

MINUTES OF DISCUSSIONS
ON THE PREPARATORY SURVEY (BASIC DESIGN STUDY)
ON THE PROJECT FOR RURAL WATER SUPPLY
IN THE REPUBLIC OF YEMEN

In response to a request from the Government of the Republic of Yemen (hereinafter referred to as "the Government of Yemen"), the Government of Japan decided to conduct a Preparatory Survey (Basic Design Study) on the Project for Rural Water Supply in Yemen (hereinafter referred to as "the Project") and entrusted the survey to the Japan International Cooperation Agency (hereinafter referred to as "JICA").

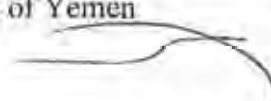
JICA sent to Yemen the Preparatory Survey Team (hereinafter referred to as "the Team"), which is headed by Mr. Kenji Nagata, Senior Advisor, Global Environment Department, JICA, and is scheduled to stay in the country from 6th March to 8th May, 2009.


The Team held discussions with officials concerned of the Government of Yemen and conducted a field survey at the study area.

In the course of the discussions and the field survey, General Authority for Rural Water Supply Project (hereinafter referred to as "GARWSP") under the Ministry of Water and Environment (hereinafter referred to as "MWE") and JICA (hereinafter referred to as "both parties") confirmed the main items described on the attached sheets. The Team will proceed to further works and prepare the Basic Design Study Report.

Sana'a, 15th March, 2009


Mr. Kenji Nagata
Leader
Preparatory Survey Team
Japan International Cooperation Agency
Japan

For 
Mr. Abdul Rahman Fadhl Al-Bryani
Minister
Ministry of Water and Environment
The Republic of Yemen


Mr. Ali Mohammed Al-Sureimi
Chairman
General Authority for Rural Water Supply Projects
The Republic of Yemen

ATTACHMENT

1. Objectives of the Project

The objectives of the Project are to supply safe and stable water to the people residing in rural areas, resulting in improvement of the living standard of the rural communities, and to ensure the beneficiaries' participation in operation and maintenance on the rural water supply system.

2. Survey Sites

The Survey sites are located in 5 Governorates namely Al-Mahweet, Sana'a, Dahmar, Ibb and Taiz shown in Annex-1, and are listed in Annex-2.

The site of S-11 (Al Hesn-Al Abyad, Jehana, Sana'a), which is included in the original request, is removed from the survey sites in this Preparatory Survey due to the JICA's security regulations.

3. Items Requested by the Government of Yemen

MWE and GARWSP (hereinafter referred to as "the Yemeni Side") requested the following items. The final components of the Project will be determined after further studies.

3-1. Construction of water supply facilities in the aforementioned Survey sites

3-2. Procurement of materials and equipment for construction of water facilities in the above Survey sites

3-3. Technical assistance for establishment or capacity building of the Water User Association (hereinafter referred to as "WUA") to operate and maintain the water supply system by communities.

4. Responsible and Implementing Agencies

4-1. The Responsible Agency is MWE.

4-2. The Implementing Agency is GARWSP.

4-3. The organization chart of MWE and GARWSP are shown in Annex-3.

5. Japan's Grant Aid Scheme

5-1. The Yemeni side understood the Japan's Grant Aid Scheme explained by the Team, as described in Annex-4.

5-2. The Yemeni side will take the necessary measures including budget allocation described in Annex-5A and 5B as a condition for the Japan's Grant Aid for smooth implementation if the Project would be implemented.

6. Schedule of the Survey

6-1. The Team will proceed to further studies in Yemen until 8th May 2009.

6-2. JICA will prepare the draft basic design report in English and dispatch a mission in order to explain its contents around August 2009.

6-3. In case that the contents of the report would be accepted in principle by the Government of Yemen, JICA will complete the final report and send it to the Government of Yemen around November 2009.

7. Other Relevant Issues

7-1. Both parties agreed that the Project sites as Japan's Grant Aid would be selected after the analysis of the results in this survey according to the following procedure.

(1) To prioritize the Survey sites according to the following criteria;

- a) Priority by the Yemeni side
- b) Urgency of the needs of the water supply facilities
- c) Potential of water sources (deep wells)
- d) Security condition
- e) Operation and maintenance capacity of communities

(2) To determine the final target sites and its component in consultation with the Government of Japan.

7-2. Both parties agreed the Team will design the Project according to the following conditions.

(1) The construction of the water supply facilities for the Project,

- The Japanese side shall construct a water supply system from intake facilities to public faucets to major hamlets.
- The other water pipes and equipment necessary for the house-connection system from public faucets to each house shall be procured and installed by communities in cooperation with Local Councils.
- The access roads to the reservoirs and deep wells shall be constructed under the responsibility of the Yemeni side.

(2) The rehabilitation of the water supply facilities for the Project

- The Japanese side shall procure equipment and materials necessary for the Project.
- The Yemeni side shall undertake the construction and renovation of them with their own budget within the Project period.
- The above principle shall be subject to the condition of the Project sites.

(3) Community Participation during the construction stage to enhance ownership of the water supply facilities to be constructed, for instance;

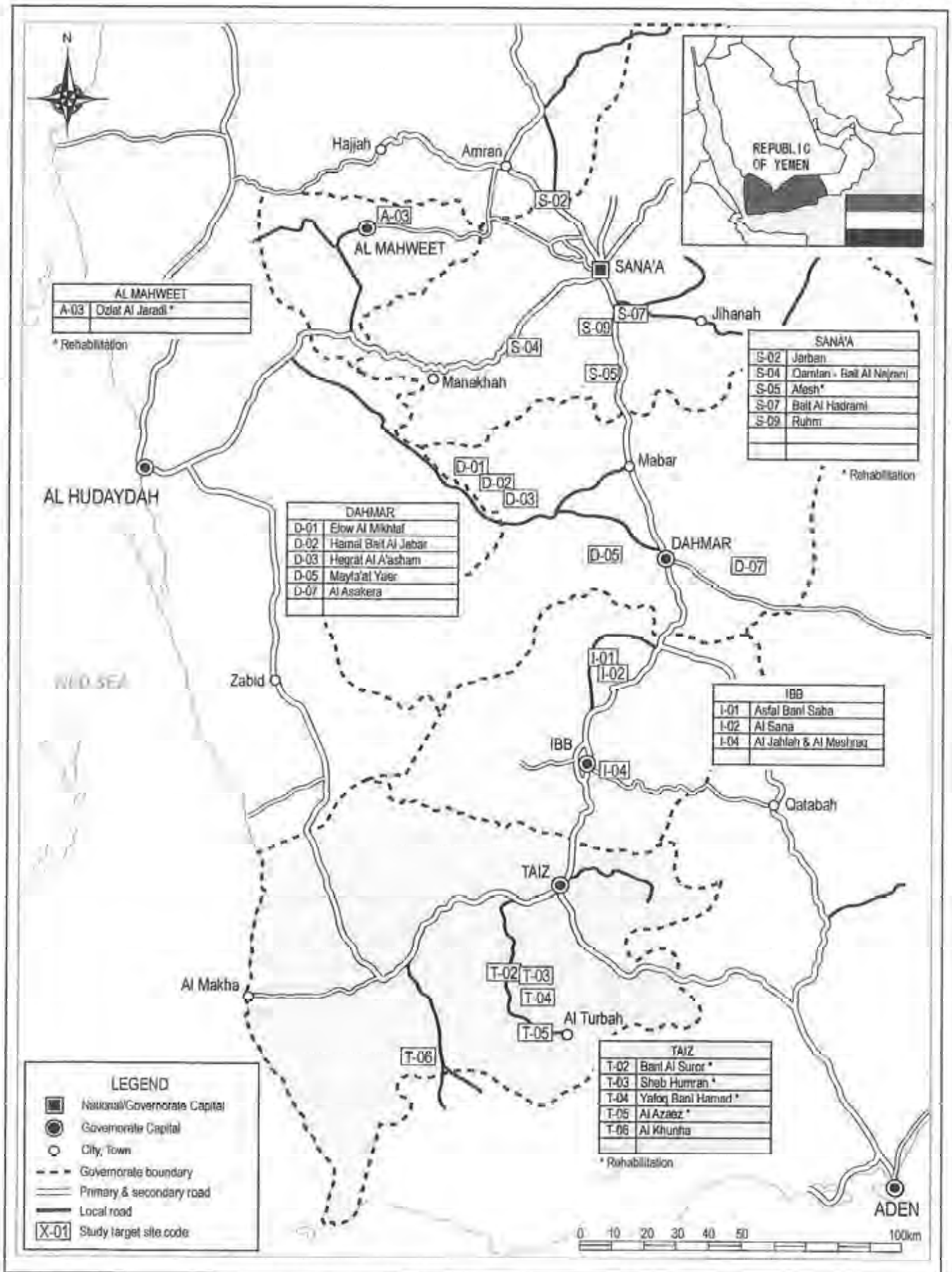
- The access roads within the sites are constructed by communities.
- The materials for construction are transported within the sites by communities.
- The activities as communities' participation shall be supervised by the GARWSP.

7-3. The Yemeni side ensured to take any measures deemed necessary to secure the safety of the members of the Team during the Survey.

7-4. Confirmation of the Approval of EIA (Environmental Impact Assessment)

MWE informed that the result of IEE (Initial Environmental Evaluation) approved by the Environment Protection Authority (hereinafter referred to as "EPA") at the Development Study was still effective and further EIA was not required on this survey. The Team requested a copy of the letter from EPA mentioning the effectiveness of the above approval by the end of April, and the Yemeni side agreed with it.

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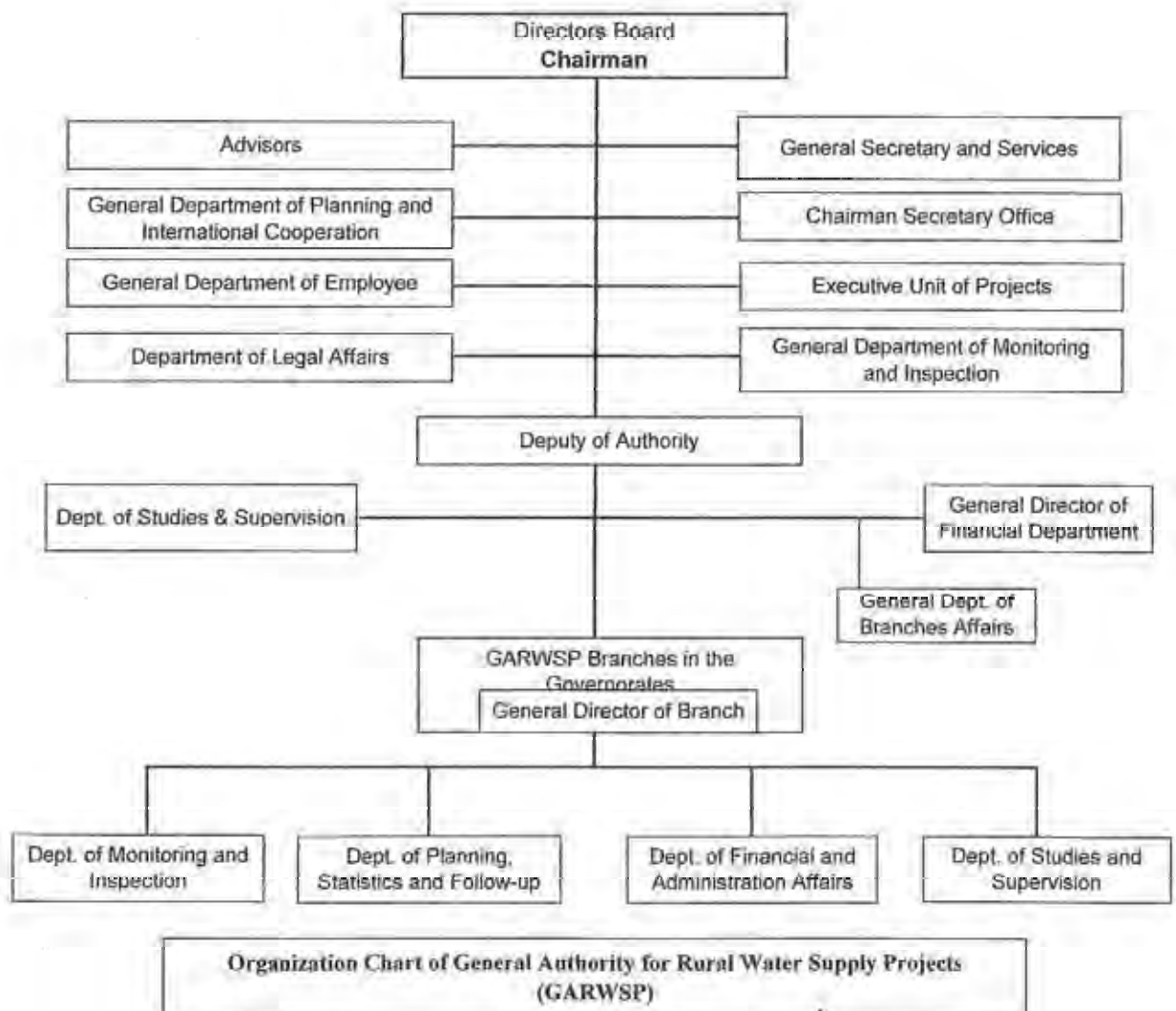


LOCATION MAP OF SURVEY AREA
(REQUESTED BY THE GOVERNMENT OF YEMEN)

Site List and Category of the facilities

Governorate	District	Code Number/Site Name	Category	Population (2006)
Al Mahweet	Al Rujum	A-03 Ozlat Al Jaradi	Rehab.(*1)	20,786
Sana'a	Hamdan	S-02 Jarban	New	1,611
	Bani Matar	S-04 Qamlan-Bait Al Najrani	New	629
	Belad Al Rous	S-05 Afesh	Rehab.	3,680
	Sanhan & Bani Bahlow	S-07 Bait Al Hadrami	New	2,550
	Sanhan & Bani Bahlow	S-09 Ruhm	New	4,567
Dahmar	Jabal Al Sharq	D-01 Elow Al Mikhalf	New	926
	Jabal Al Sharq	D-02 Hamal-Bait Al Jabar	New	2,475
	Jabal Al Sharq	D-03 Hegrat Al A'asham	New	1,592
	Ans	D-05 Mayfa'at Yaer	New	1,515
	Mayfa'a	D-07 Al Asakera	New	1,944
Ibb	Al Qafir	I-01 Asfal Bani Saba	New	9,311
	Al Makhader	I-02 Al Sana	New	6,026
	Ibb	I-04 Al Jahlah & Al Meshraq	New	10,467
Taiz	Al Ma'afer	T-02 Bani Al Suror	Rehab.	9,385
	Al Ma'afer	T-03 Sheb Humran	Rehab.	23,732
	Al Mawasat	T-04 Yafiq Bani Hamad	Rehab.	6,844
	Al Shamayaten	T-05 Al Azaez	Rehab.	11,784
	Al Wazieyah	T-06 Al Khunha	New	1,579
			Total	121,403

(*1) Rehab.: Rehabilitation of existing facility



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 part of this realignment, JICA was reborn on October 1, 2008. After the reborn of JICA, following the decision of the Government of Japan (hereinafter referred to as "the GOJ"), Grant Aid for General Project is extended by JICA.

Grant Aid is non-reimbursable fund to a recipient country 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 the relevant laws and regulations of Japan. The Grant Aid is not supplied through the donation of materials as such.

1. Grant Aid Procedures

Japanese Grant Aid is conducted as follows-

- Preparatory Survey (hereinafter referred to as "the Survey")
 - the Survey conducted by JICA
- Appraisal & Approval
 - Appraisal by The GOJ and JICA, and Approval by the Japanese Cabinet
- Determination of 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 Survey is to provide a basic document necessary for the appraisal of the Project by JICA and the GOJ. The contents of the Survey are as follows:

- Confirmation of the background, objectives, and benefits of the Project and also institutional capacity of agencies concerned 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.
- Confirmation of items agreed on by both parties concerning the basic concept of the Project.
- Preparation of a basic 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 Basic Design of the Project is confirmed considering the guidelines of the Japan's Grant Aid scheme.

JICA requests the Government of the recipient country to take whatever measures are necessary to ensure 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 in the recipient country actually implementing the Project. Therefore, the implementation of the Project is confirmed by all relevant organizations of the recipient country through the Minutes of Discussions.

(2) Selection of Consultants

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

(3) Result of the Survey

The Report on the Survey is reviewed by JICA, and after the appropriateness of the Project is confirmed, JICA recommends the GOJ to appraise the implementation 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 E/N will be signed between the GOJ and the Government of the recipient country to make a plea 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

The consultant firm(s) used for the Survey Will be recommended by JICA to the recipient country to also work on the Project's implementation after the E/N and the G/A, in order to maintain technical consistency.

(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". (The term "Japanese nationals" means persons of Japanese nationality or Japanese corporations controlled by persons of Japanese nationality.)

(4) Necessity of "Verification"

The Government of 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 secure 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 recipient country is required to maintain and use the facilities constructed and the equipment purchased under the Grant Aid properly and effectively and to assign staff necessary for this operation and maintenance as well as 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 in 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.

(9) Authorization to Pay (A/P)

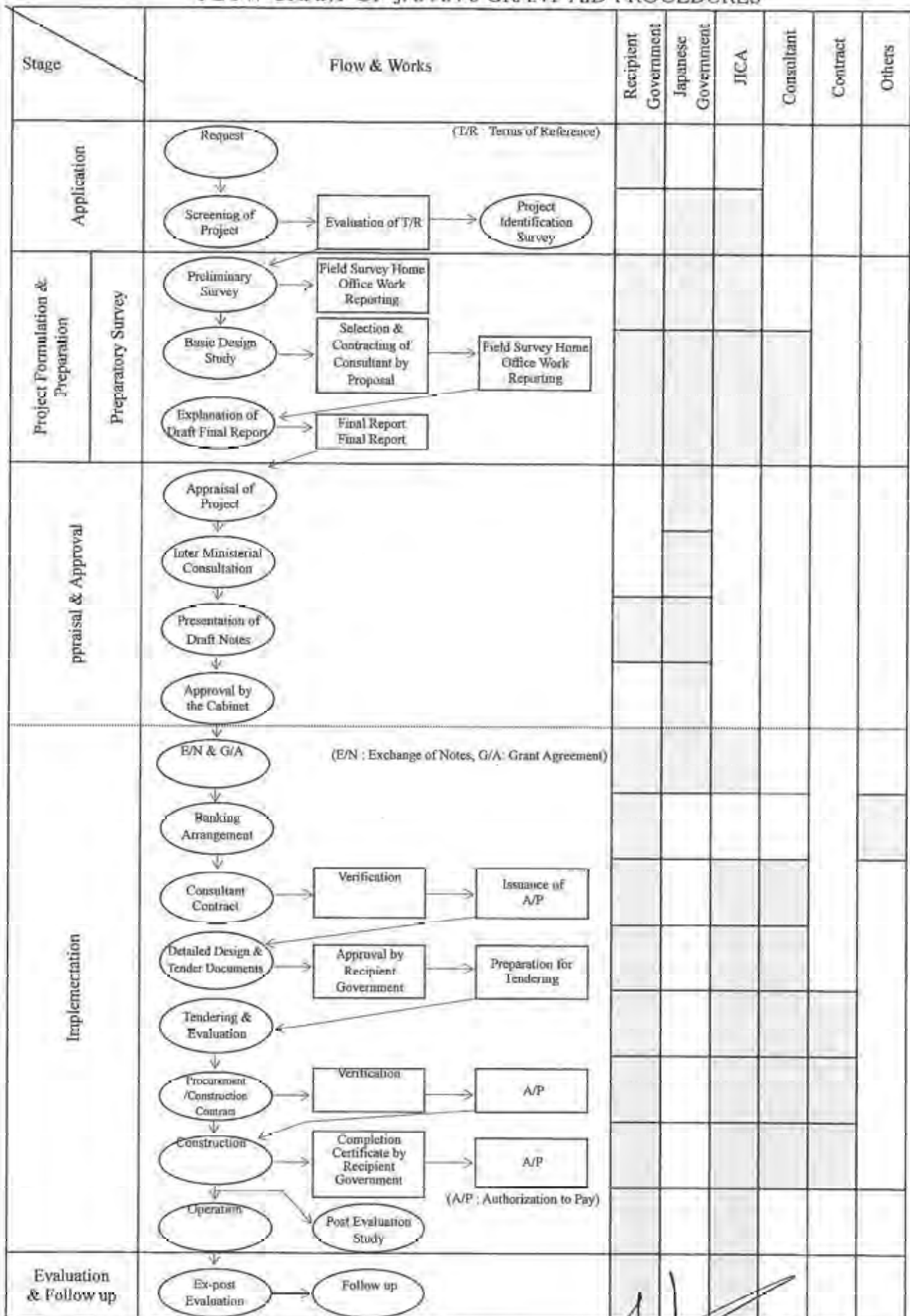
The Government of the recipient country should bear an advising commission of an Authorization to Pay and payment commissions to the Bank.

(10) Social and Environmental Considerations

A recipient country must ensure the social and environmental considerations for the Project and must follow the environmental regulation of the recipient country and JICA socio-environmental guideline.

(End)

FLOW CHART OF JAPAN'S GRANT AID PROCEDURES

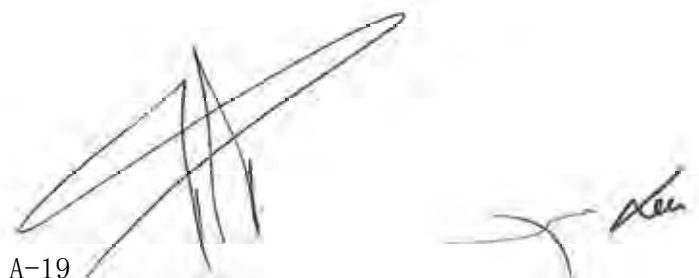


Major Undertakings to be taken by Each Government (Construction)

NO	Items	To be covered by the Grant	To be covered by Recipient side
1	To secure land		•
2	To clear, level and reclaim the site when needed		•
3	To construct gates and fences in and around the site		•
4	To construct the parking lot	•	
5	To construct roads		
	1) Within the site	•	
	2) Outside the site		•
6	To construct the building	•	
7	To provide facilities for the distribution of electricity, water supply, drainage and other incidental facilities		
	1)Electricity		
	a.The distributing line to the site		•
	b.The drop wiring and internal wiring within the site	•	
	c.The main circuit breaker and transformer	•	
	2)Water Supply		
	a.The city water distribution main to the site		•
	b.The supply system within the site (receiving and/or elevated	•	
	3)Drainage		
	a.The city drainage main (for storm, sewer and others) to the site		•
	b.The drainage system (for toilet sewer, ordinary waste, storm drainage and others) within the site	•	
	4)Gas Supply		
	a.The city gas main to the site		•
	b.The gas supply system within the site	•	
	5)Telephone System		
	a.The telephone trunk line to the main distribution frame / panel (MDF) of the building		•
	b.The MDF and the extension after the frame / panel	•	
	6)Furniture and Equipment		
	a.General furniture		•
	b.Project equipment	•	
8	To bear the following commissions to a bank of Japan for the banking services based upon the B/A		
	1) Advising commission of A/P		•
	2) Payment commission		•
9	To ensure prompt unloading and customs clearance at the port of disembarkation in recipient country		
	1) Marine(Air) transportation of the products from Japan to the recipient country	•	
	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 whose services may be required in connection with the supply of the products and the services under the verified contract such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work		●
11	To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in the recipient country with respect to the supply of the products and services under the verified contract		●
12	To maintain and use properly and effectively the facilities constructed and equipment provided under the Grant Aid		●
13	To bear all the expenses, other than those to be borne by the Grant Aid, necessary for construction of the facilities as well as for the transportation and installation of the equipment		●

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



A-19

Major Undertakings to be taken by Each Government (Equipment)

NO	Items	To be covered by the Grant	To be covered by Recipient side
1	To bear the following commissions to a bank of Japan for the banking services based upon the B/A		
	1) Advising commission of A/P		●
	2) Payment commission		●
2	To ensure prompt unloading and customs clearance at the port of disembarkation in recipient country		
	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	(●)	(●)
3	To accord Japanese nationals whose services may be required in connection with the supply of the products and the services under the verified contract such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work		●
4	To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in the recipient country with respect to the supply of the products and services under the verified contract		●
5	To maintain and use properly and effectively the facilities constructed and equipment provided under the Grant Aid		●
6	To bear all the expenses, other than those to be borne by the Grant Aid, necessary for the transportation and installation of the equipment		●

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

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MINUTES OF DISCUSSIONS
ON THE PREPARATORY SURVEY (BASIC DESIGN STUDY)
ON THE PROJECT FOR RURAL WATER SUPPLY
IN THE REPUBLIC OF YEMEN
(EXPLANATION ON DRAFT BASIC DESIGN STUDY REPORT)

In March 2009, the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched a Preparatory Survey (Basic Design Study) Team on the Project for Rural Water Supply (hereinafter referred to as "the Project") to the Republic of Yemen and through discussion, field survey and technical evaluation of the results in Japan, JICA prepared the draft basic design study report (hereinafter referred to as "the Draft Report").


In order to explain and consult with the Government of Yemen on the components of the Draft Report, JICA sent to Yemen the Draft Report Explanation Team (hereinafter referred to as "the Team"), which was headed by Mr. MASUDA Shinichi, from 7th to 13th August 2009.

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


Sana'a, 11th August, 2009

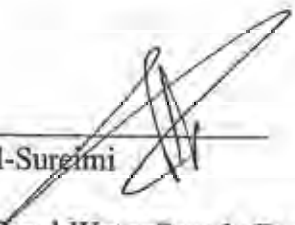


Mr. MASUDA Shinichi
Leader
Draft Report Explanation Team
Japan International Cooperation Agency
Japan



Mr. Abdul Rahman Fadhil Al-Eryani
Minister
Ministry of Water and Environment
The Republic of Yemen





Mr. Ali Mohammed Al-Sureimi
Chairman
General Authority for Rural Water Supply Projects
The Republic of Yemen

Attachment

1. Components of the Draft Report

The Yemeni side agreed and accepted in principle, the contents of the Draft Report explained by the Team. Both sides confirmed the contents of the Project as shown in Annex-1 and the Project site is as shown in Annex-2.

2. Japan's Grant Aid Scheme

The Yemeni side understood the Japan's Grant Aid Scheme and the necessary measures to be taken by the Yemeni side as explained by the Team and described in Annex-4, Annex-5A and Annex-5B of the Minutes of Discussions signed by both parties on 15th March 2009.

3. Responsible and Implementing Agency

3-1. The responsible agency is the Ministry of Water and Environment (hereinafter referred to as "MWE")

3-2. The implementing agency is the General Authority for Rural Water Supply Projects (hereinafter referred to as "GARWSP")

4. Project Cost Estimation

Both sides confirmed the project cost estimation borne by the Yemeni and Japanese sides as shown in Annex-3. Since these costs are provisional and would be further examined, they are subject to change. Both sides agreed to take necessary measure to secure the sufficient budget in order to implement the Project.

The project cost estimation as well as the Draft Report should be carefully dealt with and never be released or revealed to any third parties before all the relevant contract is concluded because the information affects the Tender process.

5. Schedule of the Study, Project Approval and Necessary Procedure for Implementation

5-1. Schedule of the Study

JICA will complete the final report in accordance with the confirmed items and send it to the Government of Yemen by January 2010.

5-2. Project Approval

Based on the Draft Report and result of discussions by both sides stipulated in the M/Ds, the Project will be evaluated by the Japanese authorities in September 2009 and then final decision will be made by the Japanese Cabinet in October 2009. These schedules are subject to change.

In this process, the contents of the Project are examined as well as the Project itself.


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5-3. Necessary procedure for Implementation

After the Project is approved by the Japanese Cabinet, both Governments shall proceed to the Exchange of Notes (E/N) and Grant Agreement (G/A). E/N is agreed and concluded between the Government of Yemen and the Government of Japan. G/A is agreed and concluded between the Government of Yemen and JICA.

6. Social and Environmental Considerations

The result of the Basic Design Study shows that the Project would make some negative impacts following the JICA's guideline of social and environmental considerations. In order to mitigate the impact, the Yemeni side agreed to take the measures as follows.

a) Mitigation measures on the environmental and social impact

Item	Mitigation measures
Water rights	<p>To avoid water disputes within a community in the Project sites, GARWSP shall obtain a consent in written form from a community concerning the following matters:</p> <ul style="list-style-type: none"> - To use a Project deep well only for a planned water supply facility - Not to authorize to develop any new deep wells within the interference area of a Project deep well <p>The consent in written form shall be prepared during Detailed Design Study.</p>
Groundwater	<p>In order to conserve groundwater of the Project sites, GARWSP will instruct a community not to develop any new deep wells within the interference area of a Project deep well, and to operate the pump within the designed discharge rate. When a water supply facility of the Project starts to operate, a water level of a Project deep well shall be monitored by a Water Users Association of the Project site.</p>

b) Monitoring Plan

The above-mentioned mitigation measures shall be monitored as follows:

Monitoring of environmental and social impacts

Item	Methodology	Frequency
Water rights	A Water Users Association monitors any plans to develop new deep wells within an interference area of a Project deep well and reports to GARWSP (branch).	Monthly

Groundwater	A Water Users Association measures periodically a water level of the Project deep wells and the result is reported to GARWSP branch office monthly. All the Water Users Associations of the Project sites receive training to monitor water levels of the Project deep wells during the construction stage.	Monthly
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The Yemeni side completed the Environmental Checklist as shown in Annex-4.

7. Other Relevant Issues

7-1. Software Component of the Project

In order to establish a Water Users Association (WUA) in each Project site, a software component is introduced in the Project. The software component will mainly support for the capacity building of each WUA to be established in the community of the Project site.

The Yemeni side will organize the Social Mobilization Team (SMT), which consists of specialists of the local authority and the GARWSP branch, in each governorate of the Project site. The Yemeni side will secure the budget for the activities of the SMTs as the counterparts in the software component of the Project.

7-2. Reexamination of the water source of the Project

Each deep well, which is planned to be utilized as the water source for the water supply facilities, will be reexamined, in general, by pumping tests in the stage of the Detailed Design Study of the Project.

In case that a deep well is found to have considerably lower capacity than planned in the Basic Design, a water supply facility with the well would be redesigned according to its available water sources, which will be confirmed during the Detailed Design Study.

7-3. Security during the implementation of the Project

The Yemeni side promised to take necessary measures in order to ensure the security for Japanese nationals and other staffs, who will be engaged in the Project during its implementation.

END.

ANNEX-1: The Contents of the Project

ANNEX-2: The Project Sites

ANNEX-3: Project Cost Estimation

ANNEX-4: Environmental Checklist

Contents of the Project

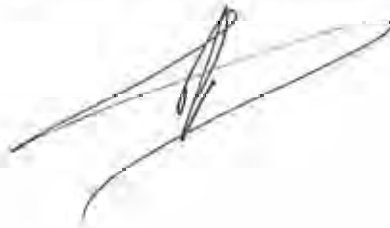
1. Water Supply Facilities Construction

New water supply facilities construction : 13 sites

Rehabilitation of existing water supply facilities : 6 sites

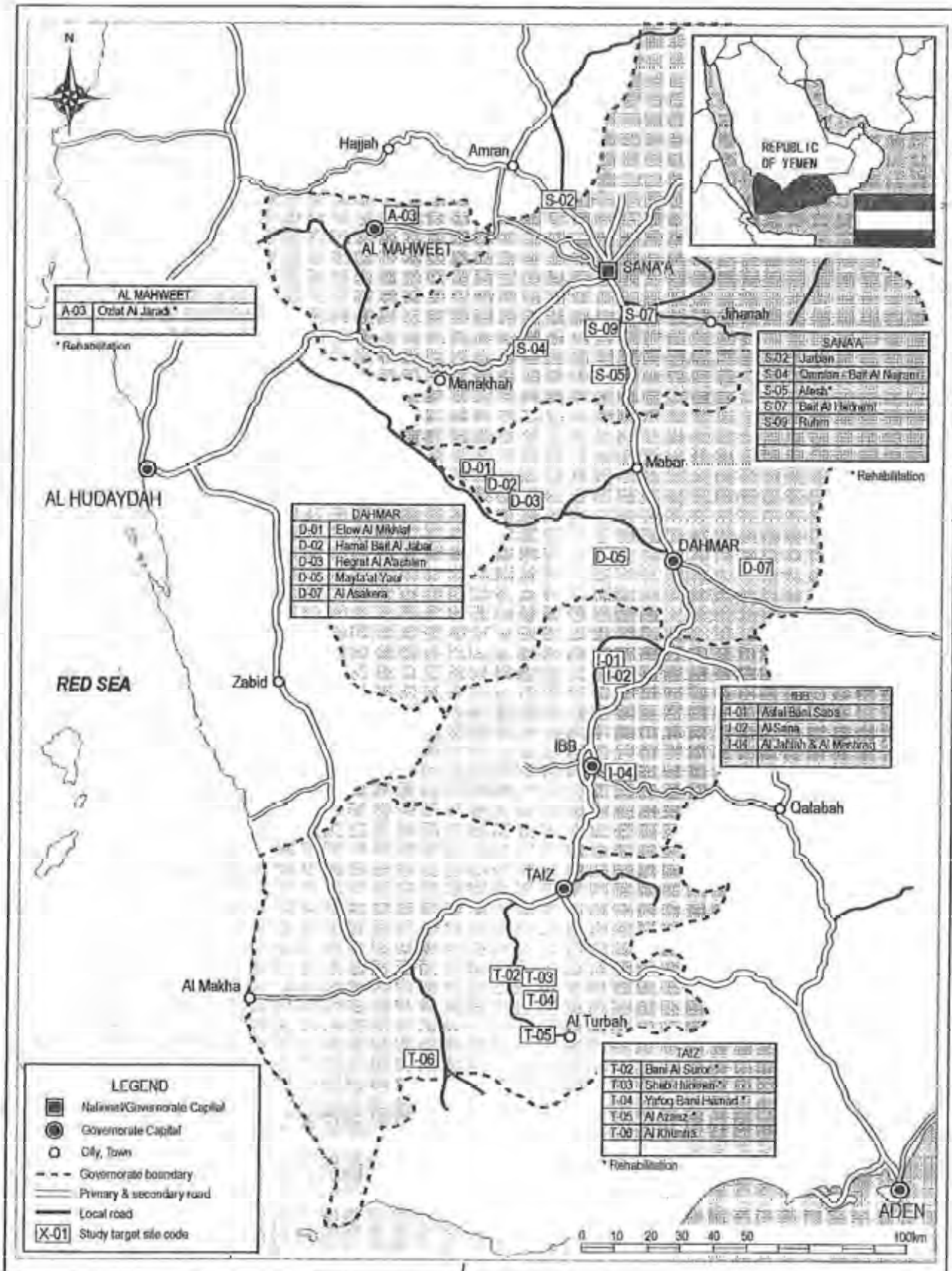
2. Technical Assistance (Soft components)

Organization of water users associations and provision of sanitation promotion activities.



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The Project Sites



Project Cost Estimation

a) Cost borne by the Japanese Government

Total Project Cost Approx. 1,680.0 million JPY
(Approx. 17.54 million US\$)

Construction Cost: 19 sites in 5 Governorates (Water supply facilities)

Items		Cost Estimate(million JPY)
Facilities	Installation/Rehabilitation of pumping equipment, construction/rehabilitation of machinery house, construction/ rehabilitation of reservoir, pumping main and distribution pipeline, public faucet.	1,451.0
Detailed Design, Supervision work		194.0
Software component		35.0

Cost Estimate(Total) Approx. 1,680.0 million JPY

(1) Al-Mahweet: 1 site

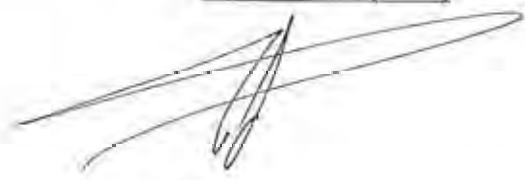
Items		Cost Estimate(million JPY)
Facilities	Rehabilitation of pumping and booster pump equipments	23.0
Detailed Design, Supervision work		3.1
Software component		0.5

Cost Estimate(Total) Approx. 26.6 million JPY

(2) Sana'a: 5 sites

Items		Cost Estimate(million JPY)
Facilities	Installation/Rehabilitation of pumping equipment, construction/rehabilitation of machinery house, construction/ rehabilitation of reservoir, pumping main and distribution pipeline, public faucet.	269.5
Detailed Design, Supervision work		36.2
Software component		6.6

Cost Estimate(Total) Approx. 312.3 million JPY




(3) Dahmar: 5 sites

Items		Cost Estimate(million JPY)
Facilities	Installation/Rehabilitation of pumping equipment, construction/rehabilitation of machinery house, construction/ rehabilitation of reservoir, pumping main and distribution pipeline, public faucet.	345.9
Detailed Design, Supervision work		46.2
Software component		8.4

Cost Estimate(Total) Approx. 400.5 million JPY

(4) Ibb: 3 sites

Items		Cost Estimate(million JPY)
Facilities	Installation/Rehabilitation of pumping equipment, construction/rehabilitation of machinery house, construction/ rehabilitation of reservoir, pumping main and distribution pipeline, public faucet.	504.1
Detailed Design, Supervision work		67.4
Software component		12.2

Cost Estimate(Total) Approx. 583.7 million JPY

(5) Taiz: 5 sites

Items		Cost Estimate(million JPY)
Facilities	Installation/Rehabilitation of pumping equipment, construction/rehabilitation of machinery house, construction/ rehabilitation of reservoir, pumping main and distribution pipeline, public faucet.	308.5
Detailed Design, Supervision work		41.1
Software component		7.3

Cost Estimate(Total) Approx. 356.9 million JPY

This cost estimate is provisional and would be further examined by the Government of Japan for the approval of the Grant Aid.



b) Necessary budget to be covered by the Yemeni side

Total **YR160,498,669 (JPY76.7million)**

Cost Item	Total	Calculation	Remarks
Access road within the site	—	-	To be done by the villagers
Land and leveling for the facilities constructions	-	-	To be donated by the villagers
House connection work (pipe + water meter)	(* ¹)YR156,938,000	-Pipe: 30m/house -Water Meter: 1 No./house	Materials and Installation by the villagers
Advising Commission for Authorization to Pay(A/P)	(* ²)YR46,024	YR12,552×3times YR8,368×1time	A/P : JPY6,000/time A/P Amendment : JPY4,000/time
Payment Commission to Bank	(* ²)YR3,514,644	Approx. JPY1,680,000.-	
Total	(* ¹)YR156,938,000	Under the responsibility of the Villagers as a policy of Yemen	
	(* ²)YR3,560,668	Government of Yemen	

(*1) To be covered by the villagers.

(*2) To be covered by the Government of Yemen.

Environmental Checklist: 18. Water Supply (1)

Category	Environmental Item	Main Check Items	Confirmation of Environmental Considerations
1 Permits and Explanation	(1) EIA and Environmental Permits	<p>① Have EIA reports been officially completed?</p> <p>② Have EIA reports been approved by authorities of the host country's government?</p> <p>③ Have EIA reports been unconditionally approved? If conditions are imposed on the approval of EIA reports, are the conditions satisfied?</p> <p>④ In addition to the above approvals, have other required environmental permits been obtained from the appropriate regulatory authorities of the host country's government?</p>	EPA approved that EIA is not necessary.
	(2) Explanation to the Public	<p>① Are contents of the project and the potential impacts adequately explained to the public based on appropriate procedures, including information disclosure? Is understanding obtained from the public?</p> <p>② Are proper responses made to comments from the public and regulatory authorities?</p>	<p>① Yes. The contents of the Project and the potential impacts were explained to the public through the development study report.</p> <p>② Yes. Proper responses were made to comments from authorities through interviews with them.</p>
	(1) Air Quality	<p>① Is there a possibility that chlorine from chlorine storage facilities and chlorine injection facilities will cause air pollution? Do chlorine concentrations within the working environments comply with the country's occupational health and safety standards?</p>	① No. There is no chlorine storages attached to the water supply facilities of the Project.
	(2) Water Quality	<p>① Do pollutants, such as SS, BOD, COD contained in effluents discharged by the facility operations comply with the country's effluent standards?</p>	① Yes. Although if the water supply system is completed, there are fears that load on water contamination might increase, but in all of the sites the increase rate will be small because the newly targeted population is relatively small. Therefore, the impact will be small enough to be negligible.
	(3) Wastes	<p>① Are wastes, such as sludges generated by the facility operations properly treated and disposed of in accordance with the country's standards?</p>	① Yes. No sludge will be generated.
2 Mitigation Measures	(4) Noise and Vibration	<p>① Do noise and vibrations generated from the facilities, such as pumping stations comply with the country's standards?</p>	① Yes. Pump houses are located away from residences and engines are operated only during the daytime. The generator have sound proof system.
	(5) Subsidence	<p>① In the case of extraction of a large volume of groundwater, is there a possibility that the extraction of groundwater will cause subsidence?</p>	① No. The planned extraction rate is small enough not to cause subsidence, and the deep wells are located in hard rock area.
3 Natural Environment	(1) Protected Areas	<p>① Is the project site located in protected areas designated by the country's laws or international treaties and conventions? Is there a possibility that the project will affect the protected areas?</p>	① No.

Environmental Checklist: 18. Water Supply (2)

Category	Environmental Item	Main Check Items	Confirmation of Environmental Considerations
3 Natural Environment	(2) Ecosystem	<p>① Does the project site encompass primeval forests, tropical rain forests, ecologically valuable habitats (e.g., coral reefs, mangroves, or tidal flats)?</p> <p>② Does the project site encompass the protected habitats of endangered species designated by the country's laws or international treaties and conventions?</p> <p>③ If significant ecological impacts are anticipated, are adequate protection measures taken to reduce the impacts on the ecosystem?</p> <p>④ Is there a possibility that the amount of water (e.g., surface water, groundwater) used by the project will adversely affect aquatic environments, such as rivers? Are adequate measures taken to reduce the impacts on aquatic environments, such as aquatic organisms?</p>	<p>① All of the sites encompass villages where landuse is either settlements or farmlands. Therefore, none of the sites have indigenous fauna or flora species.</p> <p>② According to the above reason, none of the sites are habitats for endangered species.</p> <p>③ Significant ecological impacts are not anticipated.</p> <p>④ No. There is no possibility.</p>
4 Social Environment	(1) Resettlement	<p>① Is involuntary resettlement caused by project implementation? If involuntary resettlement is caused, are efforts made to minimize the impacts caused by the resettlement?</p> <p>② Is adequate explanation on relocation and compensation given to affected persons prior to resettlement?</p> <p>③ Is the resettlement plan, including proper compensation, restoration of livelihoods and living standards developed based on socioeconomic studies on resettlement?</p> <p>④ Does the resettlement plan pay particular attention to vulnerable groups or persons, including women, children, the elderly, people below the poverty line, ethnic minorities, and indigenous peoples?</p> <p>⑤ Are agreements with the affected persons obtained prior to resettlement?</p> <p>⑥ Is the organizational framework established to properly implement resettlement? Are the capacity and budget secured to implement the plan?</p> <p>⑦ Is a plan developed to monitor the impacts of resettlement?</p>	<p>① No. There is no involuntary resettlement caused by project implementation.</p> <p>② No, because adequate explanation is not necessary because no involuntary resettlement.</p> <p>③ No, because there is no involuntary resettlement.</p> <p>④ No, because there is no involuntary resettlement.</p> <p>⑤ No, because there is no involuntary resettlement.</p> <p>⑥ No, because there is no involuntary resettlement.</p> <p>⑦ No, because there is no involuntary resettlement.</p>
	(2) Living and Livelihood	<p>① Is there a possibility that the project will adversely affect the living conditions of inhabitants? Are adequate measures considered to reduce the impacts, if necessary?</p> <p>② Is there a possibility that the amount of water used (e.g., surface water, groundwater) by the project will adversely affect the existing water uses and water area uses?</p>	<p>① The water vendors seek sufficient demand to sell water in other site which does not have water supply facilities.</p> <p>② No. But if a private well exists within a perimeter of 500 m of the Project target well, discussions are made with well owner.</p>
	(3) Heritage	<p>① Is there a possibility that the project will damage the local archeological, historical, cultural, and religious heritage sites? Are adequate measures considered to protect these sites in accordance with the country's laws?</p>	<p>No. There is no historical, cultural and religious site in the Project area.</p>
	(4) Landscape	<p>① Is there a possibility that the project will adversely affect the local landscape? Are necessary measures taken?</p>	<p>The building structure was designed in consideration of landscape.</p>
4 Social Environment	(5) Ethnic Minorities and Indigenous Peoples	<p>① Does the project comply with the country's laws for rights of ethnic minorities and indigenous peoples?</p> <p>② Are considerations given to reduce the impacts on culture and lifestyle of ethnic minorities and indigenous peoples?</p>	<p>There is no ethnic minorities or indigenous people in the Project area.</p>

Environmental Checklist: 18. Water Supply (3)

Category	Environmental Item	Main Check Items	Confirmation of Environmental Considerations
	(1) Impacts during Construction	<p>① Are adequate measures considered to reduce impacts during construction (e.g., noise, vibrations, turbid water, dust, exhaust gases, and wastes)?</p> <p>② If construction activities adversely affect the natural environment (ecosystem), are adequate measures considered to reduce impacts?</p> <p>③ If construction activities adversely affect the social environment, are adequate measures considered to reduce impacts?</p> <p>④ If necessary, is health and safety education (e.g., traffic safety, public health) provided for project personnel, including workers?</p>	<p>① Yes. Construction will be implemented, located away from residences and during the daytime only.</p> <p>② All of the sites encompass villages where landuse is either settlements or farmlands.</p> <p>③ Construction activities will not affect the social environment through planning at the design stage.</p> <p>④ The Project will provide health and safety education to the Project concerns and also education on sanitation for project personnel and workers.</p>
5 Others	(2) Monitoring	<p>① Does the proponent develop and implement monitoring program for the environmental items that are considered to have potential impacts?</p> <p>② Are the items, methods and frequencies included in the monitoring program judged to be appropriate?</p> <p>③ Does the proponent establish an adequate monitoring framework (organization, personnel, equipment, and adequate budget to sustain the monitoring framework)?</p> <p>④ Are any regulatory requirements pertaining to the monitoring report system identified, such as the format and frequency of reports from the proponent to the regulatory authorities?</p>	<p>① Yes. The Project will provide training program on monitoring and the communities in the Project sites will monitor environmental items.</p> <p>② Yes. They are appropriate.</p> <p>③ Yes. The Project will establish monitoring teams for the Water Users Associations in each community in the Project sites.</p> <p>④ No. The monitoring data will be taken by the Water Users Association and send it to the Implementing Agency, every month, using a format to be prepared by the Project.</p>
6 Note	Note on Using Environmental Checklist	<p>① If necessary, the impacts to transboundary or global issues should be confirmed (e.g., the project includes factors that may cause problems, such as transboundary waste treatment, acid rain, destruction of the ozone layer, or global warming).</p>	<p>No impacts are anticipated.</p>

1) Regarding the term "Country's Standards" mentioned in the above table, in the event that environmental standards in the country where the project is located diverge significantly from international standards, appropriate environmental considerations are made, if necessary.

2) Environmental checklist provides general environmental items to be checked. It may be necessary to add or delete an item taking into account the characteristics of the project and the particular circumstances of the country and locality in which it is located.