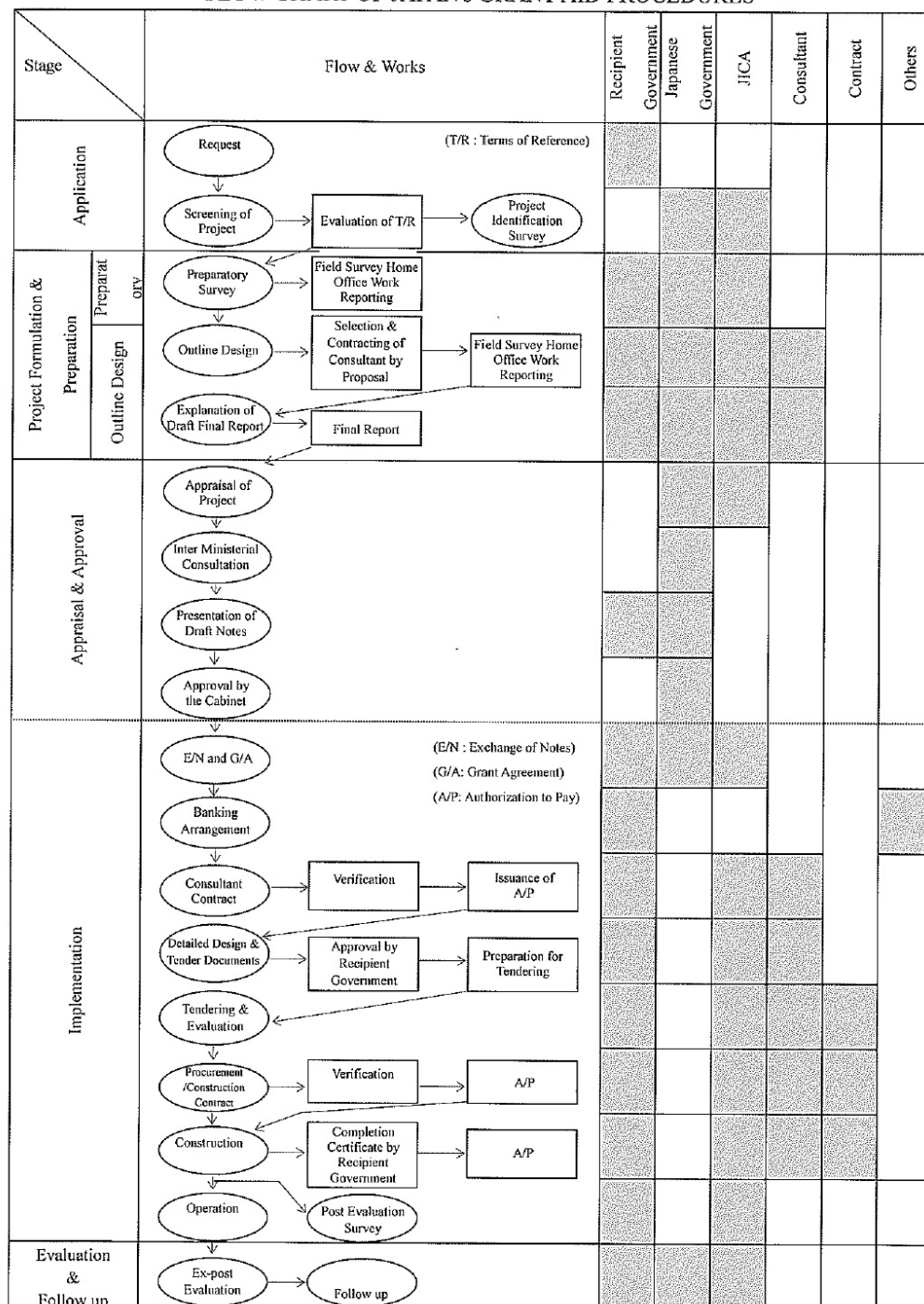


FLOW CHART OF JAPAN'S GRANT AID PROCEDURES



Major Undertakings to be taken by Each Governments

No.	Items	To be covered by Grant Aid	To be covered by Recipient Side
1	to secure lots of land necessary for the implementation of the Project and to clear the sites;		•
	To ensure prompt unloading and customs clearance of the products at ports of disembarkation in the recipient country and to assist internal transportation of the products		
2	1) Marine (Air) transportation of the Products from Japan to the recipient country	•	
	2) Tax exemption and custom clearance of the Products at the port of disembarkation		•
	3) Internal transportation from the port of disembarkation to the project site	(•)	(•)
3	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 products and the services be exempted		•
4	To accord Japanese nationals whose services may be required in connection with the supply of the products and the services such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work		•
5	To ensure that the Facilities be maintained and used properly and effectively for the implementation of the Project		•
6	To bear all the expenses, other than those covered by the Grant, necessary for the implementation of the Project		•
	To bear the following commissions paid to the Japanese bank for banking services based upon the B/A		
7	1) Advising commission of A/P		•
	2) Payment commission		•
8	To give due environmental and social consideration in the implementation of the Project.		•

B/A : Banking Arrangement

A/P : Authorization to Pay

2

F

B

4-2 Minutes of Meeting (M/D) in the Explanation on Draft Outline Design

**MINUTES OF DISCUSSIONS
ON
THE PREPARATORY SURVEY
ON
THE PROJECT FOR
AUGMENTATION OF WATER SUPPLY SYSTEM IN NAROK TOWN
IN THE REPUBLIC OF KENYA
(EXPLANATION OF DRAFT OUTLINE DESIGN REPORT)**

In February 2012, the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched the Preparatory Survey Team on "the Project for Augmentation of Water Supply System in Narok Town" (hereinafter referred to as "the Project") to the Republic of Kenya (hereinafter referred to as "Kenya") and through discussion, field survey and technical evaluation of the results in Japan, JICA prepared a draft outline design report of the survey.

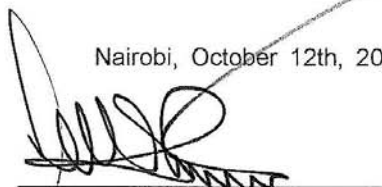
In order to explain and to consult with the Government of Kenya on the components of the draft outline design report, JICA dispatched the Draft Report Explanation Team (hereinafter referred to as "the Team") headed by Mr. Yoshiki OMURA, Senior Advisor, JICA, from 8th to 12th October 2012.

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

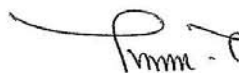


Mr. Yoshiki OMURA
Leader
Draft Report Explanation Team
Japan International Cooperation Agency

Nairobi, October 12th, 2012



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



Eng. Japheth Mutai
Chief Executive Officer
Rift Valley Water Services Board
The Republic of Kenya

ATTACHMENT

1 Components of the Draft Outline Design Report

The Kenyan side accepted in principle the Draft Outline Design Report explained by the Team.

The Kenyan side agreed to inform JICA Kenya Office of its comments on the Draft Report by 9th November 2012.

2 Japan's Grant Aid Scheme

2.1 The Kenyan side understood the Japan's Grant Aid Scheme and agreed to take the necessary measures and allocate necessary budget properly for smooth implementation of the Project, as a condition for the Japan's Grant Aid to be implemented. The Grant Aid Scheme and necessary measures are shown in Annex-1 and Annex-2 respectively.

2.2 Both sides confirmed that the dispatch of the Team is not necessarily a commitment to implement the Project and that the scope of the Project would be examined further by the Government of Japan for its approval as a Grant Aid.

3 Responsible and Implementing Organisation

3.1 The responsible organisation is the Ministry of Water and Irrigation (hereinafter referred to as "MWI").

3.2 The implementing organisation is the Rift Valley Water Services Board (hereinafter referred to as "RV-WSB"), which has contracted Narok Water and Sewerage Services Company (hereinafter referred to as "NARWASSCO") to provide water services in Narok Town.

3.3 The organisation charts of the implementing organisations are shown in Annex-3A and 3B.

4 Schedule of the Survey

JICA will finalize the Outline Design Report and send it to Kenya by the end of January 2013.

5 Project Cost Estimate

The Team explained to the Kenyan side the estimated project cost as attached in Annex-4. Both sides confirmed that this estimated cost was provisional and would be examined further by the Government of Japan for its final approval.

The Kenyan side assured to secure necessary counterpart budget for the Project as shown in Annex-4.



Furthermore, both sides confirmed that this estimated project cost is strictly confidential, and should never be duplicated or released to other parties until the relevant contract is awarded by the MWI. This embargo is for securing the fairness of tender procedure.

6 Other Relevant Issues

6.1 Project Area

The Project area is as shown in Annex-5.

6.2 Project Components

Both sides agreed on the Project components as shown in Annex-6.

6.3 Target Year and Water Demand

Both sides agreed that the target year of the Project is the year 2020, and water demand of the target year was estimated based on the census 2009.

6.4 Revision of the Water Act 2002

The Kenyan side explained the current status of the revision of the Water Act 2002 to the Team, and mentioned that it would not make any substantial influence on the Project.

The Kenyan side assured the Team to keep JICA informed of the water sector reform of the country.

6.5 Installation of Distribution Pipe/Service Pipe and Promotion of House Connection

The Team emphasized that the RV-WSB and NARWASSCO are required to install a necessary number of house connections as shown in Annex-7 in order to achieve the target of served population by 2020.

The Kenyan side assured the Team of installing 20km of distribution pipe and house connections and water meters scheduled in Annex-7.

6.6 Arrangement of Staff and Budget for Operation and Maintenance

The Team explained the estimated annual cost in 2020 for operation and maintenance of water supply facilities as described in Annex-8, which requires revision of water tariff and more efficient bill collection to recover the cost. The Kenyan side agreed to take necessary actions.

The Team emphasized that NARWASSCO needs to employ adequate number of competent staff for sustainable operation and maintenance of the water supply facilities and the Kenyan side agreed to take necessary actions.



6.7 Land Acquisition

The Kenyan side explained that Narok Town Council had approved in writing the transfer of the land, allotment No. Zone FTC/360, to NARWASSCO for construction of water supply facilities on April 12, 2012.

The Kenyan side also explained that the final approvals by the Ministry of Land and the National Land Commission are required and assured that this procedure will be followed up by relevant government authorities to completion.

The Kenyan side will confirm the availability of the land for construction in writing by the end of November 2012.

6.8 Approval of EIA

The Kenyan side explained the following:

- NARWASSCO had already submitted the Project Report outlining the Project and EIA issues, to the National Environment Management Authority (NEMA)
- NEMA accepted the Project Report as an EIA report and will grant an EIA Approval to NARWASSCO after the payment of EIA License Fee by RV-WSB
- RV-WSB had already paid EIA License Fee on 5th October, 2012

The Kenyan side assured that the final approval from NEMA will be issued soon.

The Kenyan side also assured that RV-WSB carries out required environmental monitoring at its own expense during the construction and the operation.

The Kenyan side explained that RV-WSB and NARWASSCO will decide on the sludge disposal site in accordance with the relevant Kenyan law/regulation and inform JICA Kenya Office of the decision.

6.9 Acquisition of Water Right

The Kenyan side explained that NARWASSCO has a water right to abstract 2,500m³/day from the Enkare Narok River at present, and also explained that it is required to apply to the Water Resources Management Authority (WRMA) for an additional abstraction of 5,000m³/day from the Enkare Narok River at the site of the proposed water intake.

The Kenyan side confirmed that WRMA issued the Water Permit No. WRMA/20/NAR/2KA/1/S of May 9, 2012 authorizing NARWASSCO to construct intake facilities of 5,000m³/day for the Project.

The Kenyan side also explained that upon issuance of the EIA license, application for water right could be commenced. The Kenyan side assured the Team that RV-WSB should take a necessary action to acquire the water right of 5,000m³/day after issuance of the EIA license.



6.10 Coordination with Other Projects

The Team requested the Kenyan side to coordinate with other projects planned or conducted by NARWASSCO itself as well as by other development partners in order to avoid duplication with the Project and to create synergy effects. The Team also requested the Kenyan side that any new plan or project related to or influential on the Project should be informed to the Japanese side in advance. The Kenyan side agreed to these points.

6.11 Undertakings by the Kenyan Side

In addition to the undertakings mentioned above and major undertakings described in Annex-2, the Team requested the Kenyan side to abide by undertakings listed below for the smooth implementation of the Project. Subject to the Grant Agreement the Kenyan side agreed to take necessary measures;

- (1) To provide the consultant to be engaged in detailed design and construction supervision of the Project (the Consultant) with available relevant data, information and materials necessary for project implementation,
- (2) To assign necessary number of counterpart personnel,
- (3) To secure necessary permits such as building permit and permissions for topographic survey and soil investigation,
- (4) To conduct felling and ground leveling of the access road before the commencement of the contractor's works,
- (5) To secure land for such purposes as a contractor's camp and stockyard during the construction period,
- (6) To bear the commissions of customs bond related to importing equipment and materials for the Project,
- (7) To construct the gates and fences around the intake facilities and the North Water Treatment Plant simultaneously with the construction works, and
- (8) To construct electric power line for the operation of the intake facilities and the North Water Treatment Plant by the time of half a year prior to the completion date of the construction contract.

6.12 Climate Change

Both sides confirmed that the Project is expected to contribute to adaptation to climate change.

(END)

Annex:

Annex-1 Japan's Grant Aid Scheme

Annex-2 Major Undertaking to be Given by Each Government



- Annex-3 Organisation Chart of the Implementation Organisation
- Annex-4 Project Cost Estimate
- Annex-5 The Project Site
- Annex-6 Project Components
- Annex-7 Work Schedule Conducted by Kenyan Side
- Annex-8 Operation & Maintenance Cost Estimate



JAPAN'S GRANT AID

The Government of Japan (hereinafter referred to as “the GOJ”) is implementing the organizational reforms to improve the quality of ODA operations, and as a part of this realignment, a new JICA law was entered into effect on October 1, 2008. Based on this law and the decision of the GOJ, JICA has become the executing agency of the Grant Aid for General Projects, for Fisheries and for Cultural Cooperation, etc.

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

1. Grant Aid Procedures

The Japanese Grant Aid is supplied through following procedures :

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

2. Preparatory Survey

(1) Contents of the Survey

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

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

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

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

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

(2) Selection of Consultants

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

(3) Result of the Survey

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

3. Japan's Grant Aid Scheme

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

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

(2) Selection of Consultants

In order to maintain technical consistency, the consulting firm(s) which conducted the Survey will be recommended by JICA to the recipient country to continue to work on the Project's implementation after the E/N and G/A.

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(3) Eligible source country

Under the Japanese Grant Aid, in principle, Japanese products and services including transport or those of the recipient country are to be purchased. When JICA and the Government of the recipient country or its designated authority deem it necessary, the Grant Aid may be used for the purchase of the products or services of a third country. However, the prime contractors, namely, constructing and procurement firms, and the prime consulting firm are limited to "Japanese nationals".

(4) Necessity of "Verification"

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

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

In the implementation of the Grant Aid Project, the recipient country is required to undertake such necessary measures as Annex.

(6) "Proper Use"

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

(7) "Export and Re-export"

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

(8) Banking Arrangements (B/A)

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

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



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(9) Authorization to Pay (A/P)

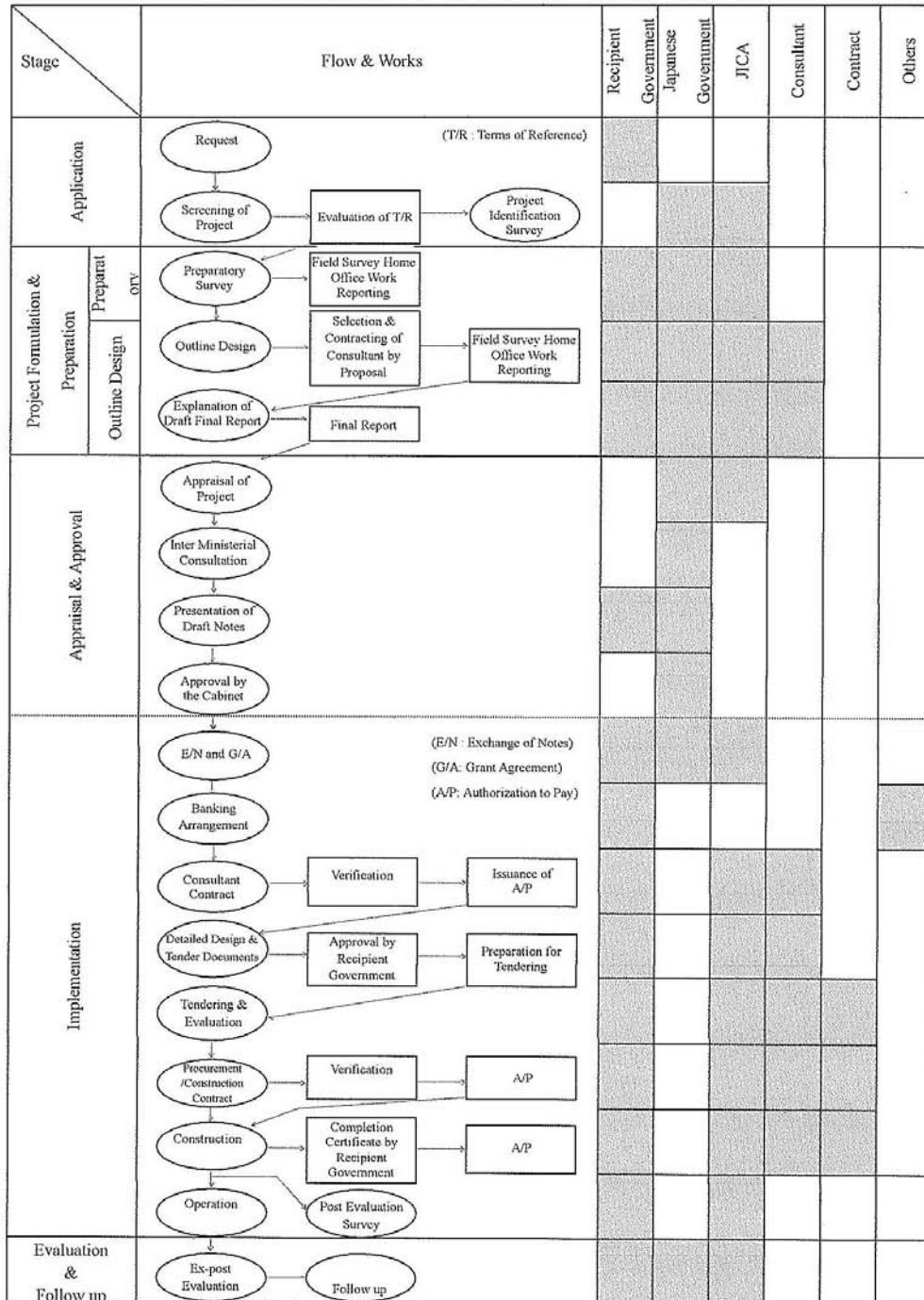
The Government of the recipient country should bear an advising commission of an Authorization to Pay and payment commissions paid to the Bank.

(10) Social and Environmental Considerations

A recipient country must carefully consider social and environmental impacts by the Project and must comply with the environmental regulations of the recipient country and JICA socio-environmental guidelines.



FLOW CHART OF JAPAN's GRANT AID PROCEDURES



A5

Major Undertakings to be taken by Each Governments

No.	Items	To be covered by Grant Aid	To be covered by Recipient Side
1	to secure lots of land necessary for the implementation of the Project and to clear the sites;		●
2	To ensure prompt unloading and customs clearance of the products at ports of disembarkation in the recipient country and to assist internal transportation of the products		
	1) Marine (Air) transportation of the Products from Japan to the recipient country	●	
	2) Tax exemption and custom clearance of the Products at the port of disembarkation		●
	3) Internal transportation from the port of disembarkation to the project site	(●)	(●)
3	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 products and the services be exempted		●
4	To accord Japanese nationals whose services may be required in connection with the supply of the products and the services such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work		●
5	To ensure that the Facilities be maintained and used properly and effectively for the implementation of the Project		●
6	To bear all the expenses, other than those covered by the Grant, necessary for the implementation of the Project		●
7	To bear the following commissions paid to the Japanese bank for banking services based upon the B/A		
	1) Advising commission of A/P		●
	2) Payment commission		●
8	To give due environmental and social consideration in the implementation of the Project.		●

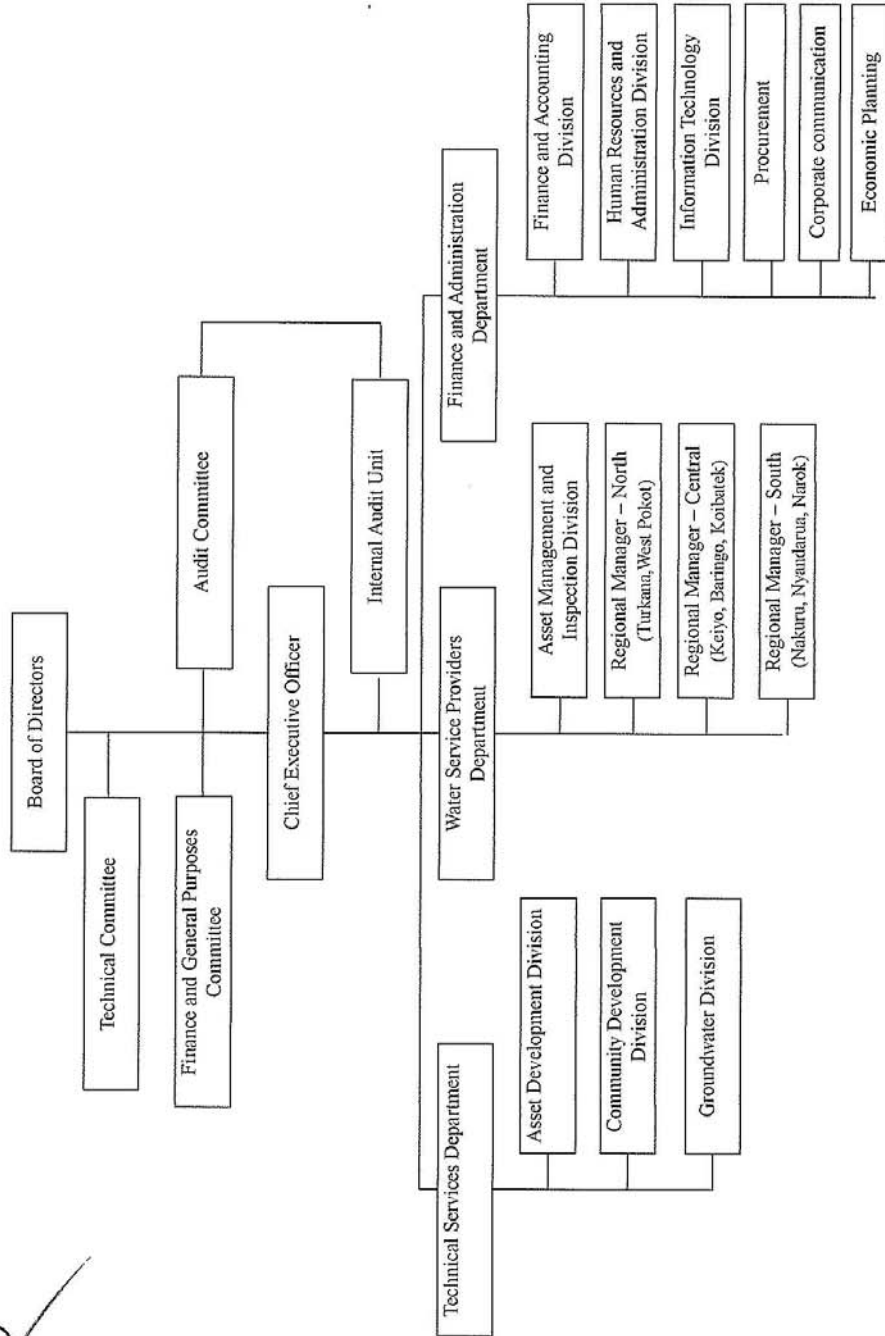
B/A : Banking Arrangement

A/P : Authorization to Pay



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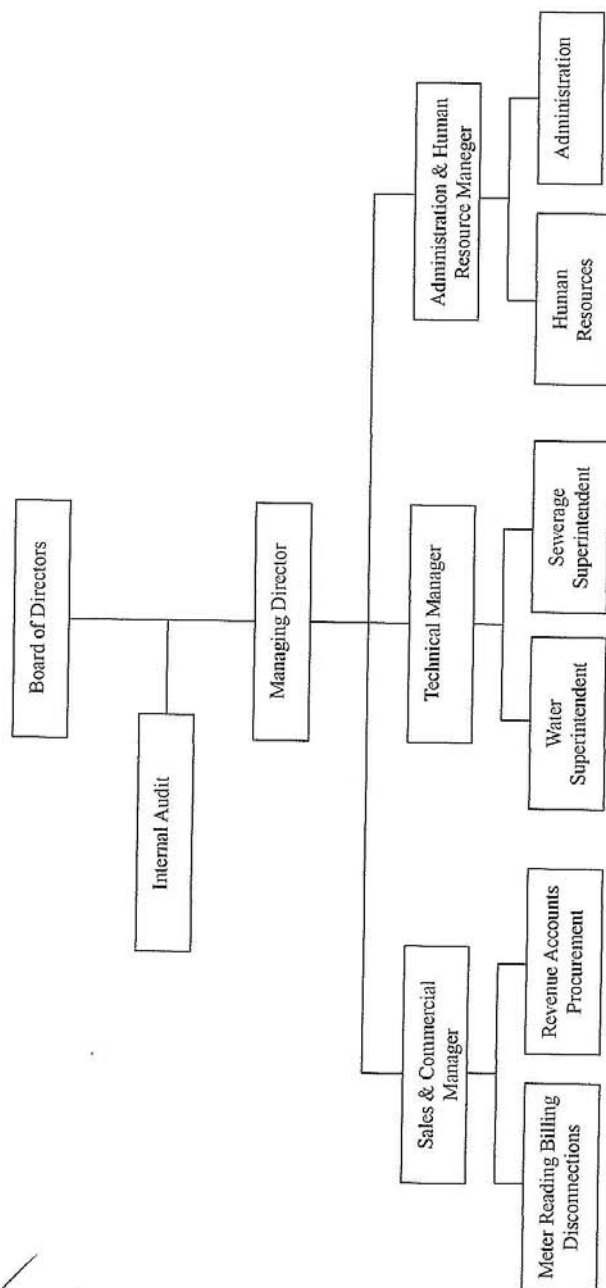
source: RV-WSB

Annex-3A Organisation Chart of Rift Valley Water Services Board (RV-WSB)

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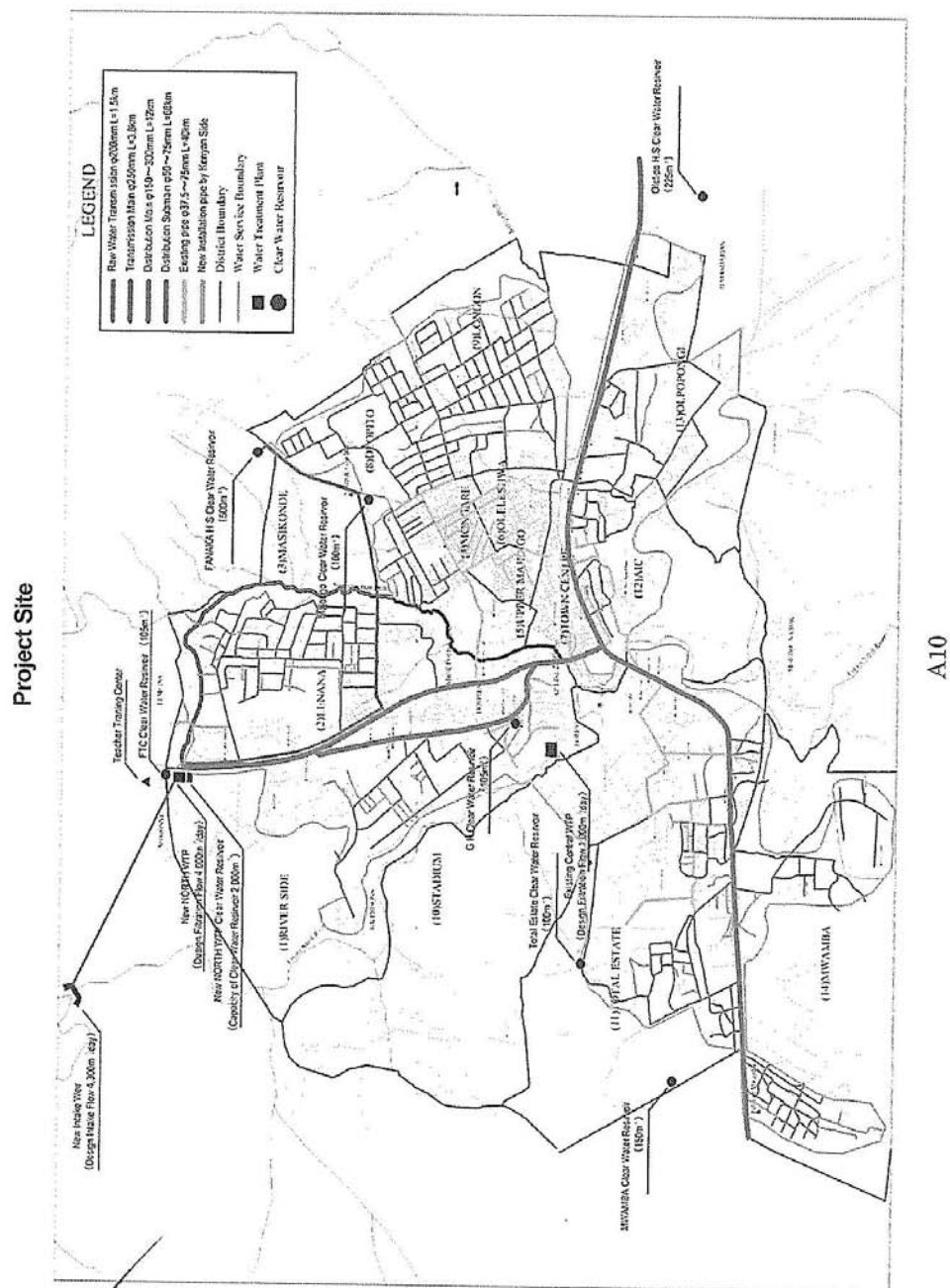
Annex-3



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Annex-3B Organisation Chart of Narok Water & Sewerage Services Company Ltd. (NARWASSCO) source: NARWASSCO
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This page is due to the confidentiality.



Annex-6

The Project Components

(1) Construction of Water Supply Facility

No.	Item		Quantity
1	Construction of new intake facilities	Intake Weir, Intake pumps, etc.	1 set
2	Raw water transmission pipe installation	φ200 mm	1.5 km
3	Rehabilitation of the existing WTP	1,000 m ³ /day	1 set
4	Construction of new WTP	4,000 m ³ /day	1 set
5	Clear water transmission pipe installation	φ250 mm	3.8 km
6	Construction of new reservoir	2,000 m ³	1 unit
7	Rehabilitation of the existing reservoirs		7 units
8	Distribution main/branch pipe installation	φ50 mm~300 mm	80 km
9	Construction of Chemical House		1 unit

(2) Procurement of Equipment

No.	Item	Quantity
1	Chemical dosage equipment and water quality analysis equipment	1 set
2	Computer	5 units
3	Printer	4 units
4	House connection pipes	16 km
5	Water meter	1,600 pcs

(3) Soft Component

No.	Item	Quantity
1	O&M of water supply facilities	1 set
2	Upgrading Supervising Capacity of Pipe Installation	1 set
3	Strengthening Managerial Capacity of Water Supply Undertaking	1 set



A11



Work Schedule conducted by Kenyan Side

Work Items	Description	Details	Work Schedule (Year)							
			1	2	3	4	5	6	7	8
		Construction Work conducted by Japan's Side Start								
		Construction Work conducted by Japan's Side Completed								
1	Installation of Distribution Pipe	φ50mm, Total Length 20km								
		L = 5km								
		L = 5km								
		L = 5km								
		L = 5km								
2	Installation of House Connections (Pipe Material to be provided under the Project)	φ13mm (1/2"), Total Length 16km								
		L = 8km								
		L = 8km								
		L = 4km								
3	Installation of House Connection (Pipe Material provided by Kenyan side)	φ13mm (1/2"), Total Length 16km								
		L = 4km								
		L = 4km								
		L = 4km								
4	Installation of Water Meters (Water Meters to be provided under the Project)	Total 1,600 pcs								
		800 pcs								
		800 pcs								
5	Installation of Water Meters (Water Meters provided by Kenyan side)	Total 2,000 pcs								
		500 pcs								
		500 pcs								
		500 pcs								
		500 pcs								
6	Felling & Leveling	for Temporary Work Road at Raw								
7	Construction of Access Road	Water Transmission Pipe								
8	Installation of Gate & Fence at Intake	from Intake to the North WTP								
9	Installation of Gate & Fence at the North WTP	Gate: 1 set, Fence 85m								
		Gate: 1 set, Fence 880m								
10	Preparation of Power Receiving	Distribution Line, Main Breaker,								
		Transformer at Intake & North WTP								
11	Furniture for Administration Building at the North WTP									

Operation & Maintenance Cost Estimate

Cost Items	Description (at year of 2020)	Annual O&M Cost (Kshs/Year)	
		2020	2011 Actual Performance
Personnel Cost	Total 43 persons	20,640,000	7,700,000
Chemical Cost	Existing Central WTP		
	• Sulfate Aluminum (Average dosing rate 80ppm)		
	• Lime (Average dosing rate 10ppm)		
	• Hypochlorous Calcium (Average dosing chlorine 2ppm)		
Chemical Cost	New North WTP	10,614,000	2,891,000
	• Sulfate Aluminum (Average dosing rate 80ppm)		
	• Lime (Average dosing rate 10ppm)		
	• Hypochlorous Calcium (Average dosing 2ppm)		
Electricity	Intake Facility		
	Existing Central WTP	31,824,000	8,645,000
	New North WTP		
Sludge Disposal Cost	Generated amount of dried sludge : 53 tons	780,000	-
Equipment Repair Cost	Providing 4 % of mechanical/electrical equipment cost	9,400,000	5,332,000
Office Expense, etc	Calculate on 15% of total of abovementioned costs	11,000,000	6,332,000
Total		84,258,000	30,900,000

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4-3 Technical Note (T/N)

TECHNICAL NOTE

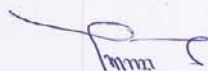
**ON THE PREPARATORY SURVEY
ON THE PROJECT FOR
AUGMENTATION OF WATER SUPPLY SYSTEM IN NAROK TOWN
IN THE REPUBLIC OF KENYA**

**AGREED UPON BETWEEN
RIFT VALLY WATER SERVICES BOARD,
NAROK WATER & SEWERAGE SERVICE CO. LTD.
AND
JICA STUDY TEAM**

30 MARCH, 2012



Mr. Toru YAGI
Chief Consultant
JICA Study Team



Eng. Japheth Mutai
Chief Executive Officer
Rift Valley Water Services Board
The Republic of Kenya



Mr. Wilson L. Pere
Managing Director
Narok Water & Sewerage Service Co. Ltd.
The Republic of Kenya

After a series of discussions during the field survey in Kenya from 14th February 2012 through 29th March 2012, the following points were agreed between Rift Valley Water Services Board (here in after referred to as "RV-WSB") and Narok Water & Sewerage Service Co. Ltd. (here in after referred to as "NARWASSCO") and the JICA Study Team (here in after referred to as "the Team"). Based on the agreement as well as the Minutes of Discussion signed on 21st February 2012, the Team will further analyze the results of field survey in consultation with JICA and concerned parties in Japan and will prepare a draft final report which includes the layout and design of the facilities and/or equipment for the Project.

1. Planning Frame of Augmentation of Water Supply System in Narok Town

- (1) Target Year: 2020
- (2) Water Service Area: Narok Town (ANNEX-1)
- (3) Population to be served: 49,800
- (4) Daily Water Demand: 5,000m³/day
 For Existing WTP (Central WTP): 1,000m³/day
 For New WTP (North WTP): 4,000m³/day

2. Request Components of the Project

NO.	Component	Specification
1. Construction and Rehabilitation of Facilities		
1)	New Water Intake Facility, which includes intake pumps and generator	1 No
2)	New Raw Water Transmission Main - 300mm dia	1.5 km
3)	Rehabilitation of the Existing Water Treatment Plant (1,000 m ³ /day)	1 Lot
4)	New Water Treatment Plant (4,000m ³ /day), which includes generator, chemical dosing facilities and laboratory with chemical store house	1 Lot
5)	New Clear Water Reservoir (2,000m ³ /day)	1 No
6)	Rehabilitation of Existing Clear Water Reservoir	4 No
7)	New Distribution Pipes with accessories	25km & Some addition
8)	New Kiosks	1 Lot
2. Procurement of Equipment		
1)	Chemical Dosing Facility and Laboratory Equipment for Water Quality Analysis for existing water treatment plant	1 Set
2)	Desktop Computer with Printer	1 Set
3)	Distribution Pipes Materials	1 Lot
4)	Service Pipes, Meters and Meter Calibration Equipment	1 Lot
3. Soft Component		
1)	Capacity building for operation and maintenance, pipe installation works and management of the water supply	1 Lot

*) Marker parts are revised from M/D on February 21

3. Water Supply System in Narok Town

The Team explained the concept of the water supply system in Narok town in 2020 with presenting the schematic drawing. (ANNEX-2) This proposed system is prepared considering not only for the existing water supply facilities but some facilities which are planned and under constructed facilities conducted by NARWASSCO. RV-WSB and NARWASSCO understood the basic concept of water supply system.

4. Location of Water Intake, Raw Water Transmission Main and Water Treatment Plant (WTP)

The Team explained the location of water intake, raw water transmission main and WTP, and the land is owned by Narok Town Council. (ANNEX-3) Land acquisition is required. RV-WSB and NARWASSCO understood the location of water intake, raw water transmission main and WTP.

5. Draft Plan of Water Intake

The Team explained the draft plan of water intake (ANNEX-4). Intake weir, pump pit and operation/generator house will be constructed at the Narok River and its surroundings. Intake water will be sent to WTP by pump. RV-WSB and NARWASSCO understood the draft plan of water intake.

6. Diagram of Water Supply Facilities from Intake to Clear Water Reservoir

The Team explained the schematic diagram of the major water supply facilities from water intake to clear water reservoir (ANNEX-5). Particularly, among them, the Team emphasized that water from rapid mixing tank to clear water reservoir in WTP flows by gravity. RV-WSB and NARWASSCO understood the diagram of water supply facilities.

7. Distribution Pipe Network

The Team explained the concept of the installation of distribution pipe network in water supply service area shown in ANNEX-6. Distribution pipe by the Japan's Grant Aid Project shall be provided in major road, major facility area and high population density areas, not all of the water service supply area. RV-WSB and NARWASSCO understood the basic concept of distribution pipe network conducted by the Japan's Grant Aid Project.

8. Construction of Distribution Pipe

The Team explained about the construction of distribution pipe. Distribution pipe length of 25km and some additional pipe will be constructed by the Japan's Grant Aid Project. The rest of the necessary distribution pipe in water supply area will be installed by Kenyan side. Some part of distribution pipe will be installed using procured pipe material by the Japan's Grant Aid Project and some

parts of distribution pipe will be installed by all Kenyan side budgets. RV-WSB and NARWASSCO understood the construction of distribution pipe.

9. Rehabilitation of Existing WTP

The Team explained the contents of the rehabilitation of existing WTP. The contents of rehabilitation items are replacement of filter sand, construction of chemical dosing equipment with building and laboratory equipment for water quality analysis such as Jar Tester, Turbidity Meter, Chlorine Concentration Measuring Instrument, pH Meter and Balance. RV-WSB and NARWASSCO understood the basic concept of rehabilitation of existing WTP.

10. Design Standards

In principle, "Practical Manual for Water Supply Services in Kenya 2005." will be adopted for designing the above water supply facilities. According to the circumstances, however, Japanese design criteria and other standards adopted internationally shall be referred to.

11. Land Acquisition

Main water supply facilities such as water intake, raw water transmission pipe and WTP are planned to be constructed in public land. The Narok Town Council which manages its public land promised to issue an official agreement letter for the transfer on the land use for water supply facilities after a week of submission of "Part of Development Plan (PDP)". Formal certificate for land acquisition shall be issued by the approval of Ministry of Land within 2 months. A Copy of these documents shall be delivered to the Team by hand-over, email or facsimile through NARWASSCO.

12. Soft Component

The necessity of following fields of soft component was recognized.

- Adequate operation and maintenance
- Pipe installation works
- Sound management of the water supply.

13. Water Right

With regard to extraction of water from the Enkare Narok River, it is necessary that water right be granted. Water Right process has two stages, namely; the Authorization Stage and the Permit Stage. The Authorization Stage gives the mandate to undertake the planned constructions against a given set of conditions while the Permit Stage allows for the abstraction of water. RV-WSB, NARWASSCO and WRMA agreed to fast track the process of acquiring water right. Detail is shown in ANNEX-7.

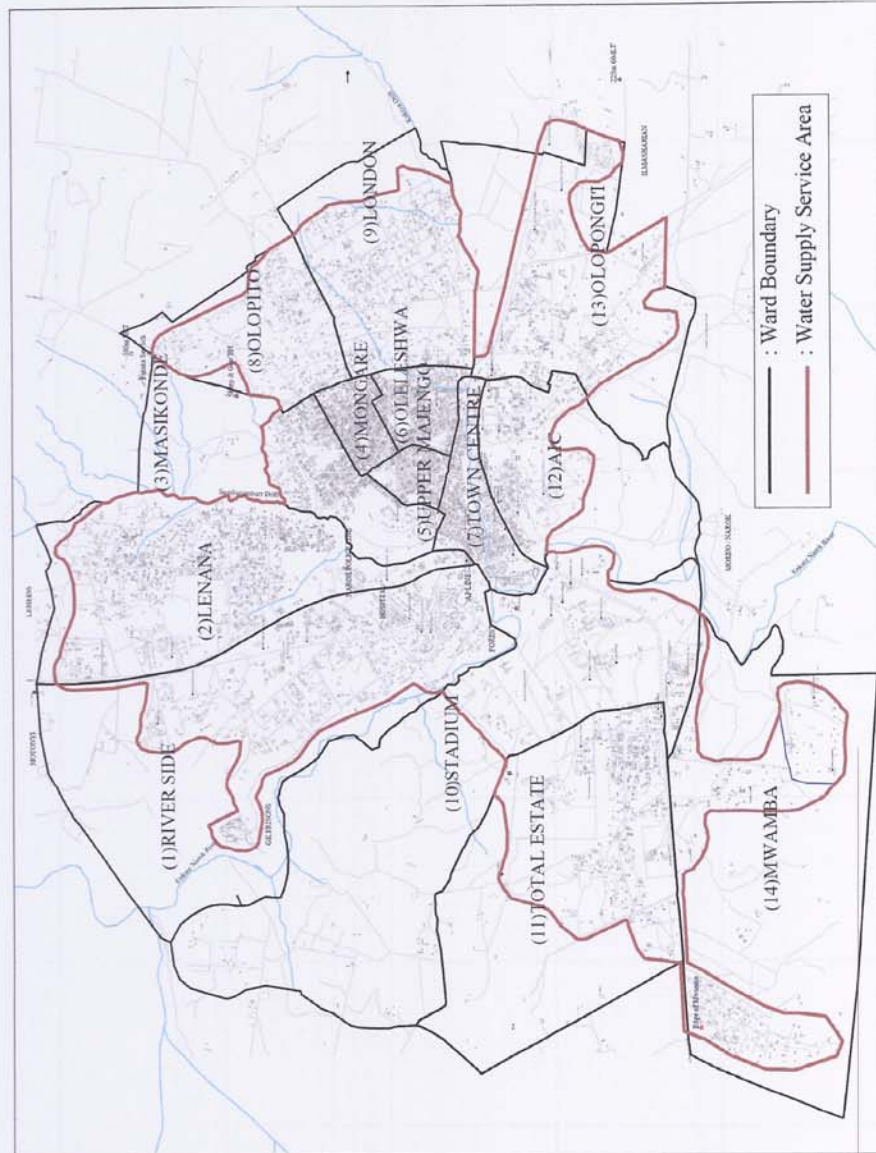
14. EIA Approval

NEMA requires “project report” for EIA approval. The Team will give the assistance to finalize the project report to NARWASSCO. After the submission of the project report to NEMA, EIA procedure for EIA approval including finalization of EIA report should be done by NARWASSCO and RV-WSB.

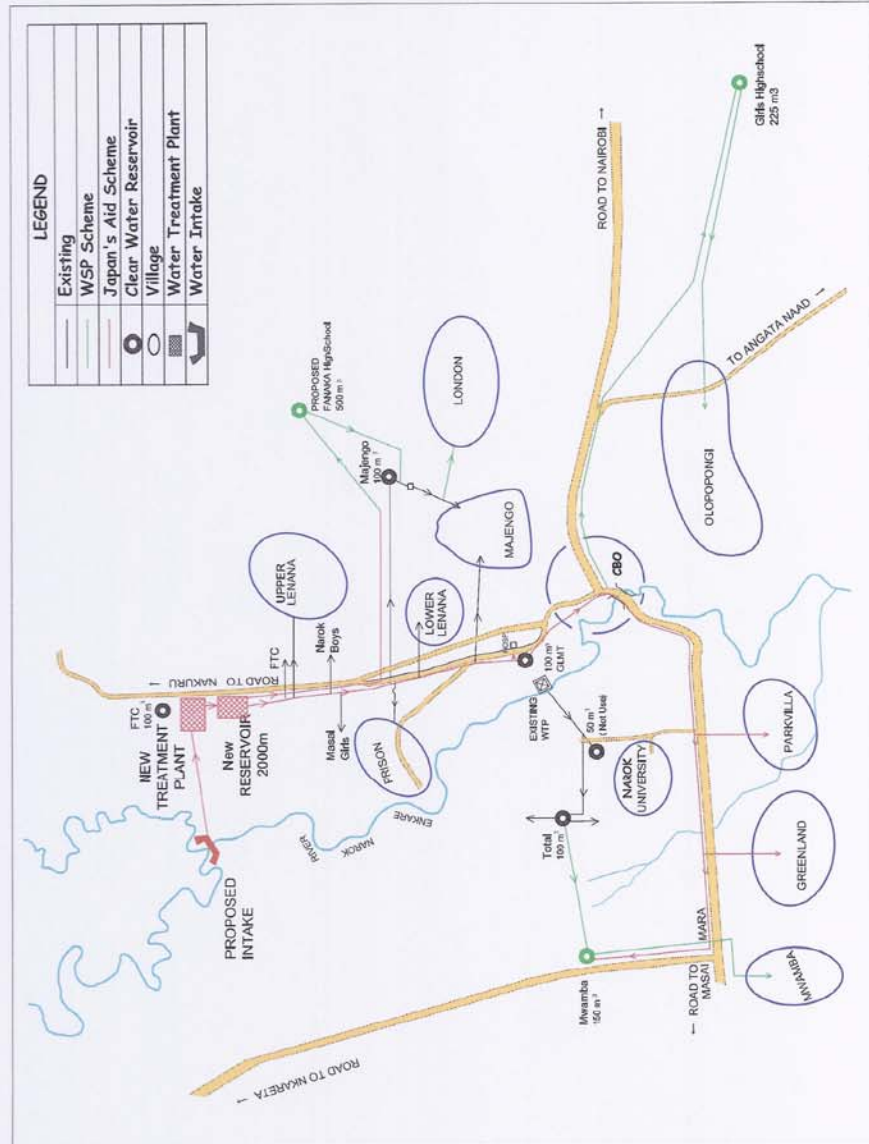
15. Required Increase Staffs

The Team explained the necessity of required increase staffs. (ANNEX-8) After construction of north water treatment plant and expansion of distribution pipe, NARWASSCO should be increased staffs in order to operation and maintenance for new water supply facilities. RV-WSB and NARWASSCO understood the required increase staffs.

ANNEX-1: Water Supply Service Area



ANNEX-2: Water Supply System in Narok Town

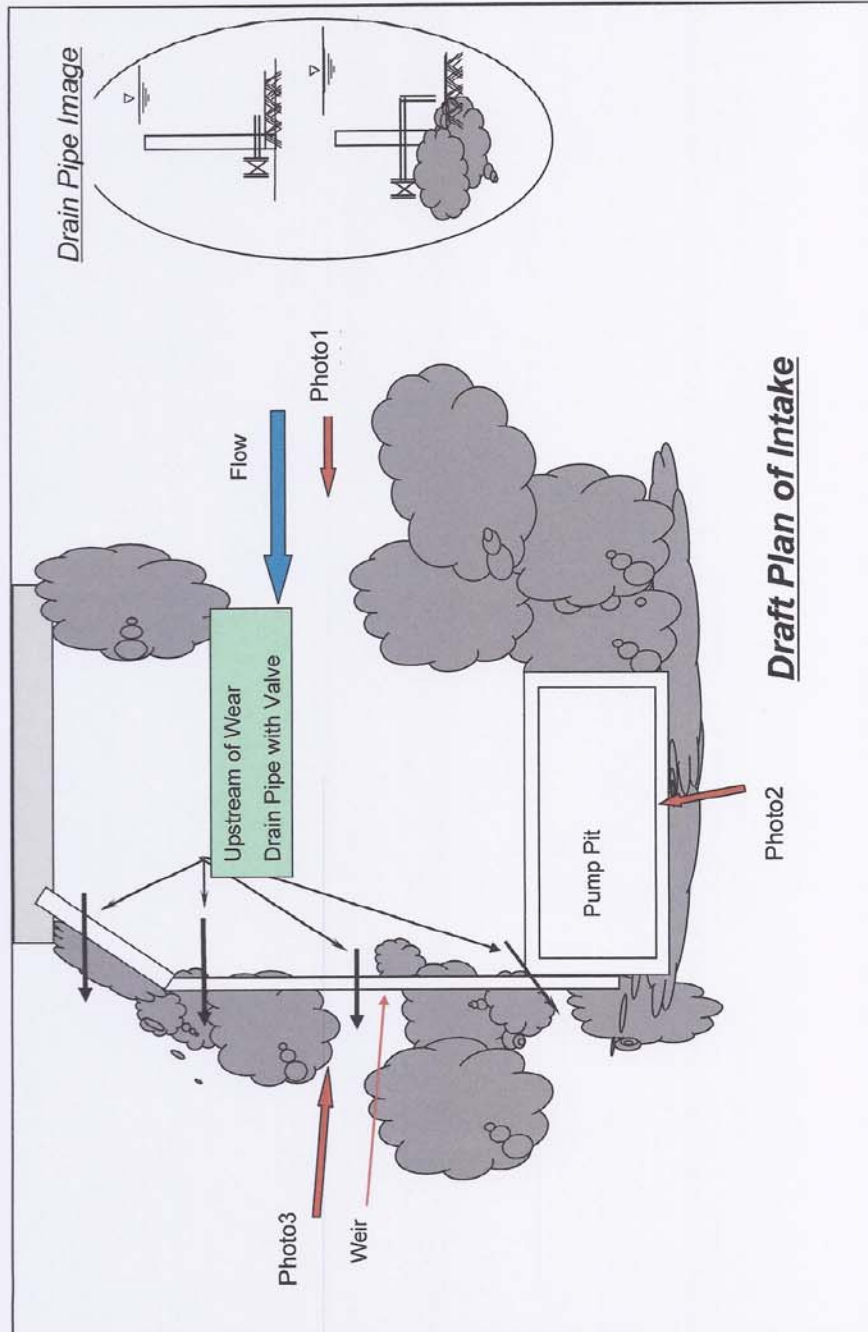


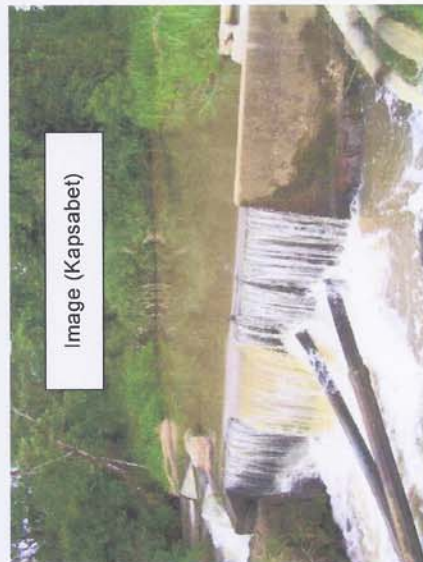
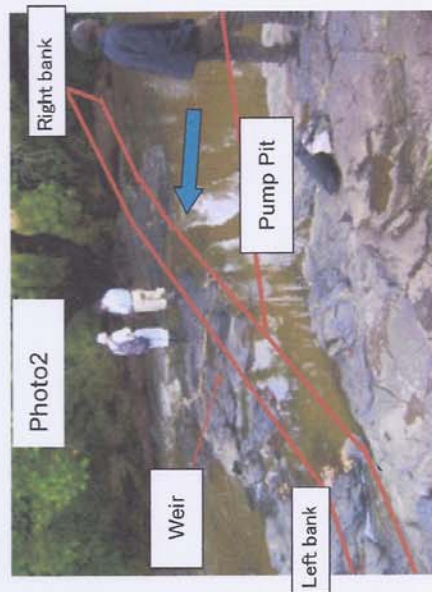
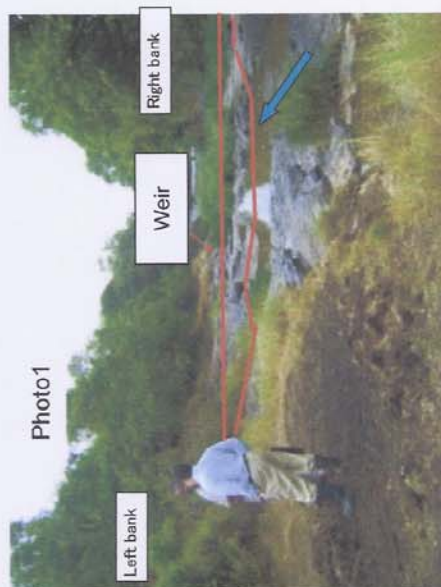
ANNEX-3: Location of Water Intake, Raw Water Transmission Main and Water Treatment Plant (WTP)



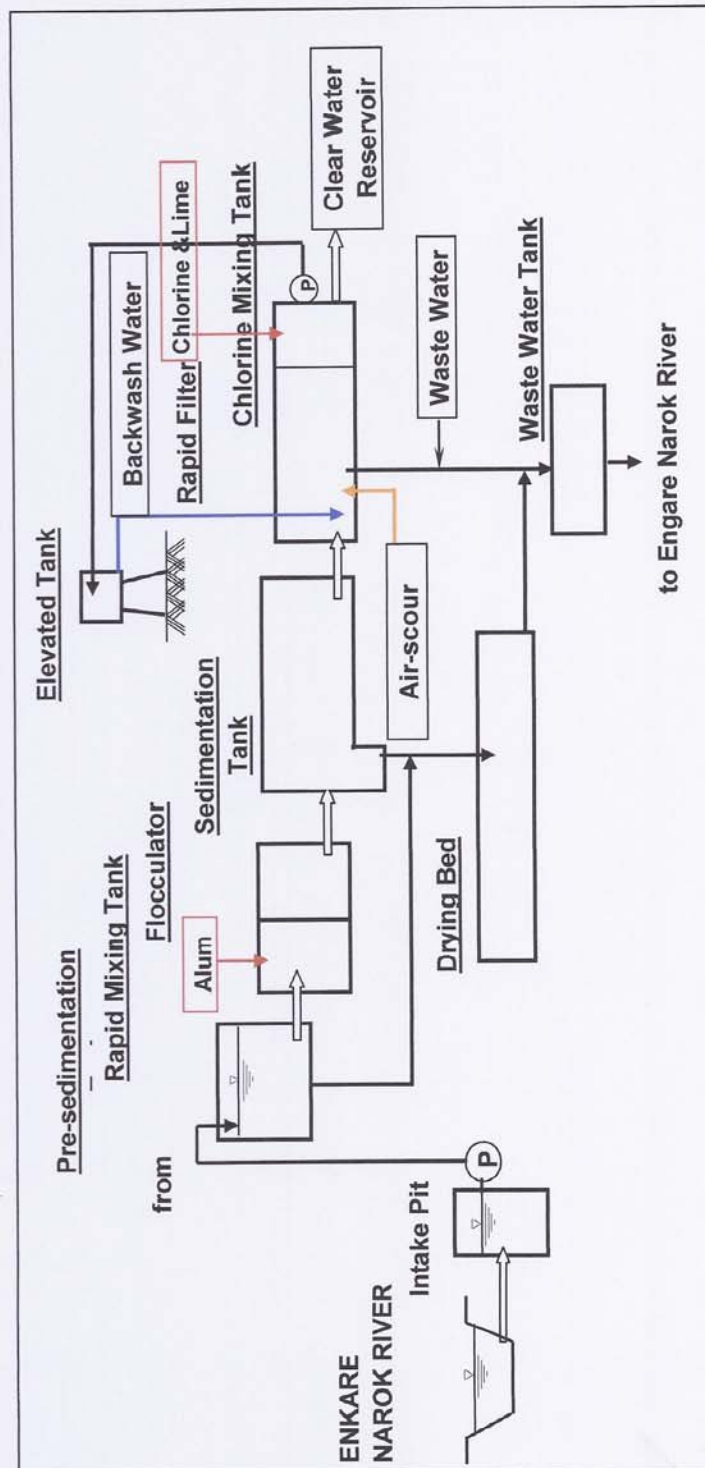
(15) *[Signature]* 7

ANNEX-4: Draft Plan of Water Intake and Photos at the Site

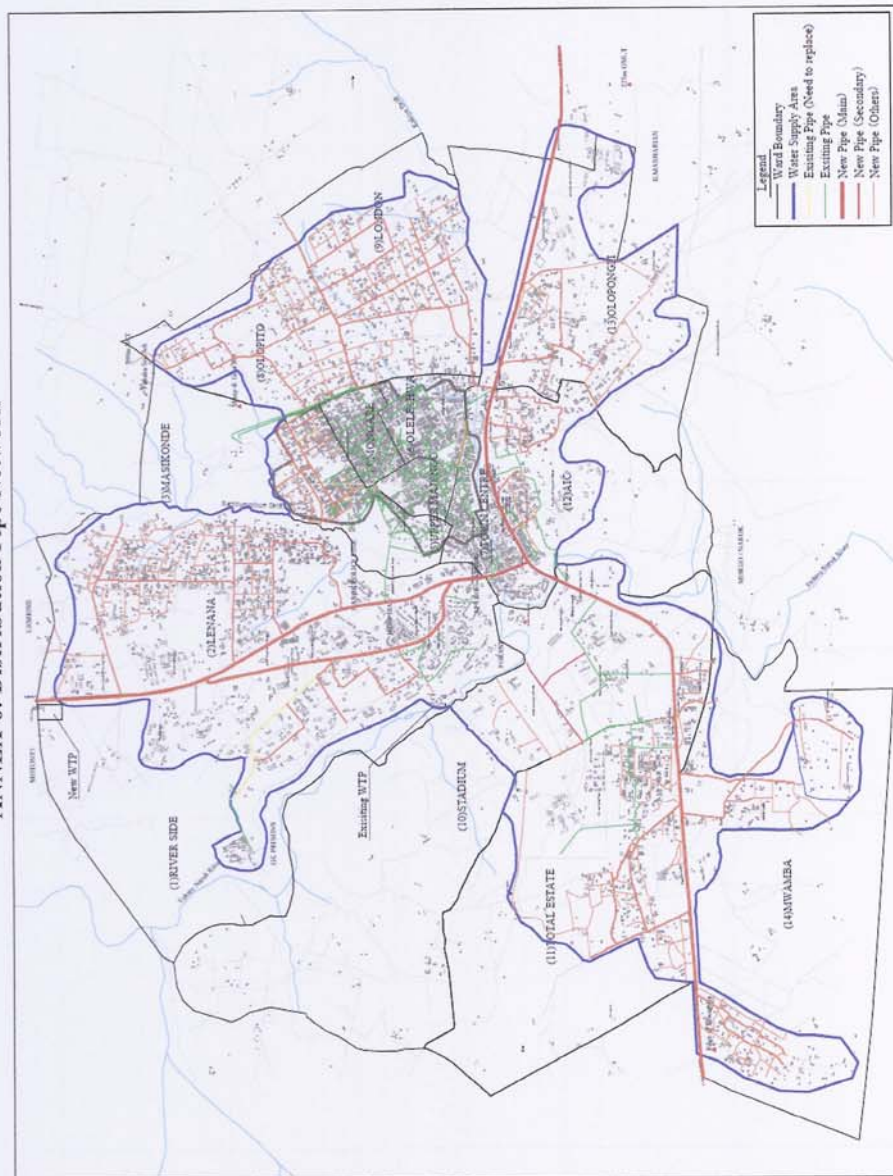




ANNEX-5: Diagram of Water Supply Facilities from Intake to Clear Water Reservoir



ANNEX-6: Distribution Pipe Network



ANNEX-7: Detail Explanation about Water Right

With regard to extraction of water from the Enkare Narok River, it is necessary that water right be granted. However, to get water rights, Kenyan regulation requires attaching a copy of EIA license with the application form and its procedures takes about 6 months in maximum. EIA procedure also takes 6 months in maximum. It takes times.

To solve this problem, we held a meeting among Rift Valley Water Service Board (RV-WSB:Nakuru Regional Office), WRMA (Narok), NARWASSCO, and JICA Study Team in NARWASSCO office on March 20th, 2012. The meeting consent was as follows: Authorization by WRMA for the project is necessary and the necessary documents shall be prepared by RV-WSB, and NARWASSCO.

The authorization document shall soon be issued after submission of application form. After the issue of the authorization document, the project shall be able to start the construction of water supply facilities for the project. Water rights are necessary at the time of operation after completion of construction of water supply facilities for the project. RV-WSB will take appropriate action to acquire the water right as earliest.



ANNEX-8: Required Increase Staffs

Item	Number	Note
<i>WTP/Intake</i>		
<i>WTP manager</i>	<i>1</i>	
<i>Intake facilities</i>	<i>10</i>	<i>Including night time workers. Water quality engineer will work both existing & new WTP.</i>
<i>WTP operation & maintenance</i>		
<i>Pipe maintenance</i>	<i>2</i>	<i>When big accident occurred, WTP workers will help them.</i>
<i>Meter reader</i>		<i>Shall be increased up to 1000 meters per person or be outsourced.</i>
<i>Billing/accountant</i>	<i>1</i>	<i>IT equipment shall be modernization.</i>
<i>Others :</i> - Vehicles, mortar bikes for transportation and maintenance vehicles are required. - Training of local contractor is required. - Meters shall be installed in the place which is easy to read.		

[Signature]

(1.4)

7

Appendix-5 Soft Component (Technical Assistance) Plan

(1) Background of Soft Component Introduction

“The Project for Augmentation of Water Supply System in Narok Town in the Republic of Kenya” is aiming to improve the current unstable water supply status owing to degradation and water supply capacity shortage of the existing water supply facilities and the following works are proposed for implementation through Japanese Grant Aid Scheme:

A. Facility Construction

a-1) Rehabilitation of the existing Central WTP and reservoir

a-2) Construction of new intake facility, the proposed WTP and reservoir

B. Materials and Equipment Procurement

b-1) Chemical injection equipment and water quality analysis equipment

b-2) Distribution pipe/house connection pipe/water meter

While, implementation of Soft Component was proposed to support smooth project launching and to secure the sustainability of assistance effects considering the following issues:

- NARWASSCO, O&M executing agency of the water supply system has insufficient experience in management of water supply service to be offered by water supply system developed through Japanese Grant Aid Project
- Since scale of the system will be expanded, further efficient system management is needed
- Inefficient water distribution amount control due to insufficient quality control on distribution/house connection pipe installation works and water meter installation works

Upon soft component planning, the following 3 (three) items are designated as scope of work from viewpoint of abovementioned background:

Table-1 Scope of Work for Soft Component

Scope of Work	Purposes
1. O&M of Water Supply Facility	O&M capacity building for whole water supply system covering water intake facility to house connection facility
2. Strengthening Supervising Capacity of Pipe Installation	Master appropriate construction supervision of installation of pipe /house connection and water meter.
3. Strengthening Managerial Capacity of Water Supply Undertaking	Business management capacity development by thorough water charge billing/collection and accountant works and by fulfilling customer control and water services

(2) Target of Soft Component

Target of soft component is achievement of the mission of water service business that “water supply

facilities are properly operated and maintained depending on sound business management basement and safe water is stably served to consumers” in certain period after Grant Aid Project.

(3) Outputs of Soft Component

Anticipated outputs of soft component are summarized below:

1) O&M of water supply facility

NARWASSCO staff gains to comprehend the composition/purposes of whole water supply system composed of intake/raw water transmission /water treatment /transmission and distribution facilities to be developed by Grant Aid Project and to operate and maintain them properly.

2) Strengthening Managerial Capacity of Water Supply Undertaking

NARWASSCO staff acquires knowledge needed for water service business management such as financial management (budget management and prime cost analysis), work management, customer control and water service distribution. Further, they master to execute water charge billing, charge collection and accounting works certainly. They also learn publication/edification methods to supply sufficient water related information to customers, to upgrade their awareness towards sanitation and to promote new house connections to the system.

3) Upgrading Supervising Capacity of Pipe Installation

By understanding the importance of construction supervision in distribution pipe/house connection pipe and water meter installation works, NARWASSCO staff masters appropriate construction supervision capacity and work quality is upgraded and proper water meter management methods are gained by them.

(4) Accomplishment Attainment Degree Verification Method

Abovementioned verification is to be conducted after the training by the following manners:

- ① Receipt and inspection of trainee’s accomplishments by SC scope of work below-mentioned
- ② Comprehension degree confirmed by trainee’s evaluation

Major evaluation viewpoints are shown in Table-2.

Table-2 Viewpoints on Trainees' Evaluation

Scope of Work	Viewpoints on Trainees' Evaluation
1. O&M of Water Supply Facility <u>Trainees</u> Technical Manager and staff	• Do they understand the composition of water system and purposes and function of each facility? • Can they operate and maintain intake weir and raw water transmission pipe (operation of screen and sludge removal valve)? • Can they determine water intake amount depends on water demand? • Can they grasp retention time in each facility of WTP? • Can they operate sand filter cope with design raw water intake amount? • Can they do chemical dissolution work properly? • Can they settle necessary chemical injection rate according to design raw water intake amount and raw water quality? Can they operate chemical injection equipment? • Can they conduct Jar Test? • Can they judge the appropriateness of flocculation? • Can they conduct water quality analysis on Turbidity, pH and Residual Chlorine in each treatment process? • Can they remove sludge settled in Sedimentation Tank? • Can they execute adequate back washing of Sand Filter? • Can they do proper O&M of Drying Bed depends on sludge drying status? • Can they do adequate O&M on intake/transmission pumps depends on target water amount? • Can they manage water level in clear water reservoirs? • Can they do valve operation and pipe inspection understanding the necessity in O&M on transmission/distribution pipes? • Can they grasp distributed eater amount by each Distribution Block? • Can they prepare O&M records (checklist, daily report and monthly report, etc)? • Can they keep drawings and ledgers?
2. Strengthening Managerial Capacity of Water Supply Undertaking <u>Trainees</u> Commercial & Sales Manager and Administration & Human Resources Manager	• Do they understand mechanism of budget management? • Can they prepare Financial Statements? • Do they understand prime cost analysis method? Can they conduct prime cost analysis properly to prepare water tariff revision proposal towards adequate level • Do they understand methods of water charge billing and water charge collection? • Can they do water charge billing/collection/management (issuing of water charge bills and receipts, record charge collection) and accounting process (income/expenditure handling and journalizing works) applying water charge billing/accounting system? • Can they prepare customer file including registration procedure for new customer? • Can NARWASSCO staff do publication, negotiations and irradiation activities by themselves? • Do participants of Residents' Enlightenment Seminar understand the importance of sanitation and roles of water supply/sewerage system?
3. Strengthening Supervising Capacity of Pipe Installation <u>Trainees</u> Technical Manager	• Do they understand the purpose and importance of supervisory work on distribution and house connection pipe installation work? • Can they adequately evaluate work approval drawings? • Can they do Completion Inspection including water pressure test and so on? • Can they properly maintain As Built Drawings? • Do they understand water meter management method? • Can they operate verification tools and other tools based on current water meter status?

(5) Soft Component Activities (Input Plan)

Proposed activities for Soft Component are described below. As to detailed schedule, refer to

Table-4.

1) O&M of Water Supply Facility

Conduct class room training using detailed design drawings, tender documents and training text (O&M guideline) and O&M related OJT applying actual facilities. Upon training text preparation, O&M manual created in “Meru City Water Supply Plan” or “Kapsabet City Water Supply Plan” shall be referred.

Aside from this Soft Component, the contractor for the proposed water system development will prepare O&M manual for each facility and conduct related trainings. The following O&M trainings to cope with system operational status are the main contents of Soft Component:

- Setting of chemical dosage rate according to raw water turbidity measured by jar test
- Chemical dissolving work depend on target water purification amount
- Reservoir water level control method including transmission pump operation

2) Strengthening Supervising Capacity of Pipe Installation

Conduct the following trainings to acquire on work knowledge and management knowledge needed for water supply service business operation:

i) Training on water supply business operation

Trough class training method including actual practicing, business operation related trainings such as accounting management, financial management and customer management are executed.

ii) Training on Residents Enlightenment

Conduct training through OJT holding resident enlightenment seminar targeting citizens in Narok town. Referring to water service development pamphlet issued during “Meru City Water Supply Plan”, training text shall be prepared. Holding times of this resident enlightenment seminar is 3 (three) times. First seminar is to be held by initiative by experts (local consultants) but from second seminar, the planning and operating initiative shall be shifted to NARWASSCO staff and technical transfer shall be performed to enable seminar holding by NARWASSCO staff even after completion of this Soft Component.

3) Strengthening Managerial Capacity of Water Supply Undertaking

Conduct classroom training utilizing work contract documents, work approval documents to master the purpose/necessity of supervisory service in distribution/house connection pipe installation work. Further, OJT training is to be carried out by supervisory work on distribution pipe installation works belongs to main component of the project and on house connection work belongs to undertaking of Kenyan side utilizing house connection materials to be procured by Grant Aid Project. Seminar will

be carried out to explain water meter management method and conduct instruction on tool operation needed in meter connection and on meter verification equipment operation.

(6) Resource Persons for Soft Component

Considering the proposed contents of Soft Component, the following experts are needed:

① O&M of Water Supply Facility

Water supply system expert: 2 persons (equipment management, water quality management)

② Strengthening Supervising Capacity of Pipe Installation

Water service business operation expert: 1 person

Water service business operation/community development (resident enlightenment) expert: 1 person

③ Strengthening Managerial Capacity of Water Supply Undertaking

Pipe installation work supervision expert: 1 person

Soft Component shall be conducted by direct assistance of Japanese consultant in charge, as designated experts must be acquainted with Grant Aid Scheme, dully grasp the contents of this project and they must have sufficient knowledge/experiences on operation and management of water supply projects. As abovementioned water supply system management/community development (resident enlightenment) expert must coordinate/communicate with other WSP and local residents, he/she shall be employed from local consultant or local NGO and carry out instructions under supervision of Japanese consultant.

Basic role allotment of Japanese consultant and local consultant is as follows:

Roles of Japanese Consultant

✓ Water supply system expert (equipment management)

Manage the whole soft component plan and supervise overall training plan. Prepare training text (System O&M Guideline), conduct equipment management oriented technical instructions on O&M of whole water supply system comprised of intake, raw water transmission, water treatment and clear water transmission/distribution facilities. Confirm and evaluate trainees' outputs.

✓ Water supply system expert (water quality management)

Instruct water quality analysis methods for intake facility, water treatment facility and distribution facility. Conduct detailed technical instruction on water treatment process management. Confirm and evaluate trainees' outputs.

✓ Water service business operation expert

Manage whole training on water service business operation strengthening. Conduct lectures on

water service management and business operation, execute practical works and confirm/evaluate trainees' outputs. Supervise the resident enlightenment activities to be carried out by initiative of local consultant.

✓ Pipe installation work supervision expert

Conduct technical instruction on supervision of distribution/house connection pipe and water meter installation works. Also perform instructions related to water meter management such as water meter verification equipment operation.

Roles of Local Consultant

✓ Water service business operation/community development (resident enlightenment) expert

Prepare resident enlightenment text referring to water supply system development pamphlet issued during "Meru City Water Supply Project" and direct NARWASSCO staff. Hold enlightenment activities (assembly) targeting local residents and conduct questionnaire survey to the participants together with analysis on the results.

(7) Implementation Schedule of Soft Component

Implementation schedule of soft component is shown in Figure-1.

Technical instruction on O&M for water supply system by water supply system expert on equipment management and water quality management shall be started from system turnover and duration is 1 month.

As implementation of instruction for water service business management base upgrading by water service business operation expert and water service business operation/community development expert including publicity/enlightenment to residents before system commissioning is effective, it shall be conducted adjusting with estimated construction work completion day. Considering the residents enlightenment seminar holding days, total duration shall be 2 months.

Likewise, technical instruction for pipe installation work supervisory capacity development by pipe installation work supervision expert shall be conducted adjusting with estimated distribution pipe installation work completion day since OJT is planned during distribution pipe installation work. As house connection pipe installation work utilizing materials procured under Grant Aid is to be ordered by NARWASSCO, instruction duration shall be divided into two. At first period, instruction and OJT on supervision of distribution pipe installation work including work approval drawing evaluation and work completion inspection is carried out together with explanation on purpose/importance of house connection pipe installation work supervision and work schedule adjustment. In second period, technical instruction and OJT on house connection pipe installation work supervision and water meter

management is conducted.

During soft component implementation, monthly report shall be prepared and submitted aside from final report. Trainees shall be designated by NARWASSCO in advance to the start of training.

Figure-1 Implementation Schedule of Soft Component

Year, Month	2015									Total MM (M/M)
Work items	...	5	6	7	8	9	10	11	12	
Construction work schedule										
Facility construction										
Test operation										
Turn over										
< Japanese consultant >										
1) Water supply system expert-1,2										1.0×2=2.0
2) Water service business operation expert										2.0
3) Pipe installation work supervision expert										(1+1)=2.0
< Local consultant >										
1) Resident enlightenment expert										2.0
Report submission										Total 8.0 M/M

(8) Outputs of Soft Component

The followings are the expected outputs of this soft component:

1) O&M of Water Supply Facility

- Training plan, training text/materials and trainees' evaluation report
- O&M guideline, O&M record (daily report, monthly report)

2) Strengthening Supervising Capacity of Pipe Installation

- Training plan, training text/materials and trainees' evaluation report
- Financial statement
- Materials on resident enlightenment activities, questionnaires for participants

3) Strengthening Managerial Capacity of Water Supply Undertaking

- Training plan, training text/materials and trainees' evaluation report
- Work approval documents
- As-built documents

(9) Temporary Cost Estimation on Soft Component

Temporary cost estimation on the proposed soft component is shown in Table-3.

Table-3 Temporary Cost Estimate on Soft Component

This table is due to the confidentiality.

(10) Undertakings by Recipient Country

Upon implementation of this soft component, Kenyan executing agency shall designate target trainees and prepare work order of house connection laying work needed for “Technical instruction on O&M for water supply system”.

Needless to mention, continuous effort by Kenyan executing agency is definitely needed even after the termination of training activities, to achieve objectives of soft component.

Especially, promotion in acquirement of new customer to stabilize water service business operation status and secure/develop human resources needed in water service business operation including system O&M by successive publication/enlightenment to residents utilizing outputs of soft component are quite important.

Table-4 Soft Component Action Plan

Activities	Trainees/Execution manner/Resource persons	Outputs	Remarks (Conditions)
1. O&M of Water Supply Facility			
• Lecture the composition of intake/raw water transmission facility, water treatment facility and transmission/distribution facility • Practice O&M methods of intake/raw water transmission facility (screen and sludge removal valve operation, and so on) • Lecture on WTP structure and purpose of each treatment process • Practice plant operation/management according to raw water intake amount and quality (water amount adjustment, jar test, water quality analysis, chemical dosing control, filtration rate control, back-washing water amount control, sludge removal and treatment/disposal work) • Practice clear water transmission pump operation method (automatic/manual operation) • Practice reservoir water level control • Practice O&M on clear water transmission/distribution pipes (water amount and pressure control, pipe inspection, sludge removal) • Practice O&M recording on each facility • Lecture on drawing/ledger management	<u>Target trainees</u> Technical manager and staff (9 persons of system O&M section, 5 persons of pipeline O&M section) Total 15 persons <u>Execution manner</u> • Classroom training using detailed design drawings and design documents • OJT on actual facilities <u>Resource persons</u> • Water supply system expert (Japanese consultant) Plan/preparation and execution : 2 persons×1.0 month	• Training plan • Training text (O&M guideline) • Chemical dosage rate table • O&M record (checklist, daily report, monthly report) • Trainees' evaluation report prepared by trainers	Trainees have already been designated in advance
2. Strengthening Supervising Capacity of Pipe Installation			
(1) Training on water service business operation • Lecture on knowledge/methods needed in business management • Lecture on accounting works/financial management • Lecture on work management/customer management (procurement, house connection and water service promotion) • Lecture how to read business related information based on actual data • Lecture on customer service (publication, public relations and communication with consumers) • Lecture on flow from water charge billing to accounting works and accountant knowledge needed	<u>Target trainees</u> Commercial & Sales Manager and Administration & Human Resources manager and staff (promotion/accountant 5 persons) Total 7 persons <u>Execution manner</u> • Classroom and OJT training <u>Resource persons</u> • Water service business operation expert (Japanese consultant) Plan/preparation : 1 person×0.5 month Execution : 1 person×1.5 month	• Training plan • Training text • Financial statement • Trainees' evaluation report prepared by trainers	Trainees have already been designated in advance

Activities	Trainees/Execution manner/Resource persons	Outputs	Remarks (Conditions)
(2) Training on residents enlightenment • Hold seminars to enlighten the residents to promote water service development (importance of sanitation, roles and mechanism of water supply system, water tariff system and so on)	<u>Target trainees</u> Chief of promotion division and staff (promotion 2persons) Total 3 persons <u>Execution manner</u> • Hold resident enlightenment seminar as OJT Target participants to this seminar : 30 persons of Narok town citizen by each seminar Total 3 seminars are planned <u>Resource persons</u> • Water service business operation/Community development expert (Local consultant) Plan/preparation : 1 person×0.5 month Execution : 1 person×1.5 month	• Training plan • Training text • Residents enlightenment action plan • Results of questionnaire survey on resident enlightenment seminar participants • Trainees' evaluation report prepared by trainers	Trainees have already been designated in advance
3. Strengthening Managerial Capacity of Water Supply Undertaking			
• Lecture purpose, necessity and importance of construction supervision • Lecture work flow of construction supervision • Lecture approval flow of work approval documents • Lecture checking procedures of work approval documents by OJT • Lecture methods on as-built inspection and completion inspection • Practice actual as-built inspection and completion inspection by OJT • Lecture as-built drawing management method • Lecture water meter management method • Practice operation of water meter verification equipment and related tools by OJT after observation on water meter behavior	<u>Target trainees</u> Technical manager and staff (distribution/house connection pipe laying section: 9 persons) Total 10 persons <u>Execution manner</u> • Classroom training using detailed design drawings and design documents • OJT at actual work sites of distribution/house connection pipe installation <u>Resource persons</u> • Pipe installation work supervision expert (Japanese consultant) Plan/preparation and execution : 1 person×2 months (1+1)	• Training plan • Training text • Work approval documents • Trainees' evaluation report prepared by trainers	Trainees have already been designated in advance