree to their construction and we know that the structures i.e. the footbridge shall be of great assistance to us the community of Wasiese.

This letter is a result of community unanimous consensus in agreement to the construction of the above mentioned structures and assures no objection whatsoever from the community.

We will appreciate any help afforded to us.

Yours,



TOBIAS ODUANGO ID No. 7560841
Barrack Odhiambo

Chairman

cc.

1. CBO file
2. JICA Study Team

(15) Kamagaga

Kamagaga Community Based Organization

Kamagaga Village

PO Box 334

Ahero.

01/12/2008.

To whom it may concern,

Dear Sir,

Re: Construction of foot bridge, toilet and Evacuation Centre in Kamagaga village

We the community of Kamagaga declare that we have no objection of any kind to the construction of the above mentioned structures in our village. We agree to their construction and we know that the structures i.e. the footbridge, toilet and evacuation centre shall be of great assistance to us the community of Kamagaga.

This letter is a result of community unanimous consensus in agreement to the construction of the above mentioned structures and assures no objection whatsoever from the community.

We will appreciate any help afforded to us.

Yours,

FOR ~~Am~~ witnessed by Emma Atieno Committee Member.

John Ongere

Chairman

cc.

1. CBO file
2. JICA Study Team

(16) Wangaya Mombasa

Ahero Irrigation- Mombasa Camp Self Help Group

Mombasa Wang'aya Village

PO Box 227,

Ahero.

03/12/2008.

To whom it may concern,

Dear Sir,

Re: Drilling of borehole at our Evacuation Centre Osembe Primary and 7 Culvert Installation

We the community of Mombasa Wang'aya declare that we have no objection of any kind to the construction of the above mentioned structures in our village. We agree to their construction and we know that the structures i.e. the borehole and culverts shall be of great assistance to us the community of Mombasa Wang'aya.

This letter is a result of community unanimous consensus in agreement to the construction of the above mentioned structures and assures no objection whatsoever from the community.

We will appreciate any help afforded to us.

Yours,


Mr. Shem Oruko


Mr. Mukasa Joseph

Chairman

Secretary

cc.

1. CBO file
2. JICA Study Team

(17) Achuodho

**ACHUODHO INTERGRATED WATER MANAGEMENT
SELF HELP GROUP
P.O BOX 4274
KONDELE**

17 Ach

3RD DEC 2008

TO
THE JICA
P.O BOX 3325
KISUMU




Dear Sir/ Madam,

**REF: CONSTRUCTION OF BORE-HOLE, TOILETS AND CULVERTS BY
THE ABOVE N.G.O**




We as members of the above named C.B.O and the Entire community wish to recommend and accept the construction of the above projects at the proposed sites within achuodho village.

The projects will help the community seriously during the flooding seasons due to mass movement of people leaving their residential homes and camp within the proposed site

We look forward for your positive response. May God bless
Yours Faithfully

CHAIRMAN	-	TOBIAS ONYANGO AKELLO	→	
SECRETARY	-	DISMAS ODILA OGONDI	→	
TREASURER	-	ANJELINE OWOUR	→	

COMMITTEE MEMBERS

1. ALFRED AKONGO	→	
2. SUSAN ADHIAMBO AWITI	→	
3. PETER ONYANGO	→	

(18) Wakesi

18 Wakesi Keya Com. Project
P. O Box 92-40186
Mihani
07/12/08

The Director
Jica P. O Box 3325
Kisumu.

Dear Sir,

RE: CONSTRUCTION OF ONE CALVERT AND ONE
BORE HOLE AT OGWEDHI LEGION MARIA

Following the underlined word above, we as the Wakesi Community Project have no objection on construction of one calvert and one borehole at Ogwedhi Legion Maria but fully supporting the undergoing project according to what participatory Rural Appraisal P.R.A. under flood control management.

Thanks in advanced

- chairman: ~~Eliza~~

Eliza Omwa were 0727409082

- Secretary: Joseph

Joseph Otieno Anyugi 0720488669

- Treasurer: Jennifer

Jennifer Akong'o Okiri

(19) Kojiem

KOJIEM SELF HELP GROUP,
P.O BOX 123,
AHERO.
TEL. NO. 0728658795.
DATE: 6/12/08.

RE: TO WHOM IT MAY CONCERN

We, as Kojiem Self Help Group do not object the digging of the borehole to Kojiem Community.

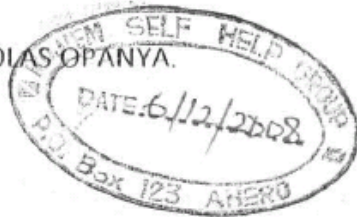
Chairman.
NICHOLAS OPANYA
SIGN*N. Opanya*.....
MEMBER
ALFRED JUMA
SIGN*A*.....

Secretary.
LEAH ABONYO
SIGN.....*L.A.O.*.....
MEMBER
WILLIAM MUGA
SIGN.....*W.Muga*.....

Treasurer.
DENNIS OKOTH.
SIGN.....*D. Okoth*.....

THANK YOURS FAITHFULLY.

CHAIRMAN NICHOLAS OPANYA.



(20) Kanyilum

Our Ref: MK/2/3/12/08



MAGINA KANYILUM COMMUNITY SELF HELP GROUP:

P. O BOX 123

AHERO

3/12/08.

JICA

Dear Sir,

RE: AUTHORITY TO CONSTRUCT THE FACILITIES:

In the view of the demand we, the Magina Kanyilum Community Self Help Group here, authorize you to construct the following:

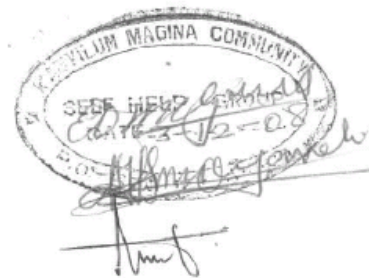
1. Storage Facility
2. Pit Latrines
3. Bore-Hole

We thank you in advance

Yours faithfully,

Chairman
Treasurer
Secretary
Member

Erick Ondiek Miguna
Hezekia Ambiyio
Charles Odhiambo



(21) Kadika

KADIKA COMMUNITY SELF HELP GROUP
MAGINA SUBLOCATION WAWIDHI
P.O. BOX 90 - 40101 AHERO
MOBILE PHONE 0726646117 / 0735852049

The Director,
The Japanese International
Cooperation Agency (JICA),
P.O. Box of The,
NAIROBI, KENYA.
Attn: Kisumu Branch.

DATE: 01/12/2008

21 Kadika

Dear sir,

RE: PROSPECTS FOR CONSTRUCTION OF PROPOSED
STRUCTURES WITHIN KADIKA COMMUNITY

I am pleased to reaffirm the official assurance that there shall be no objections to constructing the beneficial structures in the previously marked sites of the borehole, foot bridge and the culvert. kindly continue with pertinent construction details.

I remain yours truly

Hezekiah Ambayo Liech
Hezekiah Ambayo Liech

Chairman
KADIKA S.H. GROUP
BOX 90. 40101 AHERO
TEL: 0726646117
DATE:

RATIFICATION SUPPORT GROUP

NAME FOR SITE OWNERSHIP	P/N, IDENTITY	SIGN.
1 CHARLES ODHAMBO	8188496	<i>[Signature]</i>
2 TOM ODHAMBO LIECH	11443173	<i>[Signature]</i>
3 WALTER WASONGA	2549995	<i>[Signature]</i>
4 LUDIA OLIECH GUYA	2547495	L.T.P./LUDIA.
5 ODONGO OLIECH DAVID	21885181	<i>[Signature]</i>
6 OTIENO LIECH	10558276	<i>[Signature]</i>
7 ELIZABETH AMUMU OLANG MANAGEMENT TEAM	2790809 N/A	<i>[Signature]</i> P. Elizabeth Amumu N/A
1. Secretary Kennedy Ochieng	20129691	<i>[Signature]</i>
2. Treasurer Dorothy Odhambo	22179187	<i>[Signature]</i>

(22) Nyachoda

Nyachoda Community Self Help Group
P.O. Box 334,
Ahero.

2nd December, 2008

TO WHOM IT MAY CONCERN


Dear Sir,

RE: CONSTRUCTION OF FOOT BRIDGE AND CULVERTS

We members of Nyachoda Community Self Help Group do hereby confirm that we have no objection to you constructing for us Foot Bridge and culverts.

Thanking you in advance.

Yours faithfully,

1. <i>Chairman</i>	Raphael Otieno Kira		..... ID/No 0253922
2. <i>Secretary</i>	Jonathan Apondo Auma		..... ID/No.14453772
3. <i>Treasurer</i>	Phoebe Akoth Obongo		..... ID/No. 5603107

C.C:

1. CBO File
2. Jica Study Team

(23) Masune

Masune Kondijo Water-
Project.

P. O Box 140

Akers

12/12/08

To

THE JICA

KISUMU

To Whom it may Concern.

Dear Sir

Ref. Drilling of borehole and Toilets
at Luoro Ayweyo Primary School.

We the Community of Masune declare that we have no objection of any kind to the construction of the above mentioned structures in our village. We agree to their construction and we know that the structures i.e the bore hole and borehole and toilets shall be of great assistance to us the Community of Masune.

This letter is as a result of a Community Unanimous Consensus in Agreement to the construction of the above mentioned structures and assures no objection whatsoever from the Community. We will appreciate any help afforded to us.

Vice Chairlady
Rose Oyugo

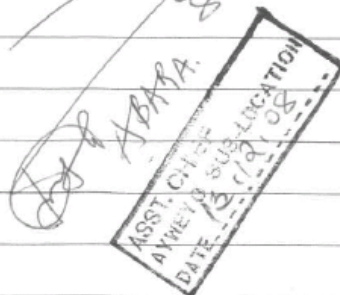
Secretary
Phenny Ondiek

Organising Secre-
tary
Phonyango

The following members attended the meeting as mentioned here below. (COMMITTEES)

	NAME	SIGN	DATE
1.	JOEL ACHOLLA	<i>[Signature]</i>	12 th Dec. 08
2	GRACE MIYAWA	<i>[Signature]</i>	"
3	JANE OYUGI	<i>[Signature]</i>	"
4	RICHARD OGENCE	<i>[Signature]</i>	"
5	PAUL ONDIK	<i>[Signature]</i>	"
6	RICHARD ODEMO	<i>[Signature]</i>	"
7	PHILLIP ONYANGO	<i>[Signature]</i>	"
8	MILLICENT ONYANGO	<i>[Signature]</i>	"
9	STEVEN NIGOKO (CLAN ELDER)	<i>[Signature]</i>	"
10	MAURICE DWITTI	<i>[Signature]</i>	"
11	PHENNY OGIUNYO	<i>[Signature]</i>	"
12	RICHARD AWILLI OGADA	<i>[Signature]</i>	"
13	HELEN OCHOLLA	<i>[Signature]</i>	"
14	SERFINA OBWANDA.	<i>[Signature]</i>	"
15	SERFINA MITEMA	<i>[Signature]</i>	"
17.	HENRY OTIENO	<i>[Signature]</i>	"
18	CHARLES OPIYO	<i>[Signature]</i>	"

Kindly accept this as request.



(24) Kojunga

Kojunga Village Self Help Group

Kojunga Village

Wawidhi, Location

Nyando District.

01/12/2008.

To whom it may concern,

Dear Sir,

Re: Construction of two foot bridges in Kojunga village

We the community of Kojunga declare that we have no objection of any kind to the construction of the above mentioned structures in our village. We agree to their construction and we know that the structures i.e. the two footbridges shall be of great assistance to us the community of Kojunga.

This letter is a result of community unanimous consensus in agreement to the construction of the above mentioned structures and assures no objection whatsoever from the community.

We will appreciate any help afforded to us.

Yours,



Barrack Odhiambo

ID/NO 2671849

Chairman

cc.

1. CBO file
2. JICA Study Team