12.4 Village Profile of Sites in Sana'a Governorate

SITE IDENTIFICATION PANEL

No.	Item	Description					
	Code No.	S-01					
	Site Name	Bani Waleed - Al Asboor					
	Sub-District (Uzlat)						
	District	Al Haymah Al Kharijiyah					
	Governorate	Sana'a					
	Coordinates	Latitude	Longitude				
	Coordinates (Measured Location)						
	Annual precipitation (rainfall)	490 mm					
	Population (2006)	1,923					
	Population Forecast (2016)	2,360					
	No. of Village (Qariah) in Total						
	No. of Village (Qariah) to be served						
	Village (Qariah) in the Community	Name	To Be Serve	Population	Household	Coordinate (Lat / Lon)	
		Al Sharqa					
		Al Karf					
		Dhahrat Al Ula					
		Al Lakma					
		Qamran					
		Dhahrat Al Wali					
		Hajjar					
		Al Qamh					
		AL Zubair & AL Matariya					
		AL Muhami					
		Bait Saad					
		Al Majel & Al Sharaf					
		Al Nuzoh					
		Kail 1					
		Kail 2					
		Al Kiyab & Al Manakh					
		Al Dhila'a & Al Wathan					
		Al Awdan					
		Al Dhahrah					
		Al Hais					
		Al Muthab					
		Al Dhiq & Al Lajeej					
		Al Jabal					
		Shamlan & Sha'ab Qasim					
		Al Mustawsif					
		Dar Al Qura'an					
		Madrasat Al Fuqan					
		Madrasat Al Zahra'a					

EXISTING WATER SUPPLY SCHEME PANEL

No.	Item	Description				
	Functioning	No existing				
	Components of Existing Water Supply Scheme	Component	Specification	Condition	Year	Fund
		Pump for Deep Well				
		Eng./Gen. for Deep Well				
		Pump House for Deep We				
		Pump for Booster				
		Eng./Gen. for Booster				
		Pump House for Booster				
		Booster Tank				
		Distribution Tank				
		Pumping Main				
		Distribution Main				
		Public Tapstand				
		House Connection				
	Observations	One private dug well with motorized pump; Two private dug wells (hand fetched). All dug wells become dry in dry season, so buy from another village at YR2,500/200 lit (YR 12,500/m3)				

12.4 Village Profile of Sites in Sana'a Governorate

WATER SOURCE PANEL

No.	Item	Description		
	【Borehole Code】	S-01/2 AA		
	Grid (UTM)	North 1659630	East 379635	
	Grid (Lat/Lon)	Lat. N 15°00' 33.1"	Lon. E 43°52' 50.1"	
	Present Condition (Pump Type)	Capped		
	Elevation (m)	1664 m		
	Aquifer/Geological Description			
	Year of Construction	2005		
	Fund	GARWSP		
	Depth (m)	348 m		
	Casing Diameter (inch)	8 inch		
	Screen			
	Static Water Level (G.L.-m)	47 m		
	Dynamic Water Level (G.L.-m)	120 m		
	Drowdown (m)	73 m		
	Discharge (g/min)	99 g/min	6.2 L/sec	
	Specific Capacity	0.086 L/s/m		
	EC (mS/m)	120.8 mS/m		
	pH	7.04		
	Temperature ('C)	30.7		
	Remarks			
	【Borehole Code】	S-01/1 BW		
	Grid (UTM)	North 1659638	East 380252	
	Grid (Lat/Lon)	Lat. N 15°00' 32.8"	Lon. E 43°52' 49.4"	
	Present Condition (Pump Type)	Capped		
	Elevation (m)	1654 m		
	Aquifer/Geological Description			
	Year of Construction	2005		
	Fund	GARWSP		
	Depth (m)	300 m		
	Casing Diameter (inch)	8 inch		
	Screen			
	Static Water Level (G.L.-m)	85 m		
	Dynamic Water Level (G.L.-m)	210 m		
	Drowdown (m)	125 m		
	Discharge (g/min)	50 g/min	3.2 L/sec	
	Specific Capacity	0.025 L/s/m		
	EC (mS/m)	113.9 mS/m		
	pH	6.70		
	Temperature ('C)	29.4		
	Remarks			

WATER SUPPLY PLANNING PANEL

No.	Item	Description		
	【Design Parameter】			
	No. of Villages in Total	0		
	No. of Villages to be Covered	0		
	Current Population (2006)	1,923		
	Design Population (2016)	2,360		
	Design Water Supply Rate	40 L/c/d	260 m^3/day	
	Type of Work Required	New construction		
	Required Facilities	Component	To be Constructed by	Notes
		Pump for Deep Well	Donor	New x 2
		Eng./Gen. for Deep Well	Donor	New x 2
		Pump House for Deep We	Donor/Village	New x 2
		Pump for Booster	Donor	New x 2
		Eng./Gen. for Booster	Donor	New x 2
		Pump House for Booster	Donor/Village	New x 2
		Booster Tank	Donor	New x 2
		Distribution Tank	Donor	New x 2
		Pumping Main	Donor	New x 2
		Distribution Main	Donor	New x 2
		Public Tapstand	Donor	New (for mosque, school and clinic only
		House Connections	Village	New
	Accessibility	Difficult, through wadi		
	Security			
	Observation			

12.4 Village Profile of Sites in Sana'a Governorate

SITE IDENTIFICATION PANEL

No.	Item	Description				
	Code No.	S-02				
	Site Name	Jarban				
	Sub-District (Uzlat)					
	District	Hamdan				
	Governorate	Sana'a				
	Coordinates	Latitude	Longitude			
	Coordinates (Measured Location)					
	Annual precipitation (rainfall)	340 mm				
	Population (2006)	1,611				
	Population Forecast (2016)	1,977				
	No. of Village (Qariah) in Total	15				
	No. of Village (Qariah) to be served	15				
	Village (Qariah) in the Community	Name	Population	Household	Coordinate (Lat / Lon)	
		Al Matrah	85	15		
		Al Hisn	70	11		
		Al Balad	32	19		
		Al Aridhah	142	25		
		Al Saradeh	150	20		
		Om Jafar	74	9		
		Al Himrary	358	56		
		Ra'as Al Mathab	71	10		
		Ra'as Al Aqaba	100	13		
		Qatta'a Al Nakeel	92	14		
		Wadi Jasas	83	13		
		Al Enab	26	6		
		Al Sadr	251	30		
		Al Madhaf	52	7		
		Sha'ab Al Sumor	25	5		

EXISTING WATER SUPPLY SCHEME PANEL

No.	Item	Description					
	Functioning	Non-functional					
	Components of Existing Water Supply Scheme	Component	Specification		Condition	Year	Fund
		Pump for Deep Well	Vertical		Stopped in 1986	1981	MAI
		Engine for Deep Well			Stopped in 1986	1981	MAI
		Pump House for Deep We	RC		Cannot use	1981	MAI
		Pump for Booster	Horizontal		Cannot use	1981	MAI
		Engine for Booster			Stopped in 1986	1981	MAI
		Pump House for Booster	RC		Useless	1981	MAI
		Booster Tank	25 m3	RC	Cannot use	1981	MAI
		Distribution Tank	100(?) m3	RC	Cannot use	1981	MAI
		Pumping Main	SGP		Cannot use	1981	MAI
		Distribution Line	SGP		Cannot use	1981	MAI
		Public Tapstand					
		House Connection					
	Observations	Water supply system constructed by MAI (Ministry of Agriculture and Irrigation), Highlands Authority, but borehole dried up in 1986. Now get water from private wells (4km away) using tanker or donkey.					

WATER SOURCE PANEL

No.	Item	Description			
	【Borehole Code】	S-02			
	Grid (UTM)	North	East		
		1722732	398177		
	Grid (Lat/Lon)	Lat. N	Lon. E		
		15°34' 49.2"	44°03' 01.1"		
	Present Condition (Pump Type)	Capped			
	Elevation (m)	2642 m			
	Aquifer/Geological Description				
	Year of Construction	2005			
	Fund	GARWSP			
	Depth (m)	450 m			
	Casing Diameter (inch)	10 inch			
	Screen				
	Static Water Level (G.L.-m)	345.3 m			
	Dynamic Water Level (G.L.-m)	345.4 m			
	Drawdown (m)	0.1 m			
	Discharge (g/min)	32 g/min		2.0 L/sec	
	Specific Capacity	20.19 L/s/m			
	EC (mS/m)	28.8 mS/m			
	pH	8.08			
	Temperature (°C)	25.4			
	Remarks	Constant discharge test only			

12.4 Village Profile of Sites in Sana'a Governorate

WATER SUPPLY PLANNING PANEL				
No.	Item	Description		
	【Design Parameter】			
	No. of Villages in Total	15		
	No. of Villages to be Covered	15		
	Current Population (2006)	1,611		
	Design Population (2016)	1,977		
	Design Water Supply Rate	40 L/c/d	174 m^3/day	
	Type of Work Required	New construction		
	Required Facilities	Component	To be Constructed by	Notes
		Pump for Deep Well	Donor	New
		Eng./Gen. for Deep Well	Donor	New
		Pump House for Deep We	Donor/Village	New
		Pump for Booster	Donor	New
		Eng./Gen. for Booster	Donor	New
		Pump House for Booster	Donor/Village	New
		Booster Tank	Donor	New
		Distribution Tank No.1	Donor	New
		Distribution Tank No.2	Village	New
		Pumping Main	Donor	New
		Distribution Main	Donor	New
		Public Tapstand	Donor	New (for mosque, school and clinic only)
		House Connections	Village	New
	Accessibility	Good, along paved road		
	Security	Problem at check points		
	Observation			

OPERATION AND MAINTENANCE PANEL			
No.	Item	Description	
	No. of Village Head (Sheikh)	3	Those three are most likely Aqui. Unique setting in one village.
	No. of Tribe	1	
	Observation in Current Supply Scheme	Village population expanded downwards from the hill. Number of households, when the existing scheme is completed in 1982, was 150, all of which were served. Currently, there are 3,000 populations with 250 households.	
		Booster pump unit was broken in 1998 or 2000 (different information was given), possibly because of overload beyond capacity.	
		The booster pump broken in 1998/2000 has not been replaced, and only borehole pump unit has been operated to fill booster pump located just beside of the pump house. However, soon after the booster pump was broken down, the borehole pump unit was also worn out possibly because of overloaded operation in the condition that the water level became considerably lower than the depth where the submersible pump was installed.	
	Mode of Ownership	No legal arrangement for ownership of the supply scheme was prepared.	
		GAREW handed over the scheme without any written agreement and memorandum.	
		Ownership is believed belongs to the community in traditional manner and custom.	
	Mode of Management Entity	Administrative body was formed, the community and Sheikh appointing the following members; a) manager (1), b) accountant/meter reader/fee collector (1), and c) operator (1).	
		After the scheme broken down, the administrative body became inactive.	
		Administrative board had worked on voluntary bases.	
		In future when the rehabilitation project is implemented, there is observed willingness to form new CBO scheme management following the guideline for registration under Ministry of Social Affairs.	
	Organizational Management	No constitution and by-law had been prepared.	
		Managerial decisions are made by village authority (Sheikh and Agil) and management body appointed. However, the scheme management had been closely observed by the community (informal monitoring/checking system worked in a small community).	
	Technical Operation and Maintenance	It is mentioned that borehole pump unit (submersible pump) had been frequently repaired. However, it has nether been neither replaced nor new borehole been constructed by the community.	
		Meter was not installed in the pump unit, so that the produced water was not compared with consumption.	
		Pipeline network was divided into three (3) zones for operational purposes. User communities of each zone were responsible for maintenance of house connection pipelines in the zone, while administrative body was responsible for the one of main pipeline.	
	Financial Management and Transparency	Tariff structure: YR 20/m3 (in late 90s)	
		Average water charge for a household per month is estimated at YR 150-200.	
		During the scheme operated, income and balance had been balanced.	
	Stakeholder Involvement / Responsibility Shari	There was no Local Council involvement.	
	Community Contribution	Major community contribution is not observed in the construction stage of the existing supply scheme but house connection with meter.	
		In future project, it is mentioned that the community is willing to contribute for the construction /rehabilitation of the scheme. However, consultation and agreement with GARWSP regarding community contribution and responsibility sharing in the construction stage is not made.	

12.4 Village Profile of Sites in Sana'a Governorate

Community Contracting-Out	
Conflict Resolution	There are three (3) Sheikh (possibly Aqil) in the village. Although the relationship among them is reported as cooperative, this setting could be a trigger of conflict. Background for this setting with three (3) Sheikh in one community and conflict resolution mechanism shall be further examined.
Pro-Gender and Pro-Poor	
Remarks	There are three (3) Sheikh (possibly Aqil) in the village. There is also sheik in Uzula where the community is located. Thus, they are probably Aqul, instead of Sheikh. Those village authorities do not have the area allocation in the village designated for traditional leadership. Relationship among those Sheikh was said cordial and cooperative. However, three (3) Sheikh existing in one village is unique case in the area, so that careful observation shall be required in the planning and implementing stages. It is mentioned that the pump units are broken down because of overloaded operation in dry well. However, it shall be further examined whether it was broken because of dry well or misuse of the pump unit. CBO (charity organization) was formed in late 80's for relief of the poor by food provision. However, it had been inactive and dissolved due to decreasing interest of individual supporters. It is said that the food was provided to the poor, raising contribution from better-off, in which the supporter could not find any benefit. New borehole for rehabilitation/reconstruction of the scheme was drilled successful with good yield and water quality in about 2.5 km away from the village center, located on the boundary of the village. Other three (3) borehole had been drilled prior to the successful borehole. Locating of the borehole drilling sites was done by GARWSP Branch Office, which does not have necessary equipment for groundwater investigation. Pumping test for the new borehole was conducted by GARWSP in 2005, of which result was satisfactory. However, the community employed another contractor for pump test (24 hours) due to distrust for GARWSP and the result of the one carried out by GARWSP. The cost of RY 200,000 for employing the contractor for additional pumping test was contributed by Shaikh and the community members. The results confirmed also satisfactory. No pumping test has not been carried out for the existing (old) borehole constructed in 1982 and reported dry. Existing water sources: Most of households own water tank (about 6 m3) and installed in house yard. Water is available from water vending truck coming from outside of the village, which costs YR 3,000/tank (6 m3). There is private wells (boreholes), but they are utilized for irrigation, while the community own small dam for watering animals.

12.4 Village Profile of Sites in Sana'a Governorate

SITE IDENTIFICATION PANEL

No.	Item	Description				
	Code No.	S-03				
	Site Name	Al Kharaba				
	Sub-District (Uzlat)					
	District	Bani Matar				
	Governorate	Sana'a				
	Coordinates	Latitude	Longitude			
	Coordinates (Measured Location)					
	Annual precipitation (rainfall)	370 mm				
	Population (2006)	1,361				
	Population Forecast (2016)	1,670				
	No. of Village (Qariah) in Total	3				
	No. of Village (Qariah) to be served	3				
	Village (Qariah) in the Community	Name	Population	Household	Coordinate (Lat / Lon)	
		Al Kharaba	890	140		
		Mahal Mahyiab	278	46		
		Bait Awadh	193	37		
		Wade Al Qeelah				

EXISTING WATER SUPPLY SCHEME PANEL

No.	Item	Description				
	Functioning	Non-functional				
	Components of Existing Water Supply Scheme	Component	Specification	Condition	Year	Fund
		Pump for Deep Well	Vertical	Damaged 20	1985	GAREW
		Engine for Deep Well	24HP Yanmar	Broken in 20	1985	GAREW
		Pump House for Deep We	Concrete block	Cannot use	1985	Local Counci
		Pumping Unit for Booster				
		Eng./Gen. for Booster				
		Pump House for Booster				
		Booster Tank				
		Distribution Tank	x 3	Cannot use	1985	Local Counci
		Pumping Main	SGP	Cannot use	1985	Local Counci
		Distribution Main				
		Public Tapstand	3 (4 taps)	Not function		Charity
		House Connection				
	Observations	Residents now use water from private wells, pay for fuel: YR20/pers/mon (including children)				

WATER SOURCE PANEL

No.	Item	Description		
	【Borehole Code】			
	Grid (UTM)	North	East	
		1693207	390761	
	Grid (Lat/Lon)	Lat. N	Lon. E	
		15°18' 47.2"	43°58' 56.4"	
	Present Condition (Pump Type)	Not working	Vertical pump	
	Elevation (m)	2,935 m		
	Aquifer/Geological Description			
	Year of Construction	1982		
	Fund	GAREW		
	Depth (m)	150 m		
	Casing Diameter (inch)	8-5/8 inch		
	Screen			
	Static Water Level (G.L.-m)	44.9 m		
	Dynamic Water Level (G.L.-m)	80.8 m		
	Drawdown (m)	35.9 m		
	Discharge (g/min)	55 g/min	3.5 L/sec	
	Specific Capacity	0.097 L/s/m		
	EC (mS/m)	61.5 mS/m		
	pH	7.64		
	Temperature (°C)	18.1		
	Remarks			

12.4 Village Profile of Sites in Sana'a Governorate

WATER SUPPLY PLANNING PANEL				
No.	Item	Description		
	【Design Parameter】			
	No. of Villages in Total	3		
	No. of Villages to be Covered	3		
	Current Population (2006)	1,361		
	Design Population (2016)	1,670		
	Design Water Supply Rate	40 L/c/d	67 m^3/day	
	Type of Work Required	New construction		
	Required Facilities	Component	To be Constructed by	Notes
		Pump for Deep Well	Donor	Replace
		Eng./Gen. for Deep Well	Donor	Replace
		Pump House for Deep We	Donor/Village	New
		Pump for Booster		
		Eng./Gen. for Booster		
		Pump House for Booster		
		Booster Tank		
		Distribution Tank	Donor	New
		Pumping Main	Donor	New
		Distribution Main	Donor	New
		Public Tapstand	Donor	New
		House Connections	Village	New
	Accessibility	Good		
	Security			
	Observation			

OPERATION AND MAINTENANCE PANEL		
No.	Item	Description
	No. of Village Head (Sheikh)	1
	No. of Tribe	1
	Observation in Current Supply Scheme	Pump unit was totally broken down three (3) years ago, being deteriorated after more than 15 years operation although several repairs were done. Pump unit repair was done by Sheikh, of which cost was borne by Sheikh and the scheme revenue collected by Sheikh. Until the public stands were constructed by individual charity, water is provided on the borehole site. There is no house connection because of the poor economic conditions of the community. Existing water sources are three (3) cisterns, and four (4) private well for irrigation. One private well is connected to the school and mosque. Water is provided for community members at free cost from the private wells (those wells are used primarily for irrigation).
	Mode of Ownership	No legal ownership arrangement are made.
	Mode of Management Entity	Scheme management has been undertaken by Sheikh, appointing one (1) operator. Some of community members contributed privately for fuel cost. Maintenance costs had been borne by Sheikh.
	Organizational Management	No constitution for the scheme management has been prepared. Cash contribution had been collected and managed by Aqil.
	Technical Operation and Maintenance	Pump had been operated for 4 hours per day, and for 4-5 days in a week. Replacement of pump unit, pump head, and cylinder of generator were undertaken, of which costs were borne by Sheikh.
	Financial Management and Transparency	Water Tariff Structure: YR 20 per capita (including females and children) Water Tariff had been collected and managed by Aqil. No bank account had been opened. There was no auditing system on the scheme account. Financial status had not been disclosed. Free water is provided for the poor
	Stakeholder Involvement / Responsibility Sharin	No training had been provided by stakeholders.
	Community Contribution	Pump house was constructed by the community.
	Community Contracting-Out	
	Conflict Resolution	Currently, there is no tribal conflict. In 80's, there were conflict with other village, but in 90's those conflicts were resolved and calmed down.
	Pro-Gender and Pro-Poor	
	Remarks	There is no house connection in the existing supply scheme, because affordability of households for house connection is limited. The community members opted for service provision through public stands. In this community, public stands might be the most applicable service option.

12.4 Village Profile of Sites in Sana'a Governorate

SITE IDENTIFICATION PANEL

No.	Item	Description				
	Code No.	S-04				
	Site Name	Qamlan-Bait Al Najrani				
	Sub-District (Uzlat)					
	District	Bani Matar				
	Governorate	Sana'a				
	Coordinates	Latitude	Longitude			
	Coordinates (Measured Location)					
	Annual precipitation (rainfall)	420 mm				
	Population (2006)	629				
	Population Forecast (2016)	772				
	No. of Village (Qariah) in Total	2				
	No. of Village (Qariah) to be served	2				
	Village (Qariah) in the Community	Name	To Be Served	Population	Household	Coordinate (Lat / Lon)
		Qamlan		225		
		Bait Al Najrani		404		

EXISTING WATER SUPPLY SCHEME PANEL

No.	Item	Description					
	Functioning	Partially existing					
	Components of Existing Water Supply Scheme	Component	Specification		Condition	Year	Fund
		Pump for Deep Well	Vertical			1977	GAREW
		Engine for Deep Well				1977	GAREW
		Pump House fof Deep We	Concrete block			1977	Village
		Pump for Booster					
		Eng./Gen. for Booster					
		Pump House for Booster					
		Booster Tank					
		Distribution Tank	Rock, open	$25m^3$		1977	Village
		Pumping Main	SGP	to open tank		1977	Village
		Distribution Main	SGP	from tank to valley		1977	Village
		Public Tapstand	1 in valley			1977	Village
		House Connection					
	Observations						

WATER SOURCE PANEL

No.	Item	Description		
	【Borehole Code】			
	Grid (UTM)	North	East	
		1677966	389807	
	Grid (Lat/Lon)	Lat. N	Lon. E	
		15°10' 31.1"	43°58' 27.4"	
	Present Condition (Pump Type)	Working	Vertical pump	
	Elevation (m)	2,748 m		
	Aquifer/Geological Description			
	Year of Construction	1975		
	Fund	GAREW		
	Depth (m)	145 m		
	Casing Diameter (inch)	8 inch		
	Screen			
	Static Water Level (G.L.-m)	10 m		
	Dynamic Water Level (G.L.-m)	10.9 m		
	Drawdown (m)	0.9 m		
	Discharge (g/min)	89 g/min	5.6 L/sec	
	Specific Capacity	6.222 L/s/m		
	EC (mS/m)	33.8 mS/m		
	pH	7.36		
	Temperature (°C)	19.9		
	Remarks			

12.4 Village Profile of Sites in Sana'a Governorate

WATER SUPPLY PLANNING PANEL				
No.	Item	Description		
	【Design Parameter】			
	No. of Villages in Total	2		
	No. of Villages to be Covered	2		
	Current Population (2006)	629		
	Design Population (2016)	772		
	Design Water Supply Rate	40 L/c/d	31 m^3/day	
	Type of Work Required	New construction		
	Required Facilities	Component	To be Constructed by	Notes
		Pump for Deep Well	Donor	Replace
		Eng./Gen. for Deep Well	Donor	Replace
		Pump House for Deep We	Donor/Village	New
		Pump for Booster		
		Eng./Gen. for Booster		
		Pump House for Booster		
		Booster Tank		
		Distribution Tank	Donor	New
		Pumping Main	Donor	New
		Distribution Main	Donor	New
		Public Tapstand	Donor	New (for mosque, school and clinic onl
		House Connections	Village	New
	Accessibility	Good, near paved road		
	Security			
	Observation			

OPERATION AND MAINTENANCE PANEL	
No.	Item
	No. of Village Head (Sheikh)
	No. of Tribe
	Observation in Current Supply Scheme
	Mode of Ownership
	Mode of Management Entity
	Organizational Management
	Technical Operation and Maintenance
	Financial Management and Transparency
	Stakeholder Involvement / Responsibility Sharing
	Community Contribution
	Community Contracting-Out
	Conflict Resolution
	Pro-Gender and Pro-Poor
	Remarks

12.4 Village Profile of Sites in Sana'a Governorate

SITE IDENTIFICATION PANEL

No.	Item	Description				
	Code No.	S-05				
	Site Name	Afesh				
	Sub-District (Uzlat)					
	District	Belad Al Rous				
	Governorate	Sana'a				
	Coordinates	Latitude	Longitude			
	Coordinates (Measured Location)					
	Annual precipitation (rainfall)	480 mm				
	Population (2006)	3,680				
	Population Forecast (2016)	4,517				
	No. of Village (Qariah) in Total	1				
	No. of Village (Qariah) to be served	1				
	Village (Qariah) in the Community	Name	Population	Household	Coordinate (Lat / Lon)	
		Afesh	3,680	609		

EXISTING WATER SUPPLY SCHEME PANEL

No.	Item	Description				
	Functioning	Non-functional				
	Components of Existing Water Supply Scheme	Component	Specification		Condition	Year / Fund
		Pump for Deep Well	Submersible		Removed	1999 MAI
		Generator for Deep Well	80kVA	IVECO-FIAT	Cannot use	1999 MAI
		Pump House for Deep We	RC			1999 MAI
		Pump for Booster	Horizontal	CAPRARI	Cannot use	1999 MAI
		Engine for Booster		AP	Cannot use	1999 MAI
		Pump House for Booster	RC	next to deep well		1999 MAI
		Booster Tank	RC	75m^3		1999 MAI
		Distribution Tank	RC	100m^3		1999 MAI
		Pumping Main	SGP			1999 MAI
		Distribution Main	SGP			1999 MAI
		Public Tapstand	3 (3 taps)			1999 MAI
		House Connection				
	Observations	Water supply system was constructed by MAI (Ministry of Agriculture and Irrigation), General Authority for Northern Area Development (Sada'ah, Hajjah, Amran Governorates) in 1999, but worked onlu 2 days. Now using small private spring (free). 4 mosques, 1 school and no health centers.				

WATER SOURCE PANEL

No.	Item	Description			
	【Borehole Code】				
	Grid (UTM)	North	East		
		1666558	416749		
	Grid (Lat/Lon)	Lat. N	Lon. E		
		15°04' 23.5"	44°13' 31.2"		
	Present Condition (Pump Type)	Not working Open			
	Elevation (m)	2,006 m			
	Aquifer/Geological Description				
	Year of Construction	1996			
	Fund	MAI			
	Depth (m)	300 m			
	Casing Diameter (inch)	8 inch			
	Screen				
	Static Water Level (G.L.-m)	213.0 m			
	Dynamic Water Level (G.L.-m)	231.2 m			
	Drawdown (m)	18.2 m			
	Discharge (g/min)	51 g/min	3.2 L/sec		
	Specific Capacity	0.177 L/s/m			
	EC (mS/m)	125.6 mS/m			
	pH	7.48			
	Temperature ('C)	32.7			
	Remarks	Need to confirm water quality (Fe, F).			

12.4 Village Profile of Sites in Sana'a Governorate

WATER SUPPLY PLANNING PANEL				
No.	Item	Description		
	【Design Parameter】			
	No. of Villages in Total	1		
	No. of Villages to be Covered	1		
	Current Population (2006)	3,680		
	Design Population (2016)	4,517		
	Design Water Supply Rate	35 L/c/d	158 m^3/day	
	Type of Work Required	Partial construction		
	Required Facilities	Component	To be Constructed by	Notes
		Pump for Deep Well	Donor	New
		Eng./Gen. for Deep Well	Donor	Replace
		Pump House for Deep We	Donor/Village	Rehabilitation
		Pump for Booster	Donor	Replace
		Eng./Gen. for Booster	Donor	Replace
		Pump House for Booster	Donor/Village	Rehabilitation
		Booster Tank	Donor/Village	Rehabilitation
		Distribution Tank	Donor/Village	Rehabilitation
		Pumping Main	Donor/Village	Rehabilitation
		Distribution Main	Donor/Village	Rehabilitation
		Public Tapstand	Donor	New (for mosque, school and clinic only
		House Connections	Village	New
	Accessibility			
	Security			
	Observation			

OPERATION AND MAINTENANCE PANEL		
No.	Item	Description
	No. of Village Head (Sheikh)	1
	No. of Tribe	1
	Observation in Current Supply Scheme	Afish is name of village, instead of Afesh.
		Construction of the existing supply scheme was constructed and completed in 1999 under Integrated Rural Development Project by Ministry of Agriculture and Irrigation. However, it had functional error and could not supply even "a drop of water" since its completion. It is assumed by the community, since the implementing agency did not give any account to the community, that the pump units both for borehole and booster had technical error. The pump units installed both for borehole and booster station is observed as secondhand.
		Pump unit and generator for borehole were replaced by other second hand ones, which also failed to rift up groundwater to the reservoir located just beside to the pump house.
		It was observed by the community that the implementing agency carried out pumping test for 19 hours, which confirmed water yield of 60 gallons/minute. Thus, the functional error might not caused by borehole yield.
		Intake and main distribution pipelines were installed instead of technical error with pump
		House connections and construction of public stands were not carried out.
	Mode of Ownership	The existing scheme has not been handed over to the community from Ministry of Agriculture and Irrigation because of technical error with pump units.
		It is said that currently the ownership of the scheme is transferred to GARWSP.
	Mode of Management Entity	CBO for the scheme management had been established in 1999 when the scheme is constructed. The CBO members were selected through the community election. It had a plan to register the CBO under Ministry of Social Affairs.
		However, the CBO had been dissolved because of the scheme failure.
	Organizational Management	Constitution was prepared, but no effected.
	Technical Operation and Maintenance	Replacement of the pump units was undertaken by Ministry of Agriculture and Irrigation.
	Financial Management and Transparency	Water tariff had not been collected because of the scheme failure.
	Stakeholder Involvement / Responsibility Sharin	Local Council was not involved.
	Community Contribution	There was no community contribution neither in cash nor kind.
		The communities are prepared for contribution in future project with GARWSP.
	Community Contracting-Out	N/A
	Conflict Resolution	Any community conflict cases were mentioned.
	Pro-Gender and Pro-Poor	N/A
	Remarks	The area has no reliable water source. The community depends water for for domestic use on rain water (cistern) and stream in rain season, and spring in distance taking more than one hour to fetch in dry season. There is no borehole observed near the existing one.
		Currently community are making request for service provision to GARWSP, instead of Ministry of Agriculture and Irrigation.
		Land for the existing pump house and booster pump station is purchased by the community from the private land owner, of which ownership is still entailed to the community.

12.4 Village Profile of Sites in Sana'a Governorate

SITE IDENTIFICATION PANEL

No.	Item	Description					
	Code No.	S-06					
	Site Name	Al-Legam					
	Sub-District (Uzlat)						
	District	Sanhan & Bani Bahlool					
	Governorate	Sana'a					
	Coordinates	Latitude	Longitude				
	Coordinates (Measured Location)						
	Annual precipitation (rainfall)	330 mm					
	Population (2006)	1,068					
	Population Forecast (2016)	1,311					
	No. of Village (Qariah) in Total						
	No. of Village (Qariah) to be served						
	Village (Qariah) in the Community	Name	To Be Served	Population	Household	Coordinate (Lat / Lon)	
		Al Balad					
		Bait Mitash 1					
		Bait Mitash 2					
		Al Sardaja					
		Maqar Al Fara					
		Al Dayq					
		Al Gelhaf					
		Qetat Al Asheri					

EXISTING WATER SUPPLY SCHEME PANEL

No.	Item	Description				
	Functioning	Functional				
	Components of Existing Water Supply Scheme	Component	Specification		Condition	Year	Fund
		Pump for Deep Well	Vertical			1995	GAREW
		Engine for Deep Well		IVECO		1995	GAREW
		Pump House for Deep We	RC			1995	GAREW
		Pump for Booster	Horizontal			1995	GAREW
		Engine for Booster		IVECO		1995	GAREW
		Pump House for Booster	RC			1995	GAREW
		Booster Tank	RC	25m3		1995	GAREW
		Distribution Tank	RC			1995	GAREW
		Pumping Main	SGP			1995	GAREW
		Distribution Main	SGP			1995	GAREW
		Public Tapstand	5		Not used nov	1995	GAREW
		House Connection	200 with meters				Village
	Observations						

WATER SOURCE PANEL

No.	Item	Description			
	【Borehole Code】				
	Grid (UTM)	North	East		
		1689659	431368		
	Grid (Lat/Lon)	Lat. N	Lon. E		
		15°16' 56.6"	44°21' 38.7"		
	Present Condition (Pump Type)	Working	Vertical pump		
	Elevation (m)	2,435 m			
	Aquifer/Geological Description				
	Year of Construction	1993			
	Fund	GAREW			
	Depth (m)	300 m			
	Casing Diameter (inch)	8 inch			
	Screen				
	Static Water Level (G.L.-m)	148.66 m			
	Dynamic Water Level (G.L.-m)	280 m			
	Drawdown (m)	131.34 m			
	Discharge (g/min)	66 g/min		4.2 L/sec	
	Specific Capacity	0.032 L/s/m			
	EC (mS/m)	57.7 mS/m			
	pH	9.27			
	Temperature ('C)	31.9			
	Remarks				

12.4 Village Profile of Sites in Sana'a Governorate

WATER SUPPLY PLANNING PANEL				
No.	Item	Description		
	【Design Parameter】			
	No. of Villages in Total	0		
	No. of Villages to be Covered	0		
	Current Population (2006)	1,068		
	Design Population (2016)	1,311		
	Design Water Supply Rate	L/c/d	0 m^3/day	
	Type of Work Required	Rehabilitation		
	Required Facilities	Component	To be Constructed by	Notes
		Pump for Deep Welll	Donor	Replace
		Eng./Gen. for Deep Well	Donor	Replace
		Pump House for Deep We		
		Pump for Booster	Donor	Replace
		Eng./Gen. for Booster	Donor	Replace
		Pump House for Booster		
		Booster Tank		
		Distribution Tank	Donor	New
		Pumping Main	Donor/Village	Rehabilitation
		Distribution Main	Donor/Village	Replace with larger diameter
		Public Tapstand	Donor	New (for mosque, school and clinic only
		House Connections	Village	Additional
	Accessibility	Good		
	Security			
	Observation			

OPERATION AND MAINTENANCE PANEL		
No.	Item	Description
	No. of Village Head (Sheikh)	1
	No. of Tribe	1
	Observation in Current Supply Scheme	Problems with booster pump are observed, not working properly.
		Booster pump can not be repaired by replacement of spare parts, whole replacement of pump unit is required.
		Fund for booster pump replacement can not be collected, although additional fund (i.e. additional community contribution apart from normal water tariff collection) is raised.
		Additional fund raising for booster pump replacement seems not to be accepted by the community members.
		Water tariff is set at lowest level (at YR 50/m3) only to satisfy minimum operation cost, users refusing tariff increase to cover replacement / rehabilitation cost in the scheme operation.
	Mode of Ownership	Handing-over document was prepared by the contractor.
		Handing-over arrangement to the community was made by GARWSP (However, written document is not confirmed).
	Mode of Management Entity	Water Committee is formed in 1994.
		Water Committee members were recommended by Sheikh and the community.
		Water Committee membership is consisted of; a) Director (1), b) Treasure (1), and c) Operator/watchman.
		In every sub-village (4 sub-villages), one revenue collector/bill distributor/meter reader is employed (4 persons in total).
		Committee is not registered, so that legal status is not established.
		Major decision is made by the Committee, although Informative meetings are held for the community, if it seems necessary.
	Organizational Management	Written constitution for the Committee is prepared, defining community contribution in operation and maintenance, management and financial procedures, accounting regulations, penalties, and so forth.
		Legal status is not established.
		Major decisions are made by the Committee, through consultation with Sheikh and the community members.
		A term of office for the Water Committee is 3 years.
		After three (3) years of terms of office for the Committee members, refresh recommendation is made by Sheikh and the community.
		Operator/Meter readers are hired on the contract-base, and the contract is not specifying the contract period.
	Technical Operation and Maintenance	Major repair and replacement is not experienced, because of limit in fund raising.
		Only minor replacement of spare parts has been undertaken.

12.4 Village Profile of Sites in Sana'a Governorate

Financial Management and Transparency	Water Tariff Structure:	YR 50/m3	
	Revenue is just enough for minimum operation expenditure (fuel and personnel expense), not satisfying requirements for major replacement and rehabilitation.		
	Fund for major replacement and rehabilitation is raised when necessity is recognized through additional community contribution.		
	After meter reading, bills are distributed, and revenue is collected at the house of revenue collectors.		
	Water is provided free for the poorest.		
	No bank account had been opened.		
	Auditing Committee was formed to check the scheme account.		
	There was no auditing system on the scheme account.		
	Income in average:	YR 50,000/month	
	Expenditure in average:	YR 45,000/month	
	Expenditure Break down:	YR 42,000	Fuel
		YR 12,000	Personnel Expense (for only Operator/Watchman)
	Other Committee members except Operator/Watchman and revenue collector/bill distributor/meter reader are not get paid.		
Stakeholder Involvement / Responsibility Sharing	No training had been provided by stakeholders.		
	No assistance by District Council and GARWSP are mentioned.		
Community Contribution	House connection cost is borne by the users at YR 4,000/connection.		
Community Contracting-Out	Contract arrangement is made only for Operator/Watchman, while revenue collector/bill distributor/meter readers are not contracted (working on voluntary basis, appointed by the		
Conflict Resolution	No conflict cases are mentioned.		
Pro-Gender and Pro-Poor			
Remarks	Water tariff is set at lowest possible level only to satisfy minimum operation costs (fuel and personnel expense), the users refusing additional increase for major replacement and rehabilitation. Additional fund raising for the replacement of the booster pump seems not successful at present, observing community reluctance. Current water tariff setting shall be revised, and community awareness on importance to include future investment (rehabilitation and replacement of facilities and equipment) shall be enhanced.		

12.4 Village Profile of Sites in Sana'a Governorate

SITE IDENTIFICATION PANEL

No.	Item	Description
	Code No.	S-07
	Site Name	Bait Al Hadrami
	Sub-District (Uzlat)	
	District	Sanhan & Bani Bahlool
	Governorate	Sana'a
	Coordinates	Latitude / Longitude
	Coordinates (Measured Location)	
	Annual precipitation (rainfall)	350 mm
	Population (2006)	2,550
	Population Forecast (2016)	3,130
	No. of Village (Qariah) in Total	
	No. of Village (Qariah) to be served	

Village (Qariah) in the Community

Name	Population	Household	Coordinate (Lat / Lon)
Al Qaryah	760	52	
Al Hisn	410	35	
Al Saradih	180	12	
Lakmat Al Salah	220	20	
Sha'ab Al Ein	90	7	
Al Aqabah	120	10	
Wahaba	170	18	
Qarfan	161	16	
Ardh Al Haid	164	22	
Al Swayda	70	5	
Al Maqate'e	45	5	
Al Zuqaq	160	21	

EXISTING WATER SUPPLY SCHEME PANEL

No.	Item	Description
	Functioning	No existing
	Components of Existing Water Supply Scheme	

Component	Specification	Condition	Year	Fund
Pump for Deep Well				
Eng./Gen. for Deep Well				
Pump House for Deep We				
Pump for Booster				
Eng./Gen. for Booster				
Pump House for Booster				
Booster Tank				
Distribution Tank				
Pumping Main				
Distribution Main				
Public Tapstand				
House Connection				

	Observations	Presently using private boreholes, but their water levels are lowering and yields are decreasing.

WATER SOURCE PANEL

No.	Item	Description	
	【Borehole Code】		
	Grid (UTM)	North: 1685602 / East: 423739	
	Grid (Lat/Lon)	Lat. N: 15°14' 44.0" / Lon. E: 44°17' 23".6	
	Present Condition (Pump Type)	Capped	
	Elevation (m)	2,374 m	
	Aquifer/Geological Description		
	Year of Construction	2005	
	Fund	GARWSP	
	Depth (m)	410 m	
	Casing Diameter (inch)	8 inch	
	Screen		
	Static Water Level (G.L.-m)	193.2 m	
	Dynamic Water Level (G.L.-m)	197.1 m	
	Drawdown (m)	3.9 m	
	Discharge (g/min)	51 g/min	3.2 L/sec
	Specific Capacity	0.821 L/s/m	
	EC (mS/m)	38.5 mS/m	
	pH	8.54	
	Temperature ('C)	31.3	
	Remarks		

12.4 Village Profile of Sites in Sana'a Governorate

WATER SUPPLY PLANNING PANEL				
No.	Item	Description		
	【Design Parameter】			
	No. of Villages in Total	0		
	No. of Villages to be Covered	0		
	Current Population (2006)	2,550		
	Design Population (2016)	3,130		
	Design Water Supply Rate	40 L/c/d	125 m^3/day	
	Type of Work Required	New construction		
	Required Facilities	Component	To be Constructed by	Notes
		Pump for Deep Well	Donor	New
		Eng./Gen. for Deep Well	Donor	New
		Pump House for Deep We	Donor/Village	New
		Pump for Booster		
		Eng./Gen. for Booster		
		Pump House for Booster		
		Booster Tank		
		Distribution Tank	Donor	New
		Pumping Main	Donor	New
		Distribution Main	Donor	New
		Public Tapstand	Donor	New (for mosque, school and clinic only
		House Connections	Village	New
	Accessibility	Good, near paved road		
	Security			
	Observation			

OPERATION AND MAINTENANCE PANEL		
No.	Item	Description
	No. of Village Head (Sheikh)	
	No. of Tribe	
	Observation in Current Supply Scheme	
	Mode of Ownership	
	Mode of Management Entity	
	Organizational Management	
	Technical Operation and Maintenance	
	Financial Management and Transparency	
	Stakeholder Involvement / Responsibility Sharing	
	Community Contribution	
	Community Contracting-Out	
	Conflict Resolution	
	Pro-Gender and Pro-Poor	
	Remarks	

12.4 Village Profile of Sites in Sana'a Governorate

SITE IDENTIFICATION PANEL

No.	Item	Description					
	Code No.	S-08					
	Site Name	Dajah & Sarfah					
	Sub-District (Uzlat)						
	District	Sanhan & Bani Bahlool					
	Governorate	Sana'a					
	Coordinates	Latitude	Longitude				
	Coordinates (Measured Location)						
	Annual precipitation (rainfall)	320 mm					
	Population (2006)	2,647					
	Population Forecast(2016)	3,249					
	No. of Village (Qariah) in Total	2					
	No. of Village (Qariah) to be served	2					
	Village (Qariah) in the Community	Name	To Be Served	Population	Household	Coordinate (Lat / Lon)	
		Dajah					
		Sarfah					

EXISTING WATER SUPPLY SCHEME PANEL

No.	Item	Description				
	Functioning	No existing				
	Components of Existing Water Supply Scheme	Component	Specification	Condition	Year	Fund
		Pump for Deep Well				
		Eng./Gen. for Deep Well				
		Pump House for Deep We				
		Pump for Booster				
		Eng./Gen. for Booster				
		Pump House for Booster				
		Booster Tank				
		Distribution Tank				
		Pumping Main				
		Distribution Main				
		Public Tapstand				
		House Connection				
	Observations	Presently using water from private boreholes and dug wells (free). Also, buy water from tanker (YR250/m^3). If tanker is not available, buy from Sana'a (YR3,000/m^3).				

WATER SOURCE PANEL

No.	Item	Description		
	【Borehole Code】			
	Grid (UTM)	North	East	
		1697722	438126	
	Grid (Lat/Lon)	Lat. N	Lon. E	
		15°21' 20.4"	44°25' 25.3"	
	Present Condition (Pump Type)	Capped		
	Elevation (m)	2,567 m		
	Aquifer/Geological Description			
	Year of Construction	2006		
	Fund	GARWSP		
	Depth (m)	672 m		
	Casing Diameter (inch)	10 inch		
	Screen			
	Static Water Level (G.L.-m)	468.33 m		
	Dynamic Water Level (G.L.-m)	620 m		
	Drawdown (m)	151.67 m		
	Discharge (g/min)	150 g/min	9.5 L/sec	
	Specific Capacity	0.062 L/s/m		
	EC (mS/m)	143.9 mS/m		
	pH	8.69		
	Temperature ('C)	48.5		
	Remarks	Pumping test carried by GARWSP		

12.4 Village Profile of Sites in Sana'a Governorate

WATER SUPPLY PLANNING PANEL

No.	Item	Description			
	【Design Parameter】				
	No. of Villages in Total	2			
	No. of Villages to be Covered	2			
	Current Population (2006)	2,647			
	Design Population (2016)	3,249			
	Design Water Supply Rate	L/c/d	m^3/day		
	Type of Work Required	New construction			
	Required Facilities		To be Constructed by	Notes	
		Pump for Deep Well	Donor	New	
		Eng./Gen. for Deep Well	Donor	New	
		Pump House for Deep We	Donor/Village	New	
		Pump for Booster	Donor	New x 2	
		Eng./Gen. for Booster	Donor	New	
		Pump House for Booster	Donor/Village	New	
		Booster Tank	Donor	New	
		Distribution Tank	Donor	New x 2	
		Pumping Main	Donor	New x 2	
		Distribution Main	Donor	New x 2	
		Public Tapstand	Donor	New (for mosque, school and clinic only	
		House Connections	Village	New	
	Accessibility	Good, along paved road. Access to end of Dajah, through wadi.			
	Security	Slight problem at check point			
	Observation				

OPERATION AND MAINTENANCE PANEL

No.	Item	Description
	No. of Village Head (Sheikh)	
	No. of Tribe	
	Observation in Current Supply Scheme	
	Mode of Ownership	
	Mode of Management Entity	
	Organizational Management	
	Technical Operation and Maintenance	
	Financial Management and Transparency	
	Stakeholder Involvement / Responsibility Sharing	
	Community Contribution	
	Community Contracting-Out	
	Conflict Resolution	
	Pro-Gender and Pro-Poor	
	Remarks	

12.4 Village Profile of Sites in Sana'a Governorate

SITE IDENTIFICATION PANEL

No.	Item	Description				
	Code No.	S-09				
	Site Name	Ruhm				
	Sub-District (Uzlat)					
	District	Sanhan & Bani Bahlool				
	Governorate	Sana'a				
	Coordinates	Latitude	Longitude			
	Coordinates (Measured Location)					
	Annual precipitation (rainfall)	360 mm				
	Population (2006)	4,567				
	Population Forecast (2016)	5,605				
	No. of Village (Qariah) in Total	2				
	No. of Village (Qariah) to be served	2				
	Village (Qariah) in the Community	Name	Population	Household	Coordinate (Lat / Lon)	
		Ruhm Al Olya	2,373	260		
		Ruhm Al Sufla	2,194	276		

EXISTING WATER SUPPLY SCHEME PANEL

No.	Item	Description				
	Functioning	No existing				
	Components of Existing Water Supply Scheme	Component	Specification	Condition	Year	Fund
		Pump for Deep Well				
		Eng./Gen. for Deep Well				
		Pump House for Deep We				
		Pump for Booster				
		Eng./Gen. for Booster				
		Pump House for Booster				
		Booster Tank				
		Distribution Tank				
		Pumping Main				
		Distribution Main				
		Public Tapstand				
		House Connection				
	Observations	This site is considered as peri-urban, so need to confirm future development plans. Buy water from private wells outside of village at YR1,800/20 barrel (YR566/m^3).				

WATER SOURCE PANEL

No.	Item	Description			
	【Borehole Code】				
	Grid (UTM)	North	East		
		1678864	418658		
	Grid (Lat/Lon)	Lat. N	Lon. E		
		15°11' 04.1"	44°14' 34.0"		
	Present Condition (Pump Type)	Capped			
	Elevation (m)	2,395 m			
	Aquifer/Geological Description				
	Year of Construction	2003			
	Fund	GARWSP			
	Depth (m)	470 m			
	Casing Diameter (inch)	8 inch			
	Screen				
	Static Water Level (G.L.-m)	192.5 m			
	Dynamic Water Level (G.L.-m)	227.9 m			
	Drawdown (m)	35.4 m			
	Discharge (g/min)	48 g/min	3.0 L/sec		
	Specific Capacity	0.085 L/s/m			
	EC (mS/m)	38.5 mS/m			
	pH	7.94			
	Temperature ('C)	28.3			
	Remarks				

12.4 Village Profile of Sites in Sana'a Governorate

WATER SUPPLY PLANNING PANEL				
No.	Item	Description		
	[Design Parameter]			
	No. of Villages in Total	2		
	No. of Villages to be Covered	2		
	Current Population (2006)	4,567		
	Design Population (2016)	5,605		
	Design Water Supply Rate	30 L/c/d	168 m^3/day	
	Type of Work Required	New construction		
	Required Facilities	Component	To be Constructed by	Notes
		Pumping for Deep Well	Donor	New
		Eng./Gen. for Deep Well	Donor	New
		Pump House for Deep We	Donor/Village	New
		Pump for Booster		
		Eng./Gen. for Booster		
		Pump House for Booster		
		Booster Tank		
		Distribution Tank	Donor	New x 2
		Pumping Main	Donor	New x 2
		Distribution Main	Donor	New x 2
		Public Tapstand	Donor	New (for mosque, school and clinic only
		House Connections	Village	New
	Accessibility			
	Security			
	Observation			

OPERATION AND MAINTENANCE PANEL		
No.	Item	Description
	No. of Village Head (Sheikh)	
	No. of Tribe	
	Observation in Current Supply Scheme	
	Mode of Ownership	
	Mode of Management Entity	
	Organizational Management	
	Technical Operation and Maintenance	
	Financial Management and Transparency	
	Stakeholder Involvement / Responsibility Sharing	
	Community Contribution	
	Community Contracting-Out	
	Conflict Resolution	
	Pro-Gender and Pro-Poor	
	Remarks	

12.4 Village Profile of Sites in Sana'a Governorate

SITE IDENTIFICATION PANEL

No.	Item	Description			
	Code No.	S-10			
	Site Name	Tawa'ar			
	Sub-District (Uzlat)				
	District	Al Hesn			
	Governorate	Sana'a			
	Coordinates	Latitude	Longitude		
	Coordinates (Measured Location)				
	Annual precipitation (rainfall)	340 mm			
	Population (2006)	4,593			
	Population Forecast (2016)	5,637			
	No. of Village (Qariah) in Total				
	No. of Village (Qariah) to be served				
	Village (Qariah) in the Community	Name	Population	Household	Coordinate (Lat / Lon)

EXISTING WATER SUPPLY SCHEME PANEL

No.	Item	Description					
	Functioning						
	Components of Existing Water Supply Scheme	Component	Specification		Condition	Year	Fund
		Pump for Deep Well (Old)	Vertical			1994	GAREW
		Generator for Deep Well (				1994	GAREW
		Pump House for Deep We	RC			1994	GAREW
		Pump for Deep Well (New	Vertical	CAPRARI	Temporary u	2004	Private
		Engine for Deep Well (Ne			Temporary u	2004	Private
		Pump House for Deep We	Mud brick			2004	Village
		Pump for Booster					
		Eng./Gen. for Booster					
		Pump House for Booster					
		Booster Tank					
		Distribution Tank	RC	$100m^3$		1994	GAREW
		Pumping Main	SGP			1994	GAREW
		Distribution Main	SGP			1994	GAREW
		Public Tapstand					
		House Connection	300				Village
	Observations	According to residents, both boreholes have salty taste. Need to confirm water quality (F). Need to confirm other water sources possible for use.					

WATER SOURCE PANEL

No.	Item	Description		
	【Borehole Code】	S-10/1 Old		
	Grid (UTM)	North	East	
	Grid (Lat/Lon)	Lat. N	Lon. E	
		15°03' 19.1"	44°29' 18.2"	
	Present Condition (Pump Type)	Working	Submersible	
	Elevation (m)	2,230	m	
	Aquifer/Geological Description			
	Year of Construction	1994		
	Fund	GAREW		
	Depth (m)	280	m	
	Casing Diameter (inch)		inch	
	Screen			
	Static Water Level (G.L.-m)	135.35	m	
	Dynamic Water Level (G.L.-m)	?	m	
	Drawdown (m)	#VALUE!	m	
	Discharge (g/min)	33	g/min	2.1 L/sec
	Specific Capacity	#VALUE!	L/s/m	
	EC (mS/m)	112.7	mS/m	
	pH	9.45		
	Temperature ('C)	28.8		
	Remarks			
	【Borehole Code】	S-10/2 New		
	Grid (UTM)	North	East	
		1664345	444316	
	Grid (Lat/Lon)	Lat. N	Lon. E	
		15° 03' 13.8	44° 28' 54.4	
	Present Condition (Pump Type)	Working	Private vertical pump	
	Elevation (m)	2,259	m	
	Aquifer/Geological Description			
	Year of Construction	2004		
	Fund	GARWSP		
	Depth (m)	310	m	
	Casing Diameter (inch)	8	inch	
	Screen			
	Static Water Level (G.L.-m)	145.27(50)	m	
	Dynamic Water Level (G.L.-m)	?(120)	m	
	Drawdown (m)	?(70)	m	
	Discharge (g/min)	81	g/min	5.1 L/sec
	Specific Capacity	?(0.099)	L/s/m	
	EC (mS/m)	103.3	mS/m	
	pH	8.91		
	Temperature ('C)	30.4		
	Remarks			

12.4 Village Profile of Sites in Sana'a Governorate

WATER SUPPLY PLANNING PANEL

No.	Item	Description		
	【Design Parameter】			
	No. of Villages in Total	0		
	No. of Villages to be Covered	0		
	Current Population (2006)	4,593		
	Design Population (20116)	5,637		
	Design Water Supply Rate	L/c/d	m^3/day	
	Type of Work Required	Rehabilitation		
	Required Facilities	Component	To be Constructed by	Notes
		Pump for Deep Well (Old)	Donor	Replace
		Eng./Gen. for Deep Well (	Donor	Replace
		Pump House for Deep We		
		Pump for Deep Well (New	Donor	Replace
		Eng./Gen. for Deep Well (	Donor	Replace
		Pump House for Deep We	Donor/Village	Rehabilitation
		Pump for Booster	Donor	New
		Eng./Gen. for Booster	Donor	New
		Pump House for Booster	Donor/Village	New
		Booster Tank		Use existing distribution tank
		Distribution Tank	Donor	New
		Pumping Main	Donor	From booster tank to main tank
		Distribution Main	Donor/Village	Replace and extensions
		Public Tapstand	Donor	New (for mosque, school and clinic only
		House Connections	Village	Extensions
	Accessibility			
	Security	Possible problem at check points		
	Observation			

OPERATION AND MAINTENANCE PANEL

No.	Item	Description
	No. of Village Head (Sheikh)	2
	No. of Tribe	1
	Observation in Current Supply Scheme	The community installed vertical pump unit on new borehole constructed by GARWSP in 2004, providing water supply to the community at the point through stand pipe (tap is not installed). The pump unit is rent by village Sheikh at YR 30,000/month. Water supplied from new borehole constructed in 2004 at free of charge to the community for use of domestic purpose, while water venders (water trucks) are charged at YR 500/3 m3 water tank. Pump house for new borehole constructed in 2004 was constructed by the community, although it is said as temporal arrangement. Borehole initially constructed in 1994 was re-drilled 2004 (1.5 years ago) up to 350m (original depth is not known), which cost YR 1.5 million together with replacement of impeller of pump unit. Pump unit for old borehole constructed in 1994 is operated for eight (8) hours in a day. Leakage from pipeline is observed.
	Mode of Ownership	There is no legal arrangement for the scheme ownership.
	Mode of Management Entity	There is no CBO for the scheme management. The supply scheme is managed by Sheikh with four (4) appointed operation workers (operator, revenue collectors/bill distributors). These operation workers are paid with allowance at YR 20,000/month/worker. In future project, the Sheikh agreed on CBO formation and registration, following the guideline for registration under Ministry of Social Affairs.
	Organizational Management	No constitution and legal status for the scheme management is arranged.
	Technical Operation and Maintenance	Borehole constructed in 1994 was re-drilled in 2003 (1.5 years ago) up to 350m (original depth is unknown), which cost YR 1.5 million together with replacement of pump impeller. The cost for re-drilling and replacement of impeller was borne by the scheme account and the Sheikh.
	Financial Management and Transparency	Tariff structure for the scheme constructed in 1994: YR 100/m3 Tariff structure for the point supply through new borehole of 2004: Free for the community YR 500/3 m3 tank for water vender (water truck) Income in average: YR 100,000/month Expenditure in average: YR 80,000/month Bank account was opened once, but the bank was bankrupted. Currently there is no bank account for the scheme. Financial management is also done by Sheikh.
	Stakeholder Involvement / Responsibility Sharin	Local Authority is not involved in financial monitoring and auditing.
	Community Contribution	In the scheme construction completed in 1994, the community contributed pipe transportation, trench digging and pipe laying. For the future project, agreement and arrangement for the community contribution has not been made. However, the community agreed on pipe transportation and laying with trench digging.
	Community Contracting-Out	N/A
	Conflict Resolution	There are two (2) villages with two (2) Sheikh. Relationship with two (2) Sheikh and villages are mentioned cooperative, and marital arrangement between and relatives in the villages are observed. Any community conflict cases are not mentioned.
	Pro-Gender and Pro-Poor	N/A
	Remarks	Relationship with two (2) Sheikh and villages are mentioned good, and marital arrangement between and relatives in the villages are observed.

12.4 Village Profile of Sites in Sana'a Governorate

SITE IDENTIFICATION PANEL

No.	Item	Description
	Code No.	S-11
	Site Name	Al Hesn-Al Abyad
	Sub-District (Uzlat)	
	District	Jehana
	Governorate	Sana'a
	Coordinates	Latitude / Longitude
	Coordinates (Measured Location)	
	Annual precipitation (rainfall)	320 mm
	Population (2006)	2,372
	Population Forecast (2016)	2,911
	No. of Village (Qariah) in Total	1
	No. of Village (Qariah) to be served	1

Village (Qariah) in the Community	Name	To Be Served	Population	Household	Coordinate (Lat / Lon)
	Al Hesn - Al Abyad	2372		307	

EXISTING WATER SUPPLY SCHEME PANEL

No.	Item	Description					
	Functioning	Functional					
	Components of Existing Water Supply Scheme	Component	Specification		Condition	Year	Fund
		Pump for Deep Well (Old)	Vertical	Porcelli		1986	GAREW
		Engine for Deep Well (Old	Technodrive	IVECO		2002	Village
		Pump House for Deep We	RC			2002	PWP
		Pump for Booster	Horizontal	Luigi Biraghi		2004	Village
		Engine for Booster		HATZ		2002	GAREW
		Pump House for Booster	Rock			1980	Village
		Booster Tank	RC	25m^3		2002	PWP
		Distribution Tank	RC	50m^3		2002	PWP
		Pumping Main	SGP			2002	PWP
		Distribution Main	SGP			2002	PWP
		Public Tapstand					
		House Connection	280				Village
	Observations	PWP:Public Works Project					
		Borehole pump operated 12-13hr/day, booster 4hr/day					

WATER SOURCE PANEL

No.	Item	Description			
	【Borehole Code】	S-11/2 Old			
	Grid (UTM)	North	East		
	Grid (Lat/Lon)	Lat. N	Lon. E		
		15°11' 43.1"	44°27' 44.9"		
	Present Condition (Pump Type)	Working	Vertical pump		
	Elevation (m)	2,300 m			
	Aquifer/Geological Description				
	Year of Construction	1980			
	Fund	GAREW			
	Depth (m)	180 m			
	Casing Diameter (inch)	6 inch			
	Screen				
	Static Water Level (G.L.-m)	? m			
	Dynamic Water Level (G.L.-m)	? m			
	Drawdown (m)	#VALUE! m			
	Discharge (g/min)	? g/min		#VALUE! L/sec	
	Specific Capacity	#VALUE! L/s/m			
	EC (mS/m)	101.8 mS/m			
	pH	8.09			
	Temperature ('C)	31.5			
	Remarks	Pumping tests canceled (can not set equipments)			
	【Borehole Code】	S-11/1 New			
	Grid (UTM)	North	East		
		1679689	442407		
	Grid (Lat/Lon)	Lat. N	Lon. E		
		15° 11' 33.3	44° 27' 49.8		
	Present Condition (Pump Type)	Capped			
	Elevation (m)	2,310 m			
	Aquifer/Geological Description				
	Year of Construction	2005			
	Fund	GARWSP			
	Depth (m)	350 m			
	Casing Diameter (inch)	8 inch			
	Screen				
	Static Water Level (G.L.-m)	154.1 m			
	Dynamic Water Level (G.L.-m)	219.1 m			
	Drawdown (m)	65 m			
	Discharge (g/min)	60 g/min		3.8 L/sec	
	Specific Capacity	0.058 L/s/m			
	EC (mS/m)	119.5 mS/m			
	pH	8.37			
	Temperature ('C)	32.9			
	Remarks				

12.4 Village Profile of Sites in Sana'a Governorate

WATER SUPPLY PLANNING PANEL				
No.	Item	Description		
	【Design Parameter】			
	No. of Villages in Total	1		
	No. of Villages to be Covered	1		
	Current Population (2006)	2,372		
	Design Population (2016)	2,911		
	Design Water Supply Rate	40 L/c/d	116 m^3/day	
	Type of Work Required	Partial construction		
	Required Facilities	Component	To be Constructed by	Notes
		Pump for Deep Well (New	Donor	New
		Eng./Gen. for Deep Well (	Donor	New
		Pump House for Deep We	Donor/Village	New
		Pump for Booster		
		Eng./Gen. for Booster		
		Pump House for Booster		
		Booster Tank		
		Distribution Tank	Donor	New, additional tank
		Pumping Main	Donor	New
		Distribution Main		
		Public Tapstand		
		House Connection	Village	Extensions
	Accessibility			
	Security			
	Observation			

OPERATION AND MAINTENANCE PANEL			
No.	Item	Description	
	No. of Village Head (Sheikh)	1	Four (4) Aqil for each sub-village
	No. of Tribe	1	
	Observation in Current Supply Scheme	Borehole with pump unit was constructed 25 years ago. Until 2002 when the Public Works Project was completed, water had been supplied at point where the borehole is located.	
		Till 2002, water had been provided at free of charge for the community members for domestic use, while water trucks (venders) had been charged at YR 5/tank and YR 50/tank in 80s and 00s, respectively.	
		New pumping unit for borehole was replaced in 2002, contributed by the community. One replaced is utilized as booster pump.	
		Water shortage is mentioned by the community, because of limited capacity for water tank and borehole.	
		Currently supply service is rationed every after 4-5 day for each sub-village. Pump unit is operated 24 hours according to the community.	
	Mode of Ownership	No legal ownership is arranged to the community, while handing-over document was prepared in PWP project in 2002.	
		CBO members for the scheme management are willing to register their organization under Ministry of Social Affairs, when increase of income is confirmed by new project (enlargement of tank and new borehole construction).	
		Constitution of CBO is not prepared yet.	
	Mode of Management Entity	Beneficiary Committee for water scheme management has been established by the community election, which is consisted of; a) director (1), b) treasurer/accountant (1), and c) operator (1)	
		Beneficiary Committee further employs; a) operator (2), b) meter reader (1), and c) bill distributor (1).	
		Till 2002 when the PWP project was completed, the scheme (point source service provision) had been managed by one person appointed by the community.	
		Additional 15 community representatives have been elected/appointed as Monitoring Committee members.	
	Organizational Management	Constitution for CBO for the scheme management (Beneficiary Committee) has not been prepared.	
		CBO is not registered without having legal status.	
		Important managerial decisions are made by Beneficiary Committee through meeting with 15 community representatives (Monitoring Committee).	
		Terms of office for Beneficiary Committee are not questioned.	
	Technical Operation and Maintenance	Generator for pump unit installed for borehole was repaired in 1997 by purchasing spare parts from Germany, which cost YR 370,000.	
		Cost for the repair of the generator was borne by the community, through the scheme account and raising additional community contribution.	
		Impeller of pump unit for the borehole has been replaced every two (2) years, which costs YR 800,000/repair borne by the community and scheme account.	

12.4 Village Profile of Sites in Sana'a Governorate

	Financial Management and Transparency	From twenty five (25) years ago up to 2002, water had been provided at borehole point for the community members at free of charge, while water truck (venders) had been charged at YR 5/water tank and YR 50/water tank in 80s and 00s, respectively.		
		Current water tariff structure:	YR 130	-1 m3
			YR 250	-2 m3
			YR 500	-3 m3
			YR 1,000	-4 m3
			YR 2,000	-5 m3
		Water tariff is doubled by consumption of each cubic meter. This tariff structure has been introduced to control water consumption in water shortage.		
		Water rationing has been introduced because of shortage, providing water every after 4-5 days in each sub-village.		
		Income in average:	YR 100,000/month	
		Expenditure in average:	YR 80,000/month	
		Expenditure breakdown:	YR 64,000/month	Fuel
			YR 16,000/month	Personnel Cost (salary and allowance)
		Personnel cost:	YR 13,000/month	Operator
			YR 3,000/month	Treasurer
		Meter readers work in voluntary.		
		Financial statements are reported every year to 15 community representatives (Monitoring Committee).		
		Bank account for the scheme has been opened.		
	Stakeholder Involvement / Responsibility Sharin	Local council is not involved in financial monitoring and auditing.		
	Community Contribution	In the first investment in 25 years ago, there was no community contribution.		
		In the implementation of the project under PWP, community contributed pumping unit and generator for the borehole, while any cash contribution, pipe transportation, and trench digging and laying has not been undertaken by the community.		
		In future project with GARWSP, community is willing to contribute in pump house construction, while any arrangement for responsibility sharing is not made with GARWSP.		
	Community Contracting-Out	N/A		
	Conflict Resolution	Any conflict cases are not mentioned		
	Pro-Gender and Pro-Poor	N/A		
	Remarks	Land ownership for new borehole constructed by GARWSP is belong to the Beneficiary Committee. The land was donated by the land owner with written agreement.		
		Land for the existing borehole is located in public land, so that the ownership is belong to the government under Sheikh control.		

12.4 Village Profile of Sites in Sana'a Governorate

SITE IDENTIFICATION PANEL

No.	Item	Description
	Code No.	S-12
	Site Name	Mahdah
	Sub-District (Uzlat)	
	District	Jehana
	Governorate	Sana'a
	Coordinates	Latitude / Longitude
	Coordinates (Measured Location)	
	Annual precipitation (rainfall)	330 mm
	Population (2006)	160(196: Interim Report)
	Population Forecast (2016)	241
	No. of Village (Qariah) in Total	1
	No. of Village (Qariah) to be served	1

Village (Qariah) in the Community	Name	To Be Served	Population	Household	Coordinate (Lat / Lon)
	Mahdah	160		21	

EXISTING WATER SUPPLY SCHEME PANEL

No.	Item	Description
	Functioning	Non-functional

Components of Existing Water Supply Scheme	Component	Specification		Condition	Year	Fund
	Pump for Deep Well (Old)			Dropped in w	1985	GAREW
	Engine for Deep Well (Old			Useless		
	Pump House for Deep We			Useless	1985	GAREW
	Pump for Booster					
	Eng./Gen. for Booster					
	Pump House for Booster					
	Booster Tank					
	Distribution Tank	RC	25m^3	Cracked	1991	GAREW
	Pumping Main	SGP			1985	GAREW
	Distribution Main	SGP			1985	GAREW
	Public Tapstand	One only			1985	GAREW
	House Connection					

Observations: Old borehole was used unto 1990 when water level lowered, and pump was dropped inside of borehole.

WATER SOURCE PANEL

No.	Item	Description
	【Borehole Code】	Old
	Grid (UTM)	North / East
	Grid (Lat/Lon)	Lat. N / Lon. E: 15°09' 07" / 44°28' 28"
	Present Condition (Pump Type)	Unusable because pump dropped inside borehole when water level lowered
	Elevation (m)	2,304 m
	Aquifer/Geological Description	
	Year of Construction	1985
	Fund	GAREW
	Depth (m)	m
	Casing Diameter (inch)	inch
	Screen	
	Static Water Level (G.L.-m)	m
	Dynamic Water Level (G.L.-m)	m
	Drawdown (m)	0 m
	Discharge (g/min)	g/min; 0.0 L/sec
	Specific Capacity	#DIV/0! L/s/m
	EC (mS/m)	mS/m
	pH	
	Temperature ('C)	
	Remarks	
	【Borehole Code】	S-12 New
	Grid (UTM)	North: 1674966 / East: 443218
	Grid (Lat/Lon)	Lat. N / Lon. E: 15°09' 00" / 44°28' 17"
	Present Condition (Pump Type)	Capped
	Elevation (m)	2,234 m
	Aquifer/Geological Description	
	Year of Construction	2005
	Fund	GARWSP
	Depth (m)	350 m
	Casing Diameter (inch)	8 inch
	Screen	
	Static Water Level (G.L.-m)	150 m
	Dynamic Water Level (G.L.-m)	270 m
	Drawdown (m)	120 m
	Discharge (g/min)	80 g/min; 5.0 L/sec
	Specific Capacity	0.042 L/s/m
	EC (mS/m)	mS/m
	pH	
	Temperature ('C)	
	Remarks	

12.4 Village Profile of Sites in Sana'a Governorate

WATER SUPPLY PLANNING PANEL				
No.	Item	Description		
	【Design Parameter】			
	No. of Villages in Total	1		
	No. of Villages to be Covered	1		
	Current Population (2006)	160(196: Interim Report)		
	Design Population (2016)	241		
	Design Water Supply Rate	L/c/d	m^3/day	
	Type of Work Required	New construction		
	Required Facilities	Component	To be Constructed by	Notes
		Pump for Deep Well (New	Donor	New
		Eng./Gen. for Deep Well (	Donor	New
		Pump House for Deep We	Donor/Village	New
		Pump for Booster		
		Eng./Gen. for Booster		
		Pump House for Booster		
		Booster Tank		
		Distribution Tank	Donor	New
		Pumping Main	Donor	New
		Distribution Main	Donor	New
		Public Tapstand	Donor	New (for mosque, school and clinic only
		House Connections	Village	New
	Accessibility			
	Security			
	Observation	Consider pipeline extension to school (mutually used by surrounding villages) located in outskirt of village.		

OPERATION AND MAINTENANCE PANEL			
No.	Item	Description	
	No. of Village Head (Sheikh)	1	One (1) Aqil
	No. of Tribe	1	
	Observation in Current Supply Scheme	There has been no house connection.	
		Pumping unit and generator for borehole had been in good operation for eight months after installation. It is mentioned by the community member that the generator installed was second hand. After eight months, the generator had not functioned, and replaced with another second hand one by village Sheikh. However, problem had not resolved.	
		During replacing generator, pump unit was fallen down to the borehole.	
		GARWSP tried to fish up the pump unit fallen down to the borehole twice in 2002 and 2003. However, it was failed.	
		Water was supplied only through a public stand located in center of village (removed). Pipe connection to the mosque was undertaken by the Sheikh.	
	Mode of Ownership	There was no arrangement made in mid 80s for legal ownership.	
	Mode of Management Entity	There was no CBO arrangement in mid 80s.	
		The scheme had been managed by Sheikh, appointing one (1) scheme operator.	
		The community is willing to form new CBO in future project, following guideline prepared for CBO registration under Ministry of Social Affairs.	
	Organizational Management	There was no constitution, by-law, and legal status for the scheme management.	
	Technical Operation and Maintenance	Replacement of generator was done by the community, of which cost was borne by village	
	Financial Management and Transparency	Tariff structure:	YR 100/household/month (fixed tariff) in 80s
		Water bill collected was used only for fuel cost and personnel cost for the operator.	
		The scheme account was managed by Sheikh.	
		It is mentioned that income and expenditure was balanced during the scheme operation.	
	Stakeholder Involvement / Responsibility Sharin	N/A	
	Community Contribution	There was no community contribution in the implementation of the project in mid 80s.	
		There is no agreement made with GARWSP for community contribution in future project, while the community members agreed on pipe transportation and laying.	
	Community Contracting-Out	N/A	
	Conflict Resolution	No community conflict case is mentioned	
	Pro-Gender and Pro-Poor	N/A	
	Remarks	Typical traditional management style headed by Sheikh is observed.	
		It is questionable whether or not the pumping problem was caused by generator. Generator was replaced possibly without any technical guidance, resulting pump unit falling down to the borehole.	
		Land for the existing and abandoned borehole is located in public land, so the land ownership belongs to the government under Sheikh control.	
		Land for new borehole constructed by GARWSP is also located in public land.	
		Existing water sources available for the community are; 1) hand dug well used for domestic purpose not for drinking (few uses for drinking purpose), 2) purchasing water at city center by water truck, which costs YR 2,000/3 m3 tank, and 3) private small dam, which is dry currently.	
		Electricity is available in the village. Average household expenditure for electricity ranged from YR 500 – 700/month. Community mentioned that the water bill shall be lower than the one for electricity.	

12.4 Village Profile of Sites in Sana'a Governorate

SITE IDENTIFICATION PANEL

No.	Item	Description				
	Code No.	S-13				
	Site Name	Al Ga'ra				
	Sub-District (Uzlat)					
	District	Alteyal				
	Governorate	Sana'a				
	Coordinates	Latitude	Longitude			
	Coordinates (Measured Location)					
	Annual precipitation (rainfall)	310 mm				
	Population (2006)	2,047				
	Population Forecast (2016)	2,512				
	No. of Village (Qariah) in Total					
	No. of Village (Qariah) to be served					
	Village (Qariah) in the Community	Name	Population	Household	Coordinate (Lat / Lon)	
		Al Ga'ra				

EXISTING WATER SUPPLY SCHEME PANEL

No.	Item	Description				
	Functioning	No existing				
	Components of Existing Water Supply Scheme	Component	Specification	Condition	Year	Fund
		Pump for Deep Well				
		Eng./Gen. for Deep Well				
		Pump House for Deep We				
		Pump for Booster				
		Eng./Gen. for Booster				
		Pump House for Booster				
		Booster Tank				
		Distribution Tank				
		Pumping Main				
		Distribution Main				
		Public Tapstand				
		House Connection				
	Observations	Buy water from tanker at YR1,000/m3. If tanker not available, buy from Sana'a at YR3,000/m3. Water from private wells and dug wells is free, carry by hand or donkey.				

WATER SOURCE PANEL

No.	Item	Description		
	【Borehole Code】			
	Grid (UTM)	North	East	
	Grid (Lat/Lon)	Lat. N	Lon. E	
		15°19' 54.9"	44°27' 48.4"	
	Present Condition (Pump Type)	Capped		
	Elevation (m)	2,603 m		
	Aquifer/Geological Description			
	Year of Construction	2006		
	Fund	GARWSP		
	Depth (m)	840 m		
	Casing Diameter (inch)	14-3/4 inch		
	Screen	10-3/4		
	Static Water Level (G.L.-m)	520 m		
	Dynamic Water Level (G.L.-m)	600 m		
	Drawdown (m)	80 m		
	Discharge (g/min)	150 g/min	9.5 L/sec	
	Specific Capacity	0.118 L/s/m		
	EC (mS/m)	80.6 mS/m		
	pH	8.20		
	Temperature (°C)	54.3		
	Remarks	Pumping test carried by GARWSP		

12.4 Village Profile of Sites in Sana'a Governorate

WATER SUPPLY PLANNING PANEL				
No.	Item	Description		
	【Design Parameter】			
	No. of Villages in Total	0		
	No. of Villages to be Covered	0		
	Current Population (2006)	2,047		
	Design Population (2016)	2,512		
	Design Water Supply Rate	L/c/d	m^3/day	
	Type of Work Required	New construction		
	Required Facilities	Component	To be Constructed by	Notes
		Pump for Deep Well	Donor	New
		Eng./Gen. for Deep Well	Donor	New
		Pump House for Deep We	Donor/Village	New
		Pump for Booster	Donor	New
		Eng./Gen. for Booster	Donor	New
		Pump House for Booster	Donor/Village	New
		Booster Tank	Donor	New
		Distribution Tank	Donor	New × 2
		Pumping Main	Donor	New
		Distribution Main	Donor	New
		Public Tapstand	Donor	New (for mosque, school and clinic only
		House Connection	Village	New
	Accessibility			
	Security			
	Observation			

OPERATION AND MAINTENANCE PANEL		
No.	Item	Description
	No. of Village Head (Sheikh)	
	No. of Tribe	
	Observation in Current Supply Scheme	
	Mode of Ownership	
	Mode of Management Entity	
	Organizational Management	
	Technical Operation and Maintenance	
	Financial Management and Transparency	
	Stakeholder Involvement / Responsibility Sharing	
	Community Contribution	
	Community Contracting-Out	
	Conflict Resolution	
	Pro-Gender and Pro-Poor	
	Remarks	

12.4 Village Profile of Sites in Sana'a Governorate

SITE IDENTIFICATION PANEL

No.	Item	Description				
	Code No.	S-14				
	Site Name	Al Ghail				
	Sub-District (Uzlat)					
	District	Nehm				
	Governorate	Sana'a				
	Coordinates	Latitude	Longitude			
	Coordinates (Measured Location)					
	Annual precipitation (rainfall)	300 mm				
	Population (2006)	1,000				
	Population Forecast (2016)	1,227				
	No. of Village (Qariah) in Total					
	No. of Village (Qariah) to be served					
	Village (Qariah) in the Community	Name	Population	Household	Coordinate (Lat / Lon)	
		Al Ghail (Ghail Al Sholif)				
		Qa'a Al Hadad				
		Qa'a Ma'arf				
		Beel Al Basal (District cen				

EXISTING WATER SUPPLY SCHEME PANEL

No.	Item	Description					
	Functioning	Non-functional					
	Components of Existing Water Supply Scheme	Component	Specification		Condition	Year	Fund
		Pump for Deep Well	Vertical		Broken	1990	GAREW
		Engine for Deep Well		Technodrive	Broken 1995	1990	GAREW
		Pump House for Deep We	Only foundation left				
		Pump for Booster					
		Eng./Gen. for Booster					
		Pump House for Booster					
		Booster Tank					
		Distribution Tank					
		Pumping Main	SGP, only to vehicle water post near borehole				
		Distribution Main					
		Public Tapstand					
		House Connection					
	Observations	Water supply system is non-functional since 1995. About 10 private wells, but onl one functions.					

WATER SOURCE PANEL

No.	Item	Description		
	【Borehole Code】			
	Grid (UTM)	North	East	
		1729866	445256	
	Grid (Lat/Lon)	Lat. N	Lon. E	
		15°38' 46.4"	44°29' 21.4"	
	Present Condition (Pump Type)	Unused		
	Elevation (m)	2,117 m		
	Aquifer/Geological Description			
	Year of Construction	1985		
	Fund	GAREW		
	Depth (m)	185 m		
	Casing Diameter (inch)	8 inch		
	Screen			
	Static Water Level (G.L.-m)	130 m		
	Dynamic Water Level (G.L.-m)	160 m		
	Drawdown (m)	30 m		
	Discharge (g/min)	40 g/min	2.5 L/sec	
	Specific Capacity	0.084 L/s/m		
	EC (mS/m)	133.2 mS/m		
	pH	7.79		
	Temperature ('C)	28.3		
	Remarks	Pumping test canceled (well collapsed?)		

12.4 Village Profile of Sites in Sana'a Governorate

WATER SUPPLY PLANNING PANEL				
No.	Item	Description		
	【Design Parameter】			
	No. of Villages in Total	0		
	No. of Villages to be Covered	0		
	Current Population (2006)	1,000		
	Design Population (2016)	1,227		
	Design Water Supply Rate	40 L/c/d	49.08 m^3/day	
	Type of Work Required	New construction		
	Required Facilities	Component	To be Constructed by	Notes
		Pump for Deep Well	Donor	New
		Eng./Gen. for Deep Well	Donor	New
		Pump House for Deep We	Donor/Village	New
		Pump for Booster		
		Eng./Gen. for Booster		
		Pump House for Booster		
		Booster Tank		
		Distribution Tank	Donor	New x 2(?)
		Pumping Main	Donor	New
		Distribution Main	Donor	New
		Public Tapstand	Donor	New (for mosque, school and clinic only
		House Connections	Village	New
	Accessibility	Need to cross wadi		
	Security	Route to Marib: problems at check points		
	Observation			

OPERATION AND MAINTENANCE PANEL		
No.	Item	Description
	No. of Village Head (Sheikh)	
	No. of Tribe	
	Observation in Current Supply Scheme	
	Mode of Ownership	
	Mode of Management Entity	
	Organizational Management	
	Technical Operation and Maintenance	
	Financial Management and Transparency	
	Stakeholder Involvement / Responsibility Sharing	
	Community Contribution	
	Community Contracting-Out	
	Conflict Resolution	
	Pro-Gender and Pro-Poor	
	Remarks	

12.5 Village Profile of Sites in Dahmar Governorate

SITE IDENTIFICATION PANEL

No.	Item	Description				
	Code No.	D-01				
	Site Name	Elow Al Mikhlaf				
	Sub-District (Uzlat)					
	District	Jabal Al Sharq				
	Governorate	Dahmar				
	Coordinates	Latitude	Longitude			
	Coordinates (Measured Location)					
	Annual precipitation (rainfall)	550 mm				
	Population (2006)	926				
	Population (2016)	1,249				
	No. of Village (Qariah) in Total					
	No. of Village (Qariah) to be served					
	Village (Qariah) in the Community	Name	Population	Household	Coordinate (Lat / Lon)	
		Al Mahal	160	29		
		Al Ashoom	312	57		
		Magradh	184	37	14°47' 53"	43°51' 26"
		Habaqah	213	46	14°47' 34"	43°50' 54"
		Hagara	57	9		

EXISTING WATER SUPPLY SCHEME PANEL

No.	Item	Description					
	Functioning	Partially existing					
	Components of Existing Water Supply Scheme	Component	Specification		Condition	Year	Fund
		Pump for Deep Well					
		Eng./Gen. for Deep Well					
		Pump House for Deep We					
		Pump for Booster					
		Eng./Gen. for Booster					
		Pump House for Booster					
		Booster Tank	RC	40m^3		2005	GARWSP
		Distribution Tank	RC	50m^3		2005	GARWSP
		Pumping Main					
		Distribution Line					
		Public Tapstand					
		House Connection					
	Observations	5 mosques and 1 school					

WATER SOURCE PANEL

No.	Item	Description		
	【Borehole Code】			
	Grid (UTM)	North	East	
		1636856	377116	
	Grid (Lat/Lon)	Lat. N	Lon. E	
		14°48' 11.0"	43°51' 28.9"	
	Present Condition (Pump Type)	Capped		
	Elevation (m)	1,799 m		
	Aquifer/Geological Description			
	Year of Construction	2000		
	Fund	GARWSP		
	Depth (m)	273 m		
	Casing Diameter (inch)	8 inch		
	Screen			
	Static Water Level (G.L.-m)	184.13 m		
	Dynamic Water Level (G.L.-m)	185.83 m		
	Drawdown (m)	1.7 m		
	Discharge (g/min)	38 g/min	2.4 L/sec	
	Specific Capacity	1.411 L/s/m		
	EC (mS/m)	89.4 mS/m		
	pH	7.48		
	Temperature (°C)	30.2		
	Remarks			

12.5 Village Profile of Sites in Dahmar Governorate

WATER SUPPLY PLANNING PANEL				
No.	Item	Description		
	【Design Parameter】			
	No. of Villages in Total	0		
	No. of Villages to be Covered	0		
	Current Population (2006)	926		
	Design Population (2016)	1,249		
	Design Water Supply Rate	40 L/c/d	50 m^3/day	
	Type of Work Required	New construction		
	Required Facilities	Component	To be Constructed by	Notes
		Pump for Deep Well	Donor	New
		Eng./Gen. for Deep Well	Donor	New
		Pump House for Deep We	Donor/Village	New
		Pump for Booster	Donor	New x 2
		Eng./Gen. for Booster	Donor	New x 2
		Pump House for Booster	Donor/Village	New x 2
		Booster Tank No.1	Donor	New
		Booster Tank No.2	GARWSP	Already constructed
		Distribution Tank	GARWSP	Already constructed
		Pumping Main	Donor	New
		Distribution Main	Donor	New
		Public Tapstand	Donor	New (for mosque, school and clinic only
		House Connections	Village	New
	Accessibility	Through unpaved, rocky mountain roads		
	Security			
	Observation			

OPERATION AND MAINTENANCE PANEL		
No.	Item	Description
	No. of Village Head (Sheikh)	
	No. of Tribe	
	Observation in Current Supply Scheme	
	Mode of Ownership	
	Mode of Management Entity	
	Organizational Management	
	Technical Operation and Maintenance	
	Financial Management and Transparency	
	Stakeholder Involvement / Responsibility Sharing	
	Community Contribution	
	Community Contracting-Out	
	Conflict Resolution	
	Pro-Gender and Pro-Poor	
	Remarks	

12.5 Village Profile of Sites in Dahmar Governorate

SITE IDENTIFICATION PANEL

No.	Item	Description					
	Code No.	D-02					
	Site Name	Hamal-Bait Al Jabar					
	Sub-District (Uzlat)						
	District						
	Governorate						
	Coordinates	Latitude	Longitude				
	Coordinates (Measured Location)						
	Annual precipitation (rainfall)	530 mm					
	Population (2006)	2475					
	Population Forecast (2016)	3339					
	No. of Village (Qariah) in Total						
	No. of Village (Qariah) to be served						
	Village (Qariah) in the Community	Name	Population	Household	Coordinate (Lat / Lon)		
		Bait Al Jabar	406	54			
		Hamal	1,343	192	14°44' 29"	43°56' 52"	
		Bait Ma'woodha	57	11	14°44' 46"	43°56' 19"	
		Salemah	164	30			
		Eraan	99	22	14°44' 58"	43°56' 16"	
		Jabal Mane'e	34	6			
		Bait Al Safa	178	27			
		kulah	94	20			

EXISTING WATER SUPPLY SCHEME PANEL

No.	Item	Description					
	Functioning	Partially existing					
	Components of Existing Water Supply Scheme	Component	Specification		Condition	Year	Fund
		Pump for Deep Well	Vertical	SIMMONS	Broken	1987	GAREW
		Engine for Deep Well		Benz	Broken	1987	GAREW
		Pump House for Deep We	Rock		Cannot use	1987	GAREW
		Pump for Booster					
		Eng./Gen. for Booster					
		Pump House for Booster					
		Booster Tank					
		Distribution Tank	RC	75m3		2005	GARWSP
		Pumping Main	SGP		Cannot use	1987	Village
		Distribution Main					
		Public Tapstand					
		House Connection					
	Observations	Pipe to 2 open tanks in nearby school and 1 village, and 1 vehicle water post next to pump house. Gasoline filling station and chicken breeding compound in site 10 mosques and 1 school					

WATER SOURCE PANEL

No.	Item	Description		
	【Borehole Code】			
	Grid (UTM)	North	East	
		1630283	386534	
	Grid (Lat/Lon)	Lat. N	Lon. E	
		14°44' 38.6"	43°56' 45.2"	
	Present Condition (Pump Type)	Not working Verticap pump under repair		
	Elevation (m)	2,205 m		
	Aquifer/Geological Description			
	Year of Construction	1985		
	Fund	GAREW		
	Depth (m)	310 m		
	Casing Diameter (inch)	8 inch		
	Screen			
	Static Water Level (G.L.-m)	185.8 m		
	Dynamic Water Level (G.L.-m)	209.3 m		
	Drawdown (m)	23.5 m		
	Discharge (g/min)	55 g/min	3.5 L/sec	
	Specific Capacity	0.148 L/s/m		
	EC (mS/m)	50.3 mS/m		
	pH	7.83		
	Temperature (°C)	31.7		
	Remarks			

12.5 Village Profile of Sites in Dahmar Governorate

WATER SUPPLY PLANNING PANEL				
No.	Item	Description		
	【Design Parameter】			
	No. of Villages in Total	0		
	No. of Villages to be Covered	0		
	Current Population (2006)	2,475		
	Design Population (2016)	3,339		
	Design Water Supply Rate	40 L/c/d	134 m^3/day	
	Type of Work Required	New construction		
	Required Facilities	Component	Constructed by	Notes
		Pump for Deep Well	Donor	Replace
		Eng./Gen. for Deep Well	Donor	New
		Pump House for Deep We	Donor/Village	New
		Pump for Booster		
		Eng./Gen. for Booster		
		Pump House for Booster		
		Booster Tank		
		Distribution Tank	GARWSP	Already constructed
		Pumping Main	Donor	New
		Distribution Main	Donor	New
		Public Tapstand	Donor	New (for mosque, school and clinic only
		House Connections	Village	New
	Accessibility	Through unpaved, rocky mountain roads		
	Security			
	Observation			

OPERATION AND MAINTENANCE PANEL		
No.	Item	Description
	No. of Village Head (Sheikh)	
	No. of Tribe	
	Observation in Current Supply Scheme	
	Mode of Ownership	
	Mode of Management Entity	
	Organizational Management	
	Technical Operation and Maintenance	
	Financial Management and Transparency	
	Stakeholder Involvement / Responsibility Sharing	
	Community Contribution	
	Community Contracting-Out	
	Conflict Resolution	
	Pro-Gender and Pro-Poor	
	Remarks	

12.5 Village Profile of Sites in Dahmar Governorate

SITE IDENTIFICATION PANEL							
No.	Item	Description					
	Code No.	D-03					
	Site Name	Hegrat Al A'asham					
	Sub-District (Uzlat)						
	District	Jabal Al Sharq					
	Governorate	Dahmar					
	Coordinates	Latitude	Longitude				
	Coordinates (Measured Location)						
	Annual precipitation (rainfall)	480 mm					
	Population (2006)	1,592					
	Population (2016)	2,148					
	No. of Village (Qariah) in Total						
	No. of Village (Qariah) to be served						
	Village (Qariah) in the Community	Name	Population	Household	Coordinate (Lat / Lon)		
		Hegrat Al A'sham	1,592	190			

EXISTING WATER SUPPLY SCHEME PANEL							
No.	Item	Description					
	Functioning	Partially existing					
	Components of Existing Water Supply Scheme	Component	Specification		Condition	Year	Fund
		Pump for Deep Well					
		Eng./Gen. for Deep Well					
		Pump House for Deep We	Rock under construction			2006	Village
		Pump for Booster					
		Eng./Gen. for Booster					
		Pump House for Booster	Rock under construction			2006	Village
		Booster Tank	RC 25m3			2005	GARWSP
		Distribution Tank	RC 40m3	3m Elevated		2005	GARWSP
		Pumping Main					
		Distribution Main					
		Public Tapstand					
		House Connection					
	Observations						

WATER SOURCE PANEL				
No.	Item	Description		
	【Borehole Code】			
	Grid (UTM)	North	East	
		1626967	392157	
	Grid (Lat/Lon)	Lat. N	Lon. E	
		14°42' 51.6"	43°59' 53.7"	
	Present Condition (Pump Type)	Capped		
	Elevation (m)	2,041 m		
	Aquifer/Geological Description			
	Year of Construction	1999		
	Fund	GAREW		
	Depth (m)	320 m		
	Casing Diameter (inch)	8 inch		
	Screen			
	Static Water Level (G.L.-m)	163.1 m		
	Dynamic Water Level (G.L.-m)	184 m		
	Drawdown (m)	20.9 m		
	Discharge (g/min)	79 g/min	5.0 L/sec	
	Specific Capacity	0.239 L/s/m		
	EC (mS/m)	44.5 mS/m		
	pH	7.12		
	Temperature ('C)	29.2		
	Remarks			

12.5 Village Profile of Sites in Dahmar Governorate

WATER SUPPLY PLANNING PANEL				
No.	Item	Description		
	【Design Parameter】			
	No. of Villages in Total	0		
	No. of Villages to be Covered	0		
	Current Population (2006)	1,592		
	Design Population (2016)	2,148		
	Design Water Supply Rate	40 L/c/d	86 m^3/day	
	Type of Work Required	New construction		
	Required Facilities	Component	To be Constructed by	Notes
		Pump for Deep Well	Donor	New
		Eng./Gen. for Deep Well	Donor	New
		Pump House for Deep We	Donor/Village	Walls already constructed, need roof
		Pump for Booster	Donor	New
		Eng./Gen. for Booster	Donor	New
		Pump House for Booster	Donor/Village	Walls already constructed, need roof
		Booster Tank	GARWSP	Already constructed
		Distribution Tank	GARWSP	Already constructed
		Pumping Main	Donor	New
		Distribution Main	Donor	New
		Public Tapstand	Donor	New (for mosque, school and clinic onl
		House Connections	Village	New
	Accessibility	Through unpaved, rocky mountain roads		
	Security			
	Observation			

OPERATION AND MAINTENANCE PANEL								
No.	Item	Description						
	No. of Village Head (Sheikh)							
	No. of Tribe							
	Observation in Current Supply Scheme							
	Mode of Ownership							
	Mode of Management Entity							
	Organizational Management							
	Technical Operation and Maintenance							
	Financial Management and Transparency							
	Stakeholder Involvement / Responsibility Sharing							
	Community Contribution							
	Community Contracting-Out							
	Conflict Resolution							
	Pro-Gender and Pro-Poor							
	Remarks							

12.5 Village Profile of Sites in Dahmar Governorate

SITE IDENTIFICATION PANEL

No.	Item	Description				
	Code No.	D-04				
	Site Name	Al Kuob				
	Sub-District (Uzlat)	Al Kuob				
	District	Duran				
	Governorate	Dahmar				
	Coordinates	Latitude	Longitude			
	Coordinates (Measured Location)					
	Annual precipitation (rainfall)	440 mm				
	Population (2006)	3,526				
	Population Forecast (2016)	4,393				
	No. of Village (Qariah) in Total					
	No. of Village (Qariah) to be served					
	Village (Qariah) in the Community	Name	Population	Household	Coordinate (Lat / Lon)	
		Al Nasami			14°44' 31"	44°10' 51"
		Bait Al Showish				
		Al Hamra'a				
		Gharbeen				
		Al Marqaab				
		Al Koub				
		Al Selaf			14°42' 10"	44°10' 08"
		Al Demna				
		Al Mifa'ah				
		Al Hafah				

EXISTING WATER SUPPLY SCHEME PANEL

No.	Item	Description				
	Functioning	No existing				
	Components of Existing Water Supply Scheme	Component	Specification	Condition	Year	Fund
		Pump for Deep Well				
		Eng./Gen. for Deep Well				
		Pump House for Deep We				
		Pump for Booster				
		Eng./Gen. for Booster				
		Pump House for Booster				
		Booster Tank				
		Distribution Tank				
		Pumping Main				
		Distribution Main				
		Public Tapstand				
		House Connection				
	Observations	18 mosques, 10 schools, 2 health centers				

WATER SOURCE PANEL

No.	Item	Description			
	【Borehole Code】				
	Grid (UTM)	North	East		
		1631619	411900		
	Grid (Lat/Lon)	Lat. N	Lon. E		
		14°45' 25.7"	44°10' 53.3"		
	Present Condition (Pump Type)	Capped			
	Elevation (m)	2,237 m			
	Aquifer/Geological Description				
	Year of Construction	1999			
	Fund	GAREW			
	Depth (m)	152 m			
	Casing Diameter (inch)	8 inch			
	Screen				
	Static Water Level (G.L.-m)	90 m			
	Dynamic Water Level (G.L.-m)	120 m			
	Drawdown (m)	30 m			
	Discharge (g/min)	57 g/min	3.6 L/sec		
	Specific Capacity	0.120 L/s/m			
	EC (mS/m)	45.5 mS/m			
	pH	7.23			
	Temperature (℃)	28.6			
	Remarks	3 boreholes drilled by GAREW, but only 1 successful. 5 private boreholes drilled, but 2 successful.			

12.5 Village Profile of Sites in Dahmar Governorate

WATER SUPPLY PLANNING PANEL				
No.	Item	Description		
	【Design Parameter】			
	No. of Villages in Total	0		
	No. of Villages to be Covered			
	Current Population (2006)	3,526		
	Design Population (2016)	4,393		
	Design Water Supply Rate	40 L/c/d	176 m^3/day	
	Type of Work Required	New construction		
	Required Facilities	Component	To be Constructed by	Notes
		Pump for Deep Well	Donor	New
		Eng./Gen. for Deep Well	Donor	New
		Pump House for Deep We	Donor/Village	New
		Pump for Booster	Donor	New × 2
		Eng./Gen. for Booster	Donor	New × 2
		Pump House for Booster	Donor/Village	New × 2
		Booster Tank	Donor	New × 2
		Distribution Tank	Donor	New
		Pumping Main	Donor	New
		Distribution Main	Donor	New
		Public Tapstand	Donor	New (for mosque, school and clinic only
		House Connections	Village	New
	Accessibility	Good, next to paved road, but access inside site through moutainous road		
	Security			
	Observation			

OPERATION AND MAINTENANCE PANEL		
No.	Item	Description
	No. of Village Head (Sheikh)	
	No. of Tribe	
	Observation in Current Supply Scheme	
	Mode of Ownership	
	Mode of Management Entity	
	Organizational Management	
	Technical Operation and Maintenance	
	Financial Management and Transparency	
	Stakeholder Involvement / Responsibility Sharing	
	Community Contribution	
	Community Contracting-Out	
	Conflict Resolution	
	Pro-Gender and Pro-Poor	
	Remarks	

12.5 Village Profile of Sites in Dahmar Governorate

SITE IDENTIFICATION PANEL

No.	Item	Description		
	Code No.	D-05		
	Site Name	Mayfa'at Yaer		
	Sub-District (Uzlat)			
	District	Ans		
	Governorate	Dahmar		
	Coordinates	Latitude	Longitude	
	Coordinates (Measured Location)			
	Annual precipitation (rainfall)	470 mm		
	Population (2006)	1,515		
	Population Forecast (2016)	2,044		
	No. of Village (Qariah) in Total			
	No. of Village (Qariah) to be served			

Village (Qariah) in the Community	Name	Population	Household	Coordinate (Lat / Lon)
	Al Hesn	387	57	
	Al Mayfa'a	1,128	159	

EXISTING WATER SUPPLY SCHEME PANEL

No.	Item	Description					
	Functioning	Functional					
	Components of Existing Water Supply Scheme	Component	Specification		Condition	Year	Fund
		Pump for Deep Well	Vertical	CAPRARI		1984	GAREW
		Engine for Deep Well	Diesel	Interschalt		1984	GAREW
		Pump House for Deep We	Rock			1984	Village
		Pump for Booster No.1	Horizontal	KSB		1984	GAREW
		Engine for Booster No.1		MWM Motores		1984	GAREW
		Pump House for Booster N	Rock			1984	GAREW
		Booster Tank No.1	Steel panel	25m3	Leaking	1985	GAREW
		Booster Tank No.2	Steel panel	25m3	Now as main	1985	GAREW
		Distribution Tank	Steel panel	25m3	Not used	1985	GAREW
		Pumping Main	SGP			1985	GAREW
		Distribution Main	SGP			1985	GAREW
		Public Tapstand	1 Stand with 6 taps			2001	Village
		House Connection					
	Observations	When borehole pump became weak, booster tank 2 was used as distribution tank and stopped using original main distribution tank. All tanks are deteriorated. In 1985, GAREW constructed 6 public tapstands (4 tap type), but stopped using them when pump became weak.					

WATER SOURCE PANEL

No.	Item	Description		
	【Borehole Code】			
	Grid (UTM)	North	East	
		1609810	417769	
	Grid (Lat/Lon)	Lat. N	Lon. E	
		14°33' 39.9"	44°14' 12.3"	
	Present Condition (Pump Type)	Working	Vertical pump	
	Elevation (m)	2,176 m		
	Aquifer/Geological Description			
	Year of Construction	1984		
	Fund	GAREW		
	Depth (m)	127 m		
	Casing Diameter (inch)	8 inch		
	Screen			
	Static Water Level (G.L.-m)	59.6 m		
	Dynamic Water Level (G.L.-m)	62.8 m		
	Drawdown (m)	3.2 m		
	Discharge (g/min)	41 g/min	2.6 L/sec	
	Specific Capacity	0.807 L/s/m		
	EC (mS/m)	53.2 mS/m		
	pH	7.28		
	Temperature ('C)	30.4		
	Remarks			

WATER SUPPLY PLANNING PANEL

No.	Item	Description		
	【Design Parameter】			
	No. of Villages in Total	0		
	No. of Villages to be Covered	0		
	Current Population (2006)	1,515		
	Design Population (2016)	2,044		
	Design Water Supply Rate	40 L/c/d	82 m^3/day	
	Type of Work Required	Partial construction		

12.5 Village Profile of Sites in Dahmar Governorate

	Required Facilities	Component	To be Constructed by	Notes
		Pump for Deep Well	Donor	Replace
		Eng./Gen. for Deep Well	Donor	Replace
		Pump House for Deep We	Donor/Village	Rehabilitation
		Pump for Booster No.1	Donor	Replace
		Eng./Gen. for Booster No.	Donor	Replace
		Pump House for Booster N	Donor/Village	Rehabilitation
		Pump for Booster No.2	Donor	New
		Eng./Gen. for Booster No.	Donor	New
		Pump House for Booster N	Donor/Village	New
		Booster Tank	Donor	Replace or Rehabilitation x 2
		Distribution Tank	Donor	Replace or Rehabilitation
		Pumping Main	Donor	Rehabilitation and New
		Distribution Main	Donor	New
		Public Tapstand	Donor	New
		House Connections	Village	New
	Accessibility	Very difficult, approach through rocky mountain road		
	Security			
	Observation			

OPERATION AND MAINTENANCE PANEL

No.	Item	Description
	No. of Village Head (Sheikh)	?
	No. of Tribe	1
	Observation in Current Supply Scheme	Power down of pump unit in borehole is observed since 10 years ago.
		Borehole pump unit has been frequently repaired and maintained, which cost YR 50,000 – 70,000 per maintenance 5 – 10 years ago. However, problem has not been solved.
		Borehole pump unit has been also taken to the workshop for overhaul maintenance, but problem is not also solved.
		Spare parts of borehole unit are purchased in Sana'a by the community.
		Community members mentioned borehole pump units has been repaired more than 50 times for the last 10 years.
		Cost for maintenance and repair of borehole pump units are mostly borne by Sheikh.
		Borehole pump unit is operated for 6 hours.
		Another borehole is drilled in the village by Sheikh, but dry.
	Mode of Ownership	No legal arrangement for community ownership is made.
		No handing-over document is prepared.
	Mode of Management Entity	There is no CBO setting. The scheme is managed by Aqil (as scheme manager) and Sheikh, with pump operator appointed by Sheikh (Nephew of Sheikh).
		Financial and administrative management is also carried out by Aqil and Sheikh.
		Decision in the scheme management is largely made by the Sheikh and Aqil, through village authority meetings.
	Organizational Management	No constitution for the scheme management is prepared.
		No legal status is provided for the management body (Sheikh and Aqil management in traditional setting).
		Manager (Aqil), Sheikh, and operator are work on voluntary base.
	Technical Operation and Maintenance	No technical manual is prepared.
		No operation and maintenance record is kept.
		Major repair: Borehole pump overhaul was carried out, hiring contractor (C/A to Existing Scheme Management Panel).
		Funding for major repair and maintenance is borne by Sheikh.
	Financial Management and Transparency	Daily operation cost is borne by the community (users), by raising fund selling qut and vegetable when available.
		Daily operation cost is collected by Aqil (Scheme Manager).
		Scheme Manager (Aqil) and operator works on voluntary basis.
	Stakeholder Involvement / Responsibility Sharing	No training had been provided by stakeholders.
		No assistance by District Council and GARWSP are mentioned.
	Community Contribution	There was no community contribution in the construction of existing scheme.
		Pipe transportation and laying is prepared by the community in future project.
	Community Contracting-Out	Ad hoc contract for borehole pump maintenance (overhaul) is concluded with contractor.
		There is no other community contracting-out setting.
	Conflict Resolution	No conflict cases are mentioned.
	Pro-Gender and Pro-Poor	
	Remarks	There is another water source (borehole?) available about 3 km away from the community. However, it is located in another village, which can not be shared with the community due to tribal conflict in usage.
		Spring water is also available in distance (3-4 km away form the community) located in another village, which can not shared with. Water is not reliable and amount is little.
		Six to seven households installed private water tank connecting existing water scheme. Water from those private tanks are provided to the community at free, and used only for
		This community is located on the top of mountain in the remote area from the main road. It is observed that the community is relatively poor.

12.5 Village Profile of Sites in Dahmar Governorate

SITE IDENTIFICATION PANEL

No.	Item	Description					
	Code No.	D-06					
	Site Name	Wardasan					
	Sub-District (Uzlat)						
	District	Ans					
	Governorate	Dahamar					
	Coordinates	Latitude	Longitude				
	Coordinates (Measured Location)						
	Annual precipitation (rainfall)	480 mm					
	Population (2005)	2,146					
	Population Forecast (2016)	2,895					
	No. of Village (Qariah) in Total						
	No. of Village (Qariah) to be served						
	Village (Qariah) in the Community	Name	Population	Household	Coordinate (Lat / Lon)		
		Jabal Al Sharq					

EXISTING WATER SUPPLY SCHEME PANEL

No.	Item	Description					
	Functioning	Partially existing					
	Components of Existing Water Supply Scheme	Component	Specification		Condition	Year	Fund
		Pump for Deep Well	Vertical	CAPRARI		2002	Private
		Engine for Deep Well		Kubota		2002	Private
		Pump House for Deep We					
		Pump for Booster					
		Engi./Gen. for Booster					
		Pump House for Booster					
		Booster Tank					
		Distribution Tank	RC	50m3		2005	GARWSP
		Pumping Main					
		Distribution Main					
		Public Tapstand					
		House Connection					
	Observations	Private borehole to be used for project was handed over to the community.					

WATER SOURCE PANEL

No.	Item	Description			
	【Borehole Code】				
	Grid (UTM)	North	East		
		1593048	429221		
	Grid (Lat/Lon)	Lat. N	Lon. E		
		14°24' 32.5"	44°20' 36.4"		
	Present Condition (Pump Type)	Working	Vertical pump		
	Elevation (m)	2,118 m			
	Aquifer/Geological Description				
	Year of Construction	1998			
	Fund	Private			
	Depth (m)	220 m			
	Casing Diameter (inch)	8 inch			
	Screen				
	Static Water Level (G.L.-m)	89.65 m			
	Dynamic Water Level (G.L.-m)	131.9 m			
	Drawdown (m)	42.25 m			
	Discharge (g/min)	8 g/min	0.5 L/sec		
	Specific Capacity	0.012 L/s/m			
	EC (mS/m)	143.1 mS/m			
	pH	8.18			
	Temperature ('C)	32.5			
	Remarks				

12.5 Village Profile of Sites in Dahmar Governorate

WATER SUPPLY PLANNING PANEL					
No.	Item	Description			
	【Design Parameter】				
	No. of Villages in Total	0			
	No. of Villages to be Covered	0			
	Current Population (2006)	2,146			
	Design Population (2016)	2,895			
	Design Water Supply Rate	L/c/d	0 m^3/day		
	Type of Work Required	New construction			
	Required Facilities	Component	To be Constructed by	Notes	
		Pump for Deep Well	Donor	Replace	
		Eng./Gen. for Deep Well	Donor	Replace	
		Borehole Pump House	Donor/Village	New	
		Pump for Booster			
		Eng./Gen. for Booster			
		Pump House for Booster			
		Booster Tank			
		Distribution Tank		Already constructed	
		Pumping Main	Donor	New	
		Distribution Main	Donor	New	
		Public Tapstand	Donor	New (for mosque, school and clinic only	
		House Connections	Village	New	
	Accessibility				
	Security				
	Observation				

OPERATION AND MAINTENANCE PANEL		
No.	Item	Description
	No. of Village Head (Sheikh)	
	No. of Tribe	
	Observation in Current Supply Scheme	
	Mode of Ownership	
	Mode of Management Entity	
	Organizational Management	
	Technical Operation and Maintenance	
	Financial Management and Transparency	
	Stakeholder Involvement / Responsibility Sharing	
	Community Contribution	
	Community Contracting-Out	
	Conflict Resolution	
	Pro-Gender and Pro-Poor	
	Remarks	

12.5 Village Profile of Sites in Dahmar Governorate

SITE IDENTIFICATION PANEL						
No.	Item	Description				
	Code No.	D-07				
	Site Name	Al Asakera				
	Sub-District (Uzlat)					
	District	Mayfa'a				
	Governorate	Dahmar				
	Coordinates	Latitude	Longitude			
	Coordinates (Measured Location)					
	Annual precipitation (rainfall)	440 mm				
	Population (2006)	1,944				
	Population Forecast (2016)	2,623				
	No. of Village (Qariah) in Total					
	No. of Village (Qariah) to be served					
	Village (Qariah) in the Community	Name	Population	Household	Coordinate (Lat / Lon)	
		Al Asakera	5,072	501		

EXISTING WATER SUPPLY SCHEME PANEL							
No.	Item	Description					
	Functioning	Partially existing					
	Components of Existing Water Supply Scheme	Component	Specification		Condition	Year	Fund
		Pump for Deep Well					
		Eng./Gen. for Deep Well					
		Pump House for Deep We					
		Pump for Booster					
		Eng./Gen. for Booster					
		Pump House for Booster					
		Booster Tank	RC	40m3		2005	GARWSP
		Distribution Tank	RC	50m3		2005	GARWSP
		Pumping Main					
		Distribution Main					
		Public Tapstand					
		House Connection					
	Observations	Now using 8 private wells drilled about 7 years ago.					

WATER SOURCE PANEL				
No.	Item	Description		
	[Borehole Code]			
	Grid (UTM)	North	East	
		1607499	464141	
	Grid (Lat/Lon)	Lat. N	Lon. E	
		14°32' 24.8"	44°40' 01.7"	
	Present Condition (Pump Type)	Capped		
	Elevation (m)	2,589 m		
	Aquifer/Geological Description			
	Year of Construction	1999		
	Fund	GARWSP		
	Depth (m)	304 m		
	Casing Diameter (inch)	8 inch		
	Screen			
	Static Water Level (G.L.-m)	193.58 m		
	Dynamic Water Level (G.L.-m)	195.13 m		
	Drawdown (m)	1.55 m		
	Discharge (g/min)	71 g/min	4.5 L/sec	
	Specific Capacity	2.903 L/s/m		
	EC (mS/m)	100.4 mS/m		
	pH	7.07		
	Temperature ('C)	37.7		
	Remarks			

12.5 Village Profile of Sites in Dahmar Governorate

WATER SUPPLY PLANNING PANEL				
No.	Item	Description		
	【Design Parameter】			
	No. of Villages in Total	0		
	No. of Villages to be Covered	0		
	Current Population (2006)	1,944		
	Design Population (2016)	2,623		
	Design Water Supply Rate	40 L/c/d	105 m^3/day	
	Type of Work Required	New construction		
	Required Facilities	Component	To be Constructed by	Notes
		Pump for Deep Well	Donor	New
		Eng./Gen. for Deep Well	Donor	New
		Pump House for Deep We	Donor/Village	New
		Pump for Booster	Donor	New x 2
		Eng./Gen. for Booster	Donor	New x 2
		Pump House for Booster	Donor/Village	New x 2
		Booster Tank No.1	GARWSP	Already constructed
		Booster Tank No.2	Donor	New
		Distribution Tank	GARWSP	Already constructed
		Pumping Main	Donor	New
		Distribution Main	Donor	New
		Public Tapstand	Donor	New (for mosque, school and clinic only
		House Connections	Village	New
	Accessibility	Access by unpaved dirt road		
	Security	Active volcano between Dahmar city and site		
	Observation			

OPERATION AND MAINTENANCE PANEL								
No.	Item	Description						
	No. of Village Head (Sheikh)							
	No. of Tribe							
	Observation in Current Supply Scheme							
	Mode of Ownership							
	Mode of Management Entity							
	Organizational Management							
	Technical Operation and Maintenance							
	Financial Management and Transparency							
	Stakeholder Involvement / Responsibility Sharing							
	Community Contribution							
	Community Contracting-Out							
	Conflict Resolution							
	Pro-Gender and Pro-Poor							
	Remarks							

12.5 Village Profile of Sites in Dahmar Governorate

SITE IDENTIFICATION PANEL

No.	Item	Description				
	Code No.	D-08				
	Site Name	Masneat Abdul Aziz				
	Sub-District (Uzlat)					
	District	Mayfa'a				
	Governorate	Dahmar				
	Coordinates	Latitude	Longitude			
	Coordinates (Measured Location)					
	Annual precipitation (rainfall)	460 mm				
	Population (2006)	406				
	Population Forecast (2016)	548				
	No. of Village (Qariah) in Total					
	No. of Village (Qariah) to be served					
	Village (Qariah) in the Community	Name	Population	Household	Coordinate (Lat / Lon)	
		Masna'at Abdulazeez	406	53		

EXISTING WATER SUPPLY SCHEME PANEL

No.	Item	Description					
	Functioning	Partially existing					
	Components of Existing Water Supply Scheme	Component	Specification		Condition	Year	Fund
		Pump for Deep Well					
		Eng./Gen. for Deep Well					
		Pump House for Deep We	Concrete block			2004	Village
		Pump for Booster					
		Eng./Gen. for Booster					
		Pump House for Booster					
		Booster Tank					
		Distribution Tank	RC	25m3		2005	GARWSP
		Pumping Main					
		Distribution Main					
		Public Tapstand					
		House Connection					
	Observations	Distribution tank requires painting.					

WATER SOURCE PANEL

No.	Item	Description			
	【Borehole Code】				
	Grid (UTM)	North	East		
		1597208	449464		
	Grid (Lat/Lon)	Lat. N	Lon. E		
		14°26' 49.2"	44°31' 51.8"		
	Present Condition (Pump Type)	Capped			
	Elevation (m)	2,508 m			
	Aquifer/Geological Description				
	Year of Construction	2004			
	Fund	GARWSP			
	Depth (m)	268 m			
	Casing Diameter (inch)	8 inch			
	Screen				
	Static Water Level (G.L.-m)	62 m			
	Dynamic Water Level (G.L.-m)	123.7 m			
	Drawdown (m)	61.7 m			
	Discharge (g/min)	71 g/min		4.5 L/sec	
	Specific Capacity	0.073 L/s/m			
	EC (mS/m)	34.2(39)	mS/m		
	pH	8.25(8)			
	Temperature ('C)	33.5			
	Remarks				

12.5 Village Profile of Sites in Dahmar Governorate

WATER SUPPLY PLANNING PANEL				
No.	Item	Description		
	【Design Parameter】			
	No. of Villages in Total	0		
	No. of Villages to be Covered	0		
	Current Population (2006)	406		
	Design Population (2016)	548		
	Design Water Supply Rate	40 L/c/d	22 m^3/day	
	Type of Work Required	New construction		
	Required Facilities	Component	To be Constructed by	Notes
		Pump for Deep Well	Donor	New
		Eng./Gen. for Deep Well	Donor	New
		Pump House for Deep We	Village	Already constructed
		Pump for Booster		
		Eng./Gen. for Booster		
		Pump House for Booster		
		Booster Tank		
		Distribution Tank	GARWSP	Almost completed
		Pumping Main	Donor	New
		Distribution Main	Donor	New
		Public Tapstand	Donor	New (for mosque, school and clinic only
		House Connections	Village	New
	Accessibility			
	Security			
	Observation			

OPERATION AND MAINTENANCE PANEL		
No.	Item	Description
	No. of Village Head (Sheikh)	1
	No. of Tribe	1
	Observation in Current Supply Scheme	New scheme is under construction.
		Pump house is constructed by the community.
		Arrangement for further scheme construction and community contribution is not consulted nor agreed, so that some confusion among community and conflict/distrust with GARWSP is observed.
		Pipeline installation is promised in 2005 by GARWSP, although currently prolonged to Feb
		GARWSP insists the trench digging for pipeline be done by the community for GARWSP installing pipelines.
		Community members refuse the trench digging due to hard rocks in the ground, insisting it is responsibility of GARWSP.
		Community members further mentioned trench digging is not necessary if galvanized pipelines are used.
		No organized community dialogue and consultation is made by GARWSP, although community is prepared in other form of contribution such as pipe transportation from GARWSP Branch Office and pipe laying.
	Mode of Ownership	N/A
	Mode of Management Entity	Community representatives, one each from sub-village, are selected by community recommendation.
		Representatives are further planning to evolve them to the management body/committee.
	Organizational Management	Constitution will be prepared after formation of management body/committee
	Technical Operation and Maintenance	N/A
	Financial Management and Transparency	Water tariff will be set by reviewing actual expense after operation of the scheme.
	Stakeholder Involvement / Responsibility Sharin	No Local Council involvement is observed.
	Community Contribution	No organized and written arrangement for further construction and community contribution is made between GARWSP and the community.
		Community refuses trench digging for pipeline installation, although the provision of pipe transportation and laying is agreeable.
	Community Contracting-Out	N/A
	Conflict Resolution	No conflict cases are mentioned.
	Pro-Gender and Pro-Poor	N/A
	Remarks	Organized community consultation and dialogue is highly required to define responsibilities of both community and GARWSP in construction of scheme.

12.6 Village Profile of Sites in Ibb Governorate

SITE IDENTIFICATION PANEL

No.	Item	Description				
	Code No.	I-01				
	Site Name	Asfal Bani Saba				
	Sub-District (Uzlat)	Bani Saba				
	District	Al Qafr				
	Governorate	Ibb				
	Coordinates	Latitude	Longitude			
	Coordinates (Measured Location)					
	Annual precipitation (rainfall)	750 mm				
	Population (2006)	9,311				
	Population Forecast (2016)	11,884				
	No. of Village (Qariah) in Total					
	No. of Village (Qariah) to be served					
	Village (Qariah) in the Community	Name	Population	Household	Coordinate (Lat / Lon)	
		Mamsa Al Suna	2,621	471		
		Mamsa Hamas	1,011	104		
		Mamsa Al Majarah	3,657	763		
		Mamsa Waqah	2,022	381		

EXISTING WATER SUPPLY SCHEME PANEL

No.	Item	Description				
	Functioning	No existing				
	Components of Existing Water Supply Scheme	Component	Specification	Condition	Year	Fund
		Pump for Deep Well				
		Eng./Gen. for Deep Well				
		Pump House for Deep We				
		Pump for Booster				
		Eng./Gen. for Booster				
		Pump House for Booster				
		Booster Tank				
		Distribution Tank				
		Pumping Main				
		Distribution Main				
		Public Tapstand				
		House Connection				
	Observations	Composed of 5 Mamsas. Two private wells are located in the wadi between Asfal Bani Saba and Al Sana, which are used by both sites.				

WATER SOURCE PANEL

No.	Item	Description		
	【Borehole Code】			
	Grid (UTM)	North	East	
		1573168	418538	
	Grid (Lat/Lon)	Lat. N	Lon. E	
		14°13' 43.8"	44°14' 41.8"	
	Present Condition (Pump Type)	Capped		
	Elevation (m)	1,812 m		
	Aquifer/Geological Description			
	Year of Construction	2005		
	Fund	GARWSP		
	Depth (m)	305 m		
	Casing Diameter (inch)	8-5/8 inch		
	Screen			
	Static Water Level (G.L.-m)	107.4 m		
	Dynamic Water Level (G.L.-m)	210 m		
	Drawdown (m)	6.3 m		
	Discharge (g/min)	71 g/min	4.5 L/sec	
	Specific Capacity	0.714 L/s/m		
	EC (mS/m)	43.4 mS/m		
	pH	8.40		
	Temperature (°C)	30.1		
	Remarks			

12.6 Village Profile of Sites in Ibb Governorate

WATER SUPPLY PLANNING PANEL				
No.	Item	Description		
	【Design Parameter】			
	No. of Villages in Total	0		
	No. of Villages to be Covered	0		
	Current Population (2006)	9,311		
	Design Population (2016)	11,884		
	Design Water Supply Rate	25 L/c/d	297 m^3/day	
	Type of Work Required	New construction		
	Required Facilities	Component	To be Constructed by	Notes
		Pump for Deep Well	Donor	New
		Eng./Gen. for Deep Well	Donor	New
		Pump House for Deep We	Donor/Village	New
		Pump for Booster	Donor	New × 2
		Eng./Gen. for Booster	Donor	New × 2
		Pump House for Booster	Donor/Village	New × 2
		Booster Tank	Donor	New × 2
		Distribution Tank	Donor	New
		Pumping Main	Donor	New
		Distribution Main	Donor	New
		Public Tapstand	Donor	New (for mosque, school and clinic only
		House Connection	Village	New
	Accessibility	Approach to site is difficult in rainy season, across wadi from I-02 Al Sana. Access inside of site is difficult due to steep hillsides.		
	Security			
	Observation			

OPERATION AND MAINTENANCE PANEL		
No.	Item	Description
	No. of Village Head (Sheikh)	
	No. of Tribe	
	Observation in Current Supply Scheme	
	Mode of Ownership	
	Mode of Management Entity	
	Organizational Management	
	Technical Operation and Maintenance	
	Financial Management and Transparency	
	Stakeholder Involvement / Responsibility Sharing	
	Community Contribution	
	Community Contracting-Out	
	Conflict Resolution	
	Pro-Gender and Pro-Poor	
	Remarks	

12.6 Village Profile of Sites in Ibb Governorate

SITE IDENTIFICATION PANEL

No.	Item	Description					
	Code No.	I-02					
	Site Name	Al Sana					
	Sub-District (Uzlat)						
	District	Al Makhader					
	Governorate	Ibb					
	Coordinates	Latitude	Longitude				
	Coordinates (Measured Location)						
	Annual precipitation (rainfall)	750 mm					
	Population (2006)	6,026					
	Population Forecast (2016)	7,691					
	No. of Village (Qariah) in Total						
	No. of Village (Qariah) to be served						
	Village (Qariah) in the Community	Name		Population	Household	Coordinate (Lat / Lon)	
		Najd Sahib		2,589	379		
		Madar		1,697	247	14°12' 50"	44°15' 12"
		Al San'a		1,740	253		

EXISTING WATER SUPPLY SCHEME PANEL

No.	Item	Description				
	Functioning	No existing				
	Components of Existing Water Supply Scheme	Component	Specification	Condition	Year	Fund
		Pump for Deep Well				
		Eng./Gen. for Deep Well				
		Pump House for Deep We				
		Pump for Booster				
		Eng./Gen. for Booster				
		Pump House for Booster				
		Booster Tank				
		Distribution Tank				
		Pumping Main				
		Distribution Main				
		Public Tapstand				
		House Connection				
	Observations					

WATER SOURCE PANEL

No.	Item	Description			
	[Borehole Code]				
	Grid (UTM)	North	East		
		1572955	417341		
	Grid (Lat/Lon)	Lat. N	Lon. E		
		14°13' 36.9"	44°14' 01.5"		
	Present Condition (Pump Type)	Capped			
	Elevation (m)	1,741 m			
	Aquifer/Geological Description				
	Year of Construction	2005			
	Fund	GARWSP			
	Depth (m)	272 m			
	Casing Diameter (inch)	8-5/8 inch			
	Screen				
	Static Water Level (G.L.-m)	36.1 m			
	Dynamic Water Level (G.L.-m)	201 m			
	Drawdown (m)	104.9 m			
	Discharge (g/min)	62 g/min		3.9 L/sec	
	Specific Capacity	0.037 L/s/m			
	EC (mS/m)	49.6 mS/m			
	pH	7.99			
	Temperature ('C)	31.2			
	Remarks				

12.6 Village Profile of Sites in Ibb Governorate

WATER SUPPLY PLANNING PANEL					
No.	Item	Description			
	【Design Parameter】				
	No. of Villages in Total	0			
	No. of Villages to be Covered	0			
	Current Population (2006)	6,026			
	Design Population (2016)	7,691			
	Design Water Supply Rate	30 L/c/d	231 m^3/day		
	Type of Work Required	New construction			
	Required Facilities	Component	To be Constructed by	Notes	
		Pump for Deep Well	Donor	New	
		Eng./Gen. for Deep Well	Donor	New	
		Pump House for Deep We	Donor/Village	New	
		Pump for Booster	Donor	New × 2	
		Eng./Gen. for Booster	Donor	New × 2	
		Pump House for Booster	Donor/Village	New × 2	
		Booster Tank	Donor	New × 2	
		Distribution Tank	Donor	New	
		Pumping Main	Donor	New	
		Distribution Main	Donor	New	
		Public Tapstand	Donor	New (for mosque, school and clinic only	
		House Connection	Village	New	
	Accessibility	Approach to site is difficult, from top of mountain. Access inside of site is difficult due to steep hillsides.			
	Security				
	Observation	Since borehole is located in wadi, need to consider protection from flood.			

OPERATION AND MAINTENANCE PANEL	
No.	Item
	No. of Village Head (Sheikh)
	No. of Tribe
	Observation in Current Supply Scheme
	Mode of Ownership
	Mode of Management Entity
	Organizational Management
	Technical Operation and Maintenance
	Financial Management and Transparency
	Stakeholder Involvement / Responsibility Sharing
	Community Contribution
	Community Contracting-Out
	Conflict Resolution
	Pro-Gender and Pro-Poor
	Remarks

12.6 Village Profile of Sites in Ibb Governorate

SITE IDENTIFICATION PANEL

No.	Item	Description					
	Code No.	I-03					
	Site Name	Mamsa al Marqab					
	Sub-District (Uzlat)	Al Marqab					
	District	AL Makhader					
	Governorate	Ibb					
	Coordinates	Latitude	Longitude				
	Coordinates (Measured Location)						
	Annual precipitation (rainfall)	920 mm					
	Population (2006)	2,810					
	Population Forecast (2016)	3,587					
	No. of Village (Qariah) in Total						
	No. of Village (Qariah) to be served						
	Village (Qariah) in the Community	Name	Population	Household	Coordinate (Lat / Lon)		
		Al Dar					
		Al Dakl					
		Al Marqab			14°11' 11"	44°12' 57"	
		Al Mady					
		Haronah					
		Al Mardam					
		Hara					
		Al Madrsah					
		Shab-Zaid					
		Najd Al Meryamah					
		Al Meryamah					
		Kolah Al Merymah					
		Najd Ibbn Alwaan		250-300	14°11' 35"	44°12' 02"	
		Al Hotetah					
		Al Mashrag					
		Al Airtha					
		Bait Massoud					
		Hathanah					

EXISTING WATER SUPPLY SCHEME PANEL

No.	Item	Description					
	Functioning	No existing					
	Components of Existing Water Supply Scheme	Component	Specification		Condition	Year	Fund
		Pump for Deep Well	Vertical	Engine		2006	Private, Tem
		Eng./Gen. for Deep Well					
		Pump House for Deep Well					
		Pump for Booster					
		Eng./Gen. for Booster					
		Pump House for Booster					
		Booster Tank					
		Distribution Tank					
		Pumping Main					
		Distribution Main					
		Public Tapstand					
		House Connection					
	Observations						

WATER SOURCE PANEL

No.	Item	Description			
	【Borehole Code】				
	Grid (UTM)	North	East		
		1568624	413955		
	Grid (Lat/Lon)	Lat. N	Lon. E		
		14°11' 15.3"	44°12' 09.1"		
	Present Condition (Pump Type)	Working (vertical)			
	Elevation (m)	1,648 m			
	Aquifer/Geological Description				
	Year of Construction	2005			
	Fund	GARWSP			
	Depth (m)	78 m			
	Casing Diameter (inch)	8 inch			
	Screen				
	Static Water Level (G.L.-m)	47.78 m			
	Dynamic Water Level (G.L.-m)	54.35 m			
	Drawdown (m)	6.57 m			
	Discharge (g/min)	25 g/min		1.6 L/sec	
	Specific Capacity	0.243 L/s/m			
	EC (mS/m)	69.4 mS/m			
	pH	7.12			
	Temperature ('C)	30.6			
	Remarks				

12.6 Village Profile of Sites in Ibb Governorate

WATER SUPPLY PLANNING PANEL				
No.	Item	Description		
	【Design Parameter】			
	No. of Villages in Total	0		
	No. of Villages to be Covered	0		
	Current Population (2006)	2,810		
	Design Population (2016)	3,587		
	Design Water Supply Rate	40 L/c/d	143 m^3/day	
	Type of Work Required	New construction		
	Required Facilities	Component	Constructed by	Notes
		Pump for Deep Well	Donor	New
		Eng./Gen. for Deep Well	Donor	New
		Pump House for Deep We	Donor/Village	New
		Pump for Booster	Donor	New
		Eng./Gen. for Booster	Donor	New
		Pump House for Booster	Donor/Village	New
		Booster Tank	Donor	New
		Distribution Tank	Donor	New
		Pumping Main	Donor	New
		Distribution Main	Donor	New
		Public Tapstand	Donor	New (for mosque, school and clinic only
		House Connection	Donor	New
	Accessibility	Difficult in rainy season, access through wadi		
	Security			
	Observation			

OPERATION AND MAINTENANCE PANEL		
No.	Item	Description
	No. of Village Head (Sheikh)	
	No. of Tribe	
	Observation in Current Supply Scheme	
	Mode of Ownership	
	Mode of Management Entity	
	Organizational Management	
	Technical Operation and Maintenance	
	Financial Management and Transparency	
	Stakeholder Involvement / Responsibility Sharing	
	Community Contribution	
	Community Contracting-Out	
	Conflict Resolution	
	Pro-Gender and Pro-Poor	
	Remarks	

12.6 Village Profile of Sites in Ibb Governorate

SITE IDENTIFICATION PANEL

No.	Item	Description				
	Code No.	I-04				
	Site Name	Al Jahlah & Al Meshraq				
	Sub-District (Uzlat)					
	District	Ibb				
	Governorate	Ibb				
	Coordinates	Latitude	Longitude			
	Coordinates (Measured Location)					
	Annual precipitation (rainfall)	1,000 mm				
	Population (2006)	10,467				
	Population Forecast (2016)	13,359				
	No. of Village (Qariah) in Total					
	No. of Village (Qariah) to be served					
	Village (Qariah) in the Community	Name	Population	Household	Coordinate (Lat / Lon)	
		Al Jahlah	1,700	211		
		Al Nafesh	450	69		
		Al Sulq	412	77		
		Al Jah	1,121	139		
		Al Meshraq	1,994	220		
		Thy Ajzab	1,815	186		
		Al Jasha	2,975	307		

EXISTING WATER SUPPLY SCHEME PANEL

No.	Item	Description				
	Functioning	No existing				
	Components of Existing Water Supply Scheme	Component	Specification	Condition	Year	Fund
		Pump for Deep Well				
		Eng./Gen. for Deep Well				
		Pump House for Deep We				
		Pump for Booster				
		Eng./Gen. for Booster				
		Pump House for Booster				
		Booster Tank				
		Distribution Tank				
		Pumping Main				
		Distribution Main				
		Public Tapstand				
		House Connection				
	Observations					

WATER SOURCE PANEL

No.	Item	Description			
	【Borehole Code】				
	Grid (UTM)	North	East		
		1540017	5418783		
	Grid (Lat/Lon)	Lat. N	Lon. E		
		13°55' 44.8"	44°14' 53.4"		
	Present Condition (Pump Type)	Capped			
	Elevation (m)	1,803 m			
	Aquifer/Geological Description				
	Year of Construction	2005			
	Fund	GARWSP			
	Depth (m)	305 m			
	Casing Diameter (inch)	8-5/8 inch			
	Screen				
	Static Water Level (G.L.-m)	14.9 m			
	Dynamic Water Level (G.L.-m)	110.2 m			
	Drawdown (m)	95.3 m			
	Discharge (g/min)	65 g/min	4.1 L/sec		
	Specific Capacity	0.043 L/s/m			
	EC (mS/m)	64.6 mS/m			
	pH	8.32			
	Temperature (°C)	27.0			
	Remarks				

12.6 Village Profile of Sites in Ibb Governorate

WATER SUPPLY PLANNING PANEL					
No.	Item	Description			
	【Design Parameter】				
	No. of Villages in Total	0			
	No. of Villages to be Covered	0			
	Current Population (2006)	10,467			
	Design Population (2016)	13,359			
	Design Water Supply Rate	25 L/c/d	334 m^3/day		
	Type of Work Required	New construction			
	Required Facilities	Component	To be Constructed by	Notes	
		Pump for Deep Well	Donor	New	
		Eng./Gen. for Deep Well	Donor	New	
		Pump House for Deep We	Donor/Village	New	
		Pump for Booster	Donor	New x 2	
		Eng./Gen. for Booster	Donor	New x 2	
		Pump House for Boosler	Donor/Village	New	
		Booster Tank	Donor	New	
		Distribution Tank	Donor	New × 2	
		Pumping Main	Donor	New x 2	
		Distribution Main	Donor	New x 2	
		Public Tapstand	Donor	New (for mosque, school and clinic only	
		House Connections	Village	New	
	Accessibility	Approach to site is good, next to paved road, but access in site through rugged mountain road			
	Security				
	Observation				

OPERATION AND MAINTENANCE PANEL		
No.	Item	Description
	No. of Village Head (Sheikh)	
	No. of Tribe	
	Observation in Current Supply Scheme	
	Mode of Ownership	
	Mode of Management Entity	
	Organizational Management	
	Technical Operation and Maintenance	
	Financial Management and Transparency	
	Stakeholder Involvement / Responsibility Sharing	
	Community Contribution	
	Community Contracting-Out	
	Conflict Resolution	
	Pro-Gender and Pro-Poor	
	Remarks	

12.7 Village Profile of Sites in Taiz Governorate

SITE IDENTIFICATION PANEL

No.	Item	Description			
	Code No.	T-01			
	Site Name	Muayteeb			
	Sub-District (Uzlat)				
	District	Mawiyah			
	Governorate	Taiz			
	Coordinates	Latitude	Longitude		
	Coordinates (Measured Location)				
	Annual precipitation (rainfall)	800 mm			
	Population (2006)	2,432			
	Population Forecast (2016)	3,104			
	No. of Village (Qariah) in Total				
	No. of Village (Qariah) to be served				
	Village (Qariah) in the Community	Name	Population	Household	Coordinate (Lat / Lon)
		Al Muayteeb	2,432	304	

EXISTING WATER SUPPLY SCHEME PANEL

No.	Item	Description				
	Functioning	Non-functional				
	Components of Existing Water Supply Scheme	Component	Specification	Condition	Year	Fund
		Pump for Deep Well	Submersible		1985	Japan
		Generator for Deep Well	20HP Jianghuai		2004	
		Pump House for Deep We				
		Pump for Booster				
		Eng./Gen. for Booster				
		Pump House for Booster				
		Booster Tank				
		Distribution Tank	Steel panel	100m3 elevated 1m	1985	Japan
		Pumping Main	SGP	Removed	1985	Japan
		Distribution Main	SGP	Removed	1985	Japan
		Public Tapstand				
		House Connection	All houses			
	Observations	Japanese grant project. Original borehole dried up in 1995, but when it rains, some water can be pumped. Now, using private well of sheikh drilled in 2004. Original borehole generator installed in 1985 by Japan, but burned and replaced in 2004.				

WATER SOURCE PANEL

No.	Item	Description		
	【Borehole Code】	T-01 New		
	Grid (UTM)	North	East	
		1510149	415656	
	Grid (Lat/Lon)	Lat. N	Lon. E	
		13°39' 32.5"	44°13' 12.6"	
	Present Condition (Pump Type)	Capped		
	Elevation (m)	1291 m		
	Aquifer/Geological Description			
	Year of Construction	2005		
	Fund	GARWSP		
	Depth (m)	300 m		
	Casing Diameter (inch)	8 inch		
	Screen	56m-68m, 164m-?, 194m-248m		
	Static Water Level (G.L.-m)	157.24 m		
	Dynamic Water Level (G.L.-m)	200 m		
	Drawdown (m)	42.76 m		
	Discharge (g/min)	95 g/min	6.0 L/sec	
	Specific Capacity	0.14 L/s/m		
	EC (mS/m)	252.0 mS/m		
	pH	7.22		
	Temperature ('C)	61.1		
	Remarks			
	【Borehole Code】	T-01/2 Old		
	Grid (UTM)	North	East	
	Grid (Lat/Lon)	Lat. N	Lon. E	
		13°39' 47"	44°12' 58"	
	Present Condition (Pump Type)	Working only when it rains Submersible pump		
	Elevation (m)	1,295 m		
	Aquifer/Geological Description			
	Year of Construction	1985?		
	Fund	Japan		
	Depth (m)	m		
	Casing Diameter (inch)	inch		
	Screen			
	Static Water Level (G.L.-m)	m		
	Dynamic Water Level (G.L.-m)	m		
	Drawdown (m)	m		
	Discharge (g/min)	g/min	0.0 L/sec	
	Specific Capacity	L/s/m		
	EC (mS/m)	mS/m		
	pH			
	Temperature ('C)			
	Remarks			

12.7 Village Profile of Sites in Taiz Governorate

WATER SUPPLY PLANNING PANEL				
No.	Item	Description		
	【Design Parameter】			
	No. of Villages in Total	0		
	No. of Villages to be Covered	0		
	Current Population (2006)	2,432		
	Design Population (2016)	3,104		
	Design Water Supply Rate	L/c/d	m^3/day	
	Type of Work Required			
	Required Facilities	Component	To be Constructed by	Notes
		Pump for Deep Well	Donor	New
		Eng./Gen. for Deep Well	Donor	New
		Pump House for Deep We	Donor/Village	New
		Pump for Booster		
		Eng./Gen. for Booster		
		Pump House for Booster		
		Booster Tank		
		Distribution Tank		
		Pumping Main	Donor	New
		Distribution Main	Donor	New
		Public Tapstand	Donor	New (for mosque, school and clinic only
		House Connection	Village	
	Accessibility	Good, near paved road, but access between villages through wadi		
	Security			
	Observation			

OPERATION AND MAINTENANCE PANEL		
No.	Item	Description
	No. of Village Head (Sheikh)	1
	No. of Tribe	1
	Observation in Current Supply Scheme	Pump unit (submersible pump) for borehole was malfunctioned in 1988, possibly because of operation in the condition that the water level became considerably lower than the depth where the submersible pump was installed.
		Pump unit was replaced by GARWSP in 1989. However, the replaced one also broken down soon in the same year, possibly because of the same reason for the malfunction of the first pump unit.
		Private well (borehole) was constructed in 2005 for irrigation purpose in fifty (50) meters away from the borehole constructed in 1984. The private well has depth of 400m with good yield capacity, equipped with vertical pump unit. However, water yielded from the borehole is hot and not suitable for irrigation. The private well is currently providing water for the community for domestic use at free of charge, while selling water for water truck (water venders) at YR 400 per tank. The pump unit is installed and operation cost (fuel) is borne by the well owner.
	Mode of Ownership	There was no legal ownership arrangement in the scheme management.
		Any handing-over document and agreement was not prepared.
	Mode of Management Entity	The supply scheme during its operation had been managed by the following three (3) persons appointed by community authority, former GARWES and former Local Council; a) Manager, b) Financial Manager/Accountant, and c) Operator/Watchman.
	Organizational Management	No constitution for CBO scheme management was prepared.
	Technical Operation and Maintenance	Pump unit for borehole was replaced by the former GARWE, instead of the community.
	Financial Management and Transparency	Tariff structure: YR 20-40/households/month in mid-late 80s.
		Water tariff charge is not metered.
		Water through a public stand was provided at free of charge.
		Income and expenditure had been balanced during the scheme was operated.
	Stakeholder Involvement / Responsibility Sharin	Former GARWE and Local Council involved in appointment of community-based management body (management members).
		Current Sheikh of the community is Director of Financial Affairs in Local Council.
	Community Contribution	No community contribution was provided in existing scheme construction.
		Willingness to contribute in future project is observed.
	Community Contracting-Out	N/A
	Conflict Resolution	No community conflict cases were mentioned.
	Pro-Gender and Pro-Poor	Water through a public stand was provided at free of charge mainly for the poor who could not afford house connection.
	Remarks	Land for new borehole constructed by GARWSP in 2005 was donated by Sheikh. Written agreement for land ownership is not confirmed.
		Water yielded from the borehole constructed in 2005 is also hot. Water quality shall be properly analyzed.

12.7 Village Profile of Sites in Taiz Governorate

SITE IDENTIFICATION PANEL

No.	Item	Description				
	Code No.	T-02				
	Site Name	Bani Al Suror				
	Sub-District (Uzlat)					
	District	Al Ma'afer				
	Governorate	Taiz				
	Coordinates	Latitude	Longitude			
	Coordinates (Measured Location)					
	Annual precipitation (rainfall)	550 mm				
	Population (2006)	9,385				
	Population Forecast (2016)	11,978				
	No. of Village (Qariah) in Total	6				
	No. of Village (Qariah) to be served	6				
	Village (Qariah) in the Community	Name	Population	Household	Coordinate (Lat / Lon)	
		Bani Suror	1,525	1,043	13°22' 07"	43°59' 04"
		Al Suliyah	2,170			
		Wadi Mahjar	1,008		13°22' 49"	43°57' 55"
		Athkar	2,499		13°23' 13"	43°58' 51"
		Al Sharaf	1,546		13°23' 13"	43°56' 59"
		Al Souk (Al Nashama)	637		13°23' 13"	43°58' 04"

EXISTING WATER SUPPLY SCHEME PANEL

No.	Item	Description				
	Functioning	Functional				
	Components of Existing Water Supply Scheme	Component	Specification		Condition	Year / Fund
		Pump for Deep Well (Bir 1	Submersible			1994 Village
		Generator for Deep Well (I	60kVA	Meco alled spa		1994 Village
		Pump House for Deep We	RC			1994 GAREW
		Pump for Deep Well (Bir 2	Vertical	Al-Kohali	Seasonal	1994 GAREW
		Engine for Deep Well (Bir	405kVA	BGICEP		1994 GAREW
		Pump House for Deep We	RC			1994 GAREW
		Pump for Deep Well (Bir 3	Vertical	GRUNDFOS		2002 GARWSP
		Engine for Deep Well (Bir	84kW	John Deere		2003 GARWSP
		Pump House for Deep We	RC			2001 GARWSP
		Pump for Booster No.1	Horizontal	HM		2000 GARWSP
		Engine for Booster No.1		IVECO		2000 GARWSP
		Pump House for Booster N	RC			2000 GARWSP
		Pump for Booster No.2	Horizontal	HM		2004 Village
		Engine for Booster No.2		Technodrive		2004 Village
		Pump House for Booster N	RC			2004 Village
		Booster Tank No.1	RC	25m3		1994 GAREW
		Booster Tank No.2	RC	50m3		2000 GARWSP
		Sub-Main Tank No.1	RC	25m3		1994 GAREW
		Sub-Main Tank No.2	RC	150m3		1998 GAREW
		Distribution Tank No.1	RC	150m3		1994 GAREW
		Distribution Tank No.2	RC	100m3		2000 GARWSP
		Pumping Main	SGP			1994 GAREW
		Distribution Main	SGP			1994 GAREW
		Public Tapstand	16 for mosques, 4 for schools, all with meters			
		House Connection	1,499 with meters			
	Observations	If resident used water for irrigation, he is fined YR500/m^3+penalty and supply is stopped. Residents buy water for irrigation.				

WATER SOURCE PANEL

No.	Item	Description		
	[Borehole Code]	T-01/1 Bir 1		
	Grid (UTM)	North	East	
	Grid (Lat/Lon)	Lat. N	Lon. E	
		13°22' 51.9"	43°58' 00.7"	
	Present Condition (Pump Type)	Working	Submersible pump	
	Elevation (m)	1,271 m		
	Aquifer/Geological Description			
	Year of Construction	1982		
	Fund	Iraq (Drilled by NGO)		
	Depth (m)	230 m		
	Casing Diameter (inch)	inch		
	Screen			
	Static Water Level (G.L.-m)	183.9 m		
	Dynamic Water Level (G.L.-m)	186.4 m		
	Drawdown (m)	2.5 m		
	Discharge (g/min)	41 g/min	2.6 L/sec	
	Specific Capacity	2.04 L/s/m		
	EC (mS/m)	113.3 mS/m		
	pH	7.05		
	Temperature ('C)	37.5		
	Remarks			

12.7 Village Profile of Sites in Taiz Governorate

【Borehole Code】	T-02/2 Bir 2			
Grid (UTM)	North	East		
Grid (Lat/Lon)	Lat. N	Lon. E		
	13°22' 34.8"	43°57' 39.2"		
Present Condition (Pump Type)	Working (seasonal)		Vertical pump	
Elevation (m)	1,250	m		
Aquifer/Geological Description				
Year of Construction	1984			
Fund	LCCD			
Depth (m)	60	m		
Casing Diameter (inch)		inch		
Screen				
Static Water Level (G.L.-m)		m		
Dynamic Water Level (G.L.-m)		m		
Drawdown (m)		m		
Discharge (g/min)		g/min	0.0 L/sec	
Specific Capacity		L/s/m		
EC (mS/m)	100.2	mS/m		
pH	7.19			
Temperature ('C)	28.8			
Remarks	Seasonal			
【Borehole Code】	T-02/3 Bir 3			
Grid (UTM)	North	East		
Grid (Lat/Lon)	Lat. N	Lon. E		
	13°23' 52.6"	43°58' 25.6"		
Present Condition (Pump Type)	Working	Submersible pump		
Elevation (m)	1,209	m		
Aquifer/Geological Description				
Year of Construction	2001			
Fund	GARWSP			
Depth (m)	251	m		
Casing Diameter (inch)	8	inch		
Screen				
Static Water Level (G.L.-m)	117.62	m		
Dynamic Water Level (G.L.-m)	138.73	m		
Drawdown (m)	21.11	m		
Discharge (g/min)	41	g/min	2.6 L/sec	
Specific Capacity	0.123	L/s/m		
EC (mS/m)	122.4	mS/m		
pH	7.42			
Temperature ('C)	39.2			
Remarks				
【Borehole Code】	T-02/4 Bir 4			
Grid (UTM)	North	East		
	1477678	388826		
Grid (Lat/Lon)	Lat. N	Lon. E		
	13°21' 52.2"	43°58' 24.2"		
Present Condition (Pump Type)	Capped			
Elevation (m)	1226	m		
Aquifer/Geological Description				
Year of Construction	1998			
Fund	Village			
Depth (m)	190	m		
Casing Diameter (inch)	8	inch		
Screen				
Static Water Level (G.L.-m)	137.2	m		
Dynamic Water Level (G.L.-m)	139.5	m		
Drawdown (m)	2.3	m		
Discharge (g/min)	86	g/min	5.4 L/sec	
Specific Capacity	2.348	L/s/m		
EC (mS/m)	98.8	mS/m		
pH	6.96			
Temperature ('C)	29.5			
Remarks				

12.7 Village Profile of Sites in Taiz Governorate

WATER SUPPLY PLANNING PANEL

No.	Item	Description			
	【Design Parameter】				
	No. of Villages in Total	6			
	No. of Villages to be Covered	6			
	Current Population (2006)	9,385			
	Design Population (2016)	11,978			
	Design Water Supply Rate	40 L/c/d	479 m^3/day		
	Type of Work Required	Rehabilitation			
	Required Facilities	Component	Construction	Notes	
		Pump for Deep Well (Bir 1	Donor	Replace	
		Eng./Gen. for Deep Well (I	Donor	Replace	
		Pump for Deep Well (Bir 3	Donor	Replace	
		Eng./Gen. for Deep Well (I	Donor	Replace	
		Pump for Deep Well (Bir 4	Donor	New	
		Eng./Gen. for Deep Well (I	Donor	New	
		Pump House for Deep We	Donor/Village	New	
		Pump for Booster No.1	Donor	Replace	
		Eng./Gen. for Booster No.	Donor	Replace	
		Pump for Booster No.2	Donor	Replace	
		Eng./Gen. for Booster No.	Donor	Replace	
		Pump for Booster	Donor	New	
		Eng./Gen. for Booster	Donor	New	
		Pump House for Booster	Donor/Village	New	
		Booster Tank	Donor	New	
		Distribution Tank			
		Pumping Main	Donor	New (from new deep well bir 4)	
		Distribution Main			
		Public Tapstand			
		House Connection			
	Accessibility				
	Security				
	Observation				

OPERATION AND MAINTENANCE PANEL

No.	Item	Description
	No. of Village Head (Sheikh)	1
	No. of Tribe	1
	Observation in Current Supply Scheme	Pump unit for borehole constructed in 1984 has broken down. The unit, which is made in China, is not repaired due to unavailability of spare parts in Yemen.
		Bani-Surwr is one of village in the served area/community.
		Water shortage is observed. In some area, particularly in Bani-Surwr, the community depends on water truck, which costs YR 1,600/m3.
		The scheme covering area of 6km x 7km.
	Mode of Ownership	Legal ownership is vested to the community-based organization with written agreement /memorandum concluded with Local Council and GARWSP Branch Office.
	Mode of Management Entity	Administrative Boar for Water is established, of which membership is consisted of; a) chairperson (1), b) vice chairperson (1), c) financial manager (1), d) accountant (1), e) administrative clerk (1), and f) board member (5).
		General Assembly, in which all users participate, elected sixty five (65) user representatives (one (1) representative each from twenty (20) users). The user representatives of General Assembly further elected Administrative Board for Water among them.
		First CBO is established in 1985 (Current CBO setting is established in 2002?)
		Terms of office for the Administrative Board are four (4) years. Last election was conducted in 2002.
		The Administrative Board is hiring the following operational staff; a) operators/watchman (3), b) meter reader (1), c) bill distributor/pipeline foreman (2).
	Organizational Management	The Administrative Board is registered under the Ministry of Social Affairs, with supervision of Local Council and GARWSP Branch Office.
		Administrative Board holds monthly meetings. The Board members mentioned that all decisions in the scheme management are made by the Board.
		General Assembly is supposed to call meetings once in a year, if necessary.
		General Assembly meeting is called once in four (4) years for election of user representatives and Administrative Board.

12.7 Village Profile of Sites in Taiz Governorate

	Technical Operation and Maintenance	Technical manual is prepared.			
		Operation records are kept for pump operation hours and consumption at each household (meter reading). Both records are compared to check water losses.			
		Service restriction and water rationing is undertaken, providing water for two (2) days in a week for each village, due to water shortage.			
		Water shortage is observed due to borehole capacity. New borehole is constructed in 1998, but it is not connected to the scheme yet.			
		One of whole pump unit was replaced six (6) years ago, of which cost is funded by			
		Pipeline was extended five (5) years ago, funded by GARWSP.			
		Two (distribution ?) tanks were constructed by GARWSP.			
		One of submersible pump is replaced in 2002, of which costs were borne by the community (Administrative Board).			
	Financial Management and Transparency	Water Tariff Structure:	1-3 m3:	YR 130/m3	
			4-10m3:	YR 160/m3	
			11m3:	YR 190/m3	
		The above tariff structure has been effective since August 2005.			
		Water bills are prepared by Administrative Board and distributed to each household. Users make their payments at the Office of Administrative Board.			
		Administrative Board owns (purchased) the following assets; a) second-hand pick-up truck (1) purchased in 2004, b) office constructed, c) land for new well ('98) purchased from land owner, and d) store house constructed in the Board office.			
		Financial records are kept.			
		Income in last month:	YR 1,850,700		
		Expenditure in last	YR 807,073		
		Income in last month is considerably high, due to the disconnection campaign for defaulters conduced by the Administrative Board.			
		Average Income:	YR 900,000/month		
		Average Expenditure:	YR 750,000/month		
		Expenditure Breakdown:	YR 258,000	Salary/Allowance	
			YR 300,000	Fuel	
			YR 200,000	Maintenance	
			YR 40,000	Donation (for the poor, widows, mosque, and	
		Personnel Costs:	Chairperson	YR 16,000-20,000/month (as Bonus)	
			Vice Chairperson	YR 16,000-20,000/month (as Bonus)	
			Accountant	YR 40,000/month	
			Treasurer	YR 20,000/month	
			Operator	YR 31,000/month	
			Meter Reader:	YR 22,000/month, YR 19,000/month	
		Administrative Board members except Accountant and Treasurer is working without salary. Chairperson and Vice-Chairperson are get bonus paid, according to management performance (possibly according to the income/profit in the scheme management), while all board members are paid with meeting allowance.			
	Stakeholder Involvement / Responsibility Sharing	GARWSP, Local Council and Ministry of Social Affairs are involved in handing-over and registration process.			
	Community Contribution	No community mobilization and training is provided by Local Council and GARWSP.			
		C/A Existing Supply Scheme Panel and Financial Management Panel.			
	Community Contracting-Out	Contract arrangement is made for Operators and Meter Readers.			
		There is no other private contracting-out.			
	Conflict Resolution	No conflict cases are mentioned.			
	Pro-Gender and Pro-Poor	N/A			
	Remarks	Economic scale merit in the scheme management is observed with served population of 12,000, which enables rehabilitation and expansion of the scheme and purchase of a vehicle, land for borehole construction, and storehouse construction with spare parts.			

12.7 Village Profile of Sites in Taiz Governorate

SITE IDENTIFICATION PANEL

No.	Item	Description
	Code No.	T-03
	Site Name	Sheb Humran
	Sub-District (Uzlat)	Al Shua'abah
	District	Al Ma'afer
	Governorate	Taiz
	Coordinates	Latitude / Longitude
	Coordinates (Measured Location)	
	Annual precipitation (rainfall)	600 mm
	Population (2006)	23,732
	Population Forecast (2016)	30,290
	No. of Village (Qariah) in Total	
	No. of Village (Qariah) to be served	

Village (Qariah) in the Community

Name	Population	Household	Coordinate (Lat / Lon)
Sha'ab Al Aridha	1,737	226	
Jahesa	3,697	585	
Al Dhahrah	1,804	287	
Al Awabel	614	94	
Al Janh	777	144	
Al Deer	651	88	
Khowah	2,802	383	
Al Anbooh	879	140	
Al Kunaina	636	96	
Al Waheez	960	130	
Shaisaran	718	114	
Sura'an	861	133	
Essab	1,241	185	
Kawkab	756	111	
Nakha'an	414	60	
Thy Habeel	4,006	615	
Souq Al Ahad	529	97	
Sheb Hemran	650	123	
Al Masha'er			
Al Messar			

EXISTING WATER SUPPLY SCHEME PANEL

No.	Item	Description
	Functioning	Functional

Components of Existing Water Supply Scheme

Component	Specification		Condition	Year	Fund
Pump for Deep Well (2) Al Mahas	Vertical	CAPRARI	Seasonal	1990	GAREW
Engine for Deep Well (2) Al Mahas		AIFO	Replaced	2004	GAREW
Pump House for Deep Well (2) Al Mahas	RC			2004	village
Pump for Deep Well (3) Teres	Vertical		Not used	1980	village
Engine for Deep Well (3) Teres			Not used	1980	village
Pump House for Deep Well (3) Teres	RC			1998	GAREW
Pump for Deep Well (4) Al Me'asha'ar	Submersible	GRUNDFOS		1996	GAREW
Generator for Deep Well (4) Al Me'asha'ar	84kW	John Deere		1996	GAREW
Pump House for Deep Well (4) Al Me'asha'ar	RC			1997	GAREW
Pump for Booster No.1	Horizontal	LANDINI		1994	GAREW
Engine for Booster No.1		John Deere	Replaced	2004	GARWSP
Pump House for Booster No.1	RC			1994	GAREW
Pump for Booster No.2	Horizontal	LANDINI		2004	GARWSP
Engine for Booster No.2	142kW	John Deere		2004	GARWSP
Pump House for Booster No.2	RC			2004	GARWSP
Booster Tank No.1	RC	25m3		1994	GAREW
Booster Tank No.2	RC	75m3		2000	GARWSP
Distribution Tank No.1	RC	75m3	Deteriorated	1986	village
Distribution Tank No.2	RC	75m3	Too small	1988	village
Present Main Tank	RC	75m3		2000	GARWSP
New Main Tank	RC	75m3		2006	village
Pumping Main	SGP				
Distribution Main	SGP				
Public Tapstand	15 for mosques, 12 for schools, 2 to clinics, all with meters				
House Connection	1,278				

Observations

12.7 Village Profile of Sites in Taiz Governorate

WATER SOURCE PANEL				
No.	Item	Description		
	【Borehole Code】	T-03/1 Al Jah		
	Grid (UTM)	North	East	
		1475729	396972	
	Grid (Lat/Lon)	Lat. N	Lon. E	
		13°20' 50.1"	44°02' 55.2"	
	Present Condition (Pump Type)	Capped		
	Elevation (m)	1,257 m		
	Aquifer/Geological Description			
	Year of Construction	2005		
	Fund	GARWSP		
	Depth (m)	400 m		
	Casing Diameter (inch)	12 inch		
	Screen			
	Static Water Level (G.L.-m)	22.22 m		
	Dynamic Water Level (G.L.-m)	44.51 m		
	Drawdown (m)	22.29 m		
	Discharge (g/min)	63 g/min	4.0 L/sec	
	Specific Capacity	0.179 L/s/m		
	EC (mS/m)	102.5 mS/m		
	pH	6.97		
	Temperature ('C)	27.0		
	Remarks			
	【Borehole Code】	T-03/2 Al Mahas		
	Grid (UTM)	North	East	
	Grid (Lat/Lon)	Lat. N	Lon. E	
		13°20' 56.7"	44°02' 53.6"	
	Present Condition (Pump Type)			
	Elevation (m)	1,274 m		
	Aquifer/Geological Description	Working	Seasonal	Vertical pump
	Year of Construction	1986		
	Fund	GAREW		
	Depth (m)	208 m		
	Casing Diameter (inch)	inch		
	Screen			
	Static Water Level (G.L.-m)	m		
	Dynamic Water Level (G.L.-m)	m		
	Drawdown (m)	m		
	Discharge (g/min)	g/min	0.0 L/sec	
	Specific Capacity	L/s/m		
	EC (mS/m)	112.1 mS/m		
	pH	7.14		
	Temperature ('C)	28.5		
	Remarks	Seasonal		
	【Borehole Code】	T-03/3 Teres		
	Grid (UTM)	North	East	
	Grid (Lat/Lon)	Lat. N	Lon. E	
	Present Condition (Pump Type)	Dried up after 6 months		
	Elevation (m)	m		
	Aquifer/Geological Description			
	Year of Construction	1980		
	Fund	Village		
	Depth (m)	220 m		
	Casing Diameter (inch)	inch		
	Screen			
	Static Water Level (G.L.-m)	m		
	Dynamic Water Level (G.L.-m)	m		
	Drawdown (m)	m		
	Discharge (g/min)	g/min	0.0 L/sec	
	Specific Capacity	L/s/m		
	EC (mS/m)	mS/m		
	pH			
	Temperature ('C)			
	Remarks			

12.7 Village Profile of Sites in Taiz Governorate

【Borehole Code】	T-03/4 Al Me'asha'ar		
Grid (UTM)	North	East	
Grid (Lat/Lon)	Lat. N	Lon. E	
	13°23' 54.8"	44°01' 07.0"	
Present Condition (Pump Type)	Working	Submersible pump	
Elevation (m)	1,366 m		
Aquifer/Geological Description			
Year of Construction	1998		
Fund	GAREW		
Depth (m)	260 m		
Casing Diameter (inch)	inch		
Screen			
Static Water Level (G.L.-m)	24.19 m		
Dynamic Water Level (G.L.-m)	28.21 m		
Drawdown (m)	4.02 m		
Discharge (g/min)	67 g/min	4.2 L/sec	
Specific Capacity	1.044 L/s/m		
EC (mS/m)	93.9 mS/m		
pH	7.37		
Temperature ('C)	26.3		
Remarks			

WATER SUPPLY PLANNING PANEL

No.	Item	Description		
	【Design Parameter】			
	No. of Villages in Total	0		
	No. of Villages to be Covered	0		
	Current Population (2006)	23,732		
	Design Population (2016)	30,290		
	Design Water Supply Rate	25 L/c/d	757 m^3/day	
	Type of Work Required	Rehabilitation		
	Required Facilities	Component	Construction	Notes
		Pump for Deep Well (1) Al	Donor	New
		Eng./Gen. for Deep Well (	Donor	New
		Pump House for Deep We	Donor/Village	New
		Pump for Deep Well (4) Al	Donor	Replace
		Eng./Gen. for Deep Well (	Donor	Replace
		Pump House for Deep Well (4) Al Me'asha'ar		
		Pump for Booster No.1	Donor	Replace
		Eng./Gen. for Booster No.	Donor	Replace
		Pump House for Booster No.1		
		Pump for Booster No.2	Donor	Replace
		Eng./Gen. for Booster No.	Donor	Replace
		Pump House for Booster N		
		Pump for Booster No.3	Donor	New
		Eng./Gen. for Booster No.	Donor	New
		Pump House for Booster N	Donor/Village	New
		Booster Tank No.1		
		Booster Tank No.2		
		Booster Tank No.3	Donor	New
		Distribution Tank No.1		
		Distribution Tank No.2		
		Present Main Tank		
		New Main Tank		
		Pumping Main	Donor	New, from deep well (1) Al Jah
		Distribution Main		
		Public Tapstand		
		House Connection		
	Accessibility			
	Security			
	Observation			

OPERATION AND MAINTENANCE PANEL

No.	Item	Description
	No. of Village Head (Sheikh)	1
	No. of Tribe	1
	Observation in Current Supply Scheme	Water level in the borehole constructed in 1982 becomes very low in summer seasons. In January 2006, when this survey was conducted, pump unit on the borehole was operated for three (3) hours. Pipeline with booster pump unit from the borehole constructed in 2005 to the tank constructed also in 2005 is not installed yet. The pipelines and booster pump are provided by Netherlands cooperation, but they are still under GARWSP registration and procurement New installation of pipeline and booster pump to the tank constructed in 2005 will serve additional seven (7) villages.

12.7 Village Profile of Sites in Taiz Governorate

Mode of Ownership	Legal ownership is arranged by written agreement with Local Council and GARWSP.		
	The scheme management CBO is registered under Ministry of Social Affairs.		
Mode of Management Entity	Administrative Board for the scheme management is established in 2004.		
	General Assembly, composed of users, elect thirty five (35) User Representatives. Among User Representatives, Directorial Board members were elected. Administrative Board members are further elected among Directorial Board members.		
	Administrative Board is composed of; a) director (1), b) financial manager (1), c) treasurer (1), and d) accountant (1).		
	Administrative Board employs the following operational staff; a) plumber/bill distributor (2), b) operator/watchman (4), c) meter reader (1), plumber/foreman for water rationing (2).		
	Until the Administrative and Directorial Boards were established, the scheme had been managed by the individual (i.e. traditional Sheikh management). With recognition of problems in the scheme management by Sheikh, new CBO settings with registration under Ministry of Social Affairs were decided.		
	Local Council was involved in the registration process for CBO management entities.		
Organizational Management	Current CBO management entities are registered under Ministry of Social Affairs.		
	Constitution for the scheme management has been prepared.		
	Terms of office for Administrative and Directorial Boards are set for three (3) years by their constitution.		
	Important decisions in the scheme management are made in Directorial Board, while Administrative Board is responsible daily operation and maintenance of the scheme.		
	Directory Board is calling regular meetings once in a month.		
	User Representative meeting is held once in a year.		
Technical Operation and Maintenance	In summer seasons, supply rationing is carried out due to water shortage, supplying two (2) days in a week in each supply area zone.		
	Borehole cleaning and pump house construction, contracting with local contractor, were undertaken by the community (scheme management), which cost YR 1.5 million.		
	Rehabilitation of water tank and most of pipelines were carried out by the community.		
Financial Management and Transparency	Tariff Structure:	Fixed Contribution	YR 100
		Up to 3 m3	YR 450/3 m3 as fixed/basic charge
		> 3 m3	YR 150/m3
	Tariff setting was decided by Directorial Board.		
	ncome in average:	YR 850,000/month	
	Expenditure in average:	YR 650,000/month	
	Expenditure breakdown:	YR 245,000/month	Salary/Allowance
		YR 300,000/month	Fuel
		YR 35,000/month	Operation and maintenance cost
		YR 25,000/month	Fuel for Vehicle
		YR 60,000/month	Tax for Local Council
	Personnel Cost:	YR 30,000/month	Director
		YR 20,000/month	Accountant
		YR 25,000/month	Financial Manager
		YR 25,000/mounth	Treasurer
		YR 15,000/month	Plumber
		YR 12,000/month	Operator
		YR 12,000/month	Meter Reader
		YR 8,000-12,000/month	Staff for supply rationing
Stakeholder Involvement / Responsibility Sharing	Netherlands supports provision of booster pump and pipeline materials from the borehole to the distribution tank newly constructed in 2005.		
	Netherlands further supports training provision for four (4) Board members in technical, administrative, and financial management. The training workshop is held in Hodeida, of which duration is for one (1) week.		
	Local Council was involved in the CBO registration procedures, and provides regular on-site monitoring once in every three (3) month to check administrative management and GARWSP provides (technical) supervision.		
Community Contribution	Pumping house was constructed by the community in 1984.		
	Administrative Board rents their office and storehouse at their expense.		
	One (1) pick-up truck is owned by the Administrative Board.		
Community Contracting-Out	There is no private contracting-out setting for regular management, operation and maintenance of the scheme.		
	Ad hoc contracts were concluded for major maintenance, extension, and rehabilitation.		
Conflict Resolution	No conflict cases are mentioned.		
Pro-Gender and Pro-Poor	One (1) female member is participating in Directorial Board (30 years old).		
Remarks	There are needs perceived by the Board members that increase of tank capacity and submersible and booster pump installations.		

12.7 Village Profile of Sites in Taiz Governorate

SITE IDENTIFICATION PANEL

No.	Item	Description				
	Code No.	T-04				
	Site Name	Yafoq Bani Hamad				
	Sub-District (Uzlat)	Bani Hamad				
	District	Al Mawaset				
	Governorate	Taiz				
	Coordinates	Latitude	Longitude			
	Coordinates (Measured Location)					
	Annual precipitation (rainfall)	550 mm				
	Population (2006)	6,844				
	Population Forecast (2016)	8,735				
	No. of Village (Qariah) in Total					
	No. of Village (Qariah) to be served					

	Name	Population	Household	Coordinate (Lat / Lon)	
Village (Qariah) in the Community	Bani Hasan	399	57		
	Deer Al Shareef	301	43		
	Bardad	455	65		
	Nama'a	420	30		
	Al Thaibah	273	39		
	Al Mashgob	910	130		
	Al Lukaimah	1,099	157		
	Al Ashraf	161	23		
	Thy Al Bali	63	9		
	Al Kahfah	140	20		
	Al Lafag	98	14		
	Al Suna'	140	20		
	Al Roseen	91	13		
	Al Nagad	77	11		
	Bahama	168	24		
	Al Sdad	70	10		
	Al Kibab	49	7		
	Al Nutaa	140	20		
	Al Nowiardah	161	23		
	Al Makateen	119	17		
	Al Ayen	210	30		
	Dar Al Nakeel	42	6		
	Yafoq	210	30		
	Kubaishah	238	34		
	Mahareer	210	30		
	Dar Al Shareef	600	50		
	Al Nakeel				
	Qasat Al Shareef				
	Al Ribat				
	Akamat Al Suna'				
	Al Thahrah				
	Goa				
	Qahareer				
	Zabad				
	Al Kabah				

EXISTING WATER SUPPLY SCHEME PANEL

No.	Item	Description					
	Functioning	Functional					
	Components of Existing Water Supply Scheme	Component	Specification		Condition	Year	Fund
		Pump for Deep Well	Submersible	Scheckti		1993	GAREW
		Generator for Deep Well	48kW	IVECO		1993	GAREW
		Pump House for Deep We	RC			1993	Village
		Pump for Booster	Horizontal	Luigi Biraghi	20m3/hr, 40(	1993	GAREW
		Engine for Booster		IVECO		1993	GAREW
		Pump House for Booster	Concrete			1993	Village
		Booster Tank	RC	$25m^3$		1995	GAREW
		Distribution Tank	RC	$100m^3$		1995	GAREW
		Pumping Main	SGP			1995	GAREW
		Distribution Main	SGP			1995	GAREW
		Public Tapstand	13 mosques, 2 schools, 1 clinic, 1 booster station, 1 borehole; only mosques with meters				
		House Connection	400				
	Observations						

12.7 Village Profile of Sites in Taiz Governorate

WATER SOURCE PANEL				
No.	Item	Description		
	【Borehole Code】			
	Grid (UTM)	North	East	
		147197	402125	
	Grid (Lat/Lon)	Lat. N	Lon. E	
		13°18' 46.5"	44°05' 46.8"	
	Present Condition (Pump Type)	Working	Submersible pump	
	Elevation (m)	1,381 m		
	Aquifer/Geological Description			
	Year of Construction	1982		
	Fund	Village		
	Depth (m)	220 m		
	Casing Diameter (inch)	8 inch		
	Screen			
	Static Water Level (G.L.-m)	124.1 m		
	Dynamic Water Level (G.L.-m)	126.01 m		
	Drawdown (m)	1.91 m		
	Discharge (g/min)	48 g/min	3.0 L/sec	
	Specific Capacity	1.571 L/s/m		
	EC (mS/m)	87.7 mS/m		
	pH	7.27		
	Temperature (°C)	28.1		
	Remarks			

WATER SUPPLY PLANNING PANEL				
No.	Item	Description		
	【Design Parameter】			
	No. of Villages in Total	0		
	No. of Villages to be Covered	0		
	Current Population (2006)	6,844		
	Design Population (2016)	8,735		
	Design Water Supply Rate	25 L/c/d	218 m^3/day	
	Type of Work Required	Rehabilitation		
	Required Facilities	Component	Constructed by	Notes
		Pump for Deep Well	Donor	Replace
		Eng./Gen. for Deep Well	Donor	Replace
		Pump House for Deep We		
		Pump for Booster	Donor	Replace
		Eng./Gen. for Booster	Donor	Replace
		Pump House for Booster		
		Booster Tank	Donor/GARWSP/Village	Expansion
		Distribution Tank	Donor/GARWSP/Village	Expansion
		Pumping Main		
		Distribution Main	Village	Extension to 15 villages
		Public Tapstand		
		House Connection		
	Accessibility			
	Security			
	Observation			

OPERATION AND MAINTENANCE PANEL		
No.	Item	Description
	No. of Village Head (Sheikh)	1
	No. of Tribe	1
	Observation in Current Supply Scheme	The existing supply scheme was completed in 1995, although the borehole was constructed in 1982. Until 1995, there had been no supply system, and supply service had not been available.
		Borehole pump unit (submersible pump) was inspected by the contractor hired by the community (Administrative Board for the scheme management). It was reported that overhaul and considerable maintenance is necessary, otherwise it would be not operational after six (6) months. The cost for overhaul and maintenance is estimated at RY 230,000.
		Pump unit for borehole is currently operating 8-10 hours in a day.
		Capacity/Force power (48 KW) of generator for borehole pump unit is not enough to satisfy the current demand.
		Capacity/Force power (26KW) of generator for booster pump is not enough to satisfy the current demand.
		Diameter of pipeline installed is not large enough to satisfy the current demand.
		Thirty seven (37) (sub-) villages, each village consisting of 15-40 households, are currently served. With extension plan, additional thirteen (13) (sub-) villages would be covered.
	Mode of Ownership	Legal ownership is not arranged with written agreement/memorandum.
		Agreement/Memorandum for handing-over was prepared by GARWSP.

12.7 Village Profile of Sites in Taiz Governorate

Mode of Management Entity	Local Council, under direction of Governor, appointed Monitoring/Consulting Committee formed by twenty one (21) community members in 1999.			
	In the same year, the Monitoring/Consulting Committee appointed Administrative Board consisted of five (5) community members as followed; a) director (1), b) financial manager (1), c) treasure (1), d) technical supervisor (1), e) accountant (1).			
	Administrative Board membership is recognized by Local Council.			
	Administrative Board further appointed two (2) operators.			
	Before 1999, the scheme had been managed by one (1) Aqil.			
Organizational Management	Constitution for CBO scheme management is not prepared.			
	Managerial decisions entailed with expense more than RY 100,000 is made by Monitoring/Consulting Committee, while decision entailed with cost less than it can be made by Administrative Board.			
	Terms of office for Administrative Board are decided for two (2) years.			
	After terms of office for current Administrative Board, election of the Board members, instead of appointment, is planned.			
Technical Operation and Maintenance	Extension of pipeline (6 m x 200 pipes) was carried out by the community.			
	Maintenance of submersible pump for borehole was carried out in 2003 replacing impeller and rods, of which cost amounting to YR 1.2 million borne by the scheme account.			
	Maintenance of generator was undertaken by the community.			
Financial Management and Transparency	No bank account is opened. The revenues are kept by Financial Manager.			
	Tariff Structure:	1-3 m3	YR 180 as fixed charge up to 3 m3	
		3 m3 -	YR 200/m3	
	Water provided through public stands are free, located at school, mosque, and other public			
	Water is provided at free of charge for the poor (e.g. female headed families), probably obtaining water from public stands.			
	Water bills are prepared at Administrative Board Office, then, distributed to each user households. Revenue collector visits each village, calls user households, and collects revenue.			
	The scheme account is audited by Monitoring/Consulting Committee each after three (3) to six (6) months.			
	Income in average:	YR 250,000/month		
	Expenditure in average:	YR 210,000/month		
	Expenditure break down:	YR 130,000	Fuel	
		YR 10,000	Communication, transportation	
		YR 51,000	Salary/Allowance	
		YR 7,000	Bonus	
	One (1) percent of income is paid to Local Council as tax.			
	Personnel Cost:	YR 15,000/month	Manager, and Financial Manager	
		YR 12,000/month	Plumber	
		YR 15,000/month	Operator (a)	
		YR 9,000/month	Operator (b)	
		YR 7,000/month	Accountant, and other Board Members	
Stakeholder Involvement / Responsibility Sharing	Local Council undertook community mobilization to form CBO (Monitoring/Consulting Committee and Administrative Board).			
	The scheme account is audited by Local Council every 3 months.			
	GARWSP provides (technical) supervision.			
Community Contribution	Community contributed as followed; 1) construction of pump house, 2) house connection, 3) installation of five (5) public stands, 4) extension of pipelines.			
Community Contracting-Out	There is no regular private contracting-out settings.			
	The Administrative Board hired engineering company to investigate generator and submersible pump.			
Conflict Resolution	No conflict cases are reported.			
Pro-Gender and Pro-Poor				
Remarks	The community requestd additional water tank and pipeline extension.			

12.7 Village Profile of Sites in Taiz Governorate

SITE IDENTIFICATION PANEL		
No.	Item	Description
	Code No.	T-05
	Site Name	Al Azaez
	District	Al Shamayaten
	Governorate	Taiz
	Annual precipitation (rainfall)	470 mm
	Population (2006)	11,784
	Population Forecast (2016)	15,040

Village (Qariah) in the Community	Name	Population	Household	Coordinate (Lat / Lon)	
	Deabash				
	Al Najd				
	Manjara				
	Al Kareef				
	Al Maidan				
	Al Sharaf				
	Al Darkama				
	Al Dhua'a				
	Al Zareebah				
	Dar Al Beer				
	Al Suqam				
	Al Saraha				
	Nawbat Al Beer				
	Hushaifa				
	Al Dumna				
	Kuraiker				
	Al Qubah				
	Al Me'alaf				
	Hawob Ana'am				
	Akmat Al Aumq				
	Al Aumq				
	Al Tayari				
	Al Kadarah				
	Al Qawoz				
	Muhaiseran				
	Al Jame'e				
	Al Khazega				
	Al Maqla				
	Hadha				
	Al Matnah				
	Al Musaifer				
	Al Sawon				
	Al Akami Al Sawda				
	Al Rehnat				
	Al Maznam				
	Haigat Al Howb				
	Sha'ab Rashed				
	Al Hahjrain				
	Al Ta'won				
	Qama'rah				
	Qahfat Aiyash				
	Al Showaib				
	Al Kadrah				
	Al Janad				
	Al Makhbey				
	Al She'bain				
	Al Nazeeha				
	Al Door				
	Sha'ab Al Saif				
	Sha'ab Ateyah				
	Al Rawo				
	Sakrah				
	Al Qefqaf				
	Al Mebraa				
	Al Haleeh				
	Al Mansourah				
	Manaha Al Olya				
	Manaha Al Sufla				
	Al Jandain & Makshara				
	Al Shareja				
	Khalala				
	Al Mehaal				
	Al Asalam				
	Ma'bal				
	Saferah				
	Qahfat Al Safa & Al Moqahwi				
	Al Marow				
	Al Kamar				
	Hakeema				
	Al Sha'ab				
	Al Kharoot				
	Al Humor				
	Muhailega				
	Al Maqsoos				
	Al Arazah				
	Al Qowab				
	Al Awass				
	Al Adana				
	Al Neqaq				
	Al Khad				
	Al Suqd				
	Al Maqareedh				

12.7 Village Profile of Sites in Taiz Governorate

EXISTING WATER SUPPLY SCHEME PANEL

No.	Item	Description					
	Functioning	Functional					
	Components of Existing Water Supply Scheme	Component	Specification		Condition	Year	Fund
		Pump for Deep Well (1) Marda'a Alhomary	Vertical	CAPRARI	Overhaul fre	1985	SHC
		Engine for Deep Well (1) Marda'a Alhomary		Perkins		2004	Village
		Pump House for Deep Well (1) Marda'a	RC			1985	Village
		Pump for Deep Well (2) Sohayb	Vertical	CAPRARI	Overhaul fre	1993	Min. Agric
		Engine for Deep Well (2) Sohayb		Technodrive		1993	Min. Agric
		Pump House for Deep Well (2) Sohayb	RC			1992	Village
		Pump for Deep Well (3) Wadi Masan	Submersible		GRUNDFOS	2003	GARWSP
		Generator for Deep Well (3) Wadi Masan	116kVA	John Deere		2003	GARWSP
		Pump House for Deep Well (3) Wadi Masan	RC			1996	VGAREW
		Pump for Spring (1)	Vertical	GRUNDFOS		1979	Village
		Engine for Spring (1)		Lister		1979	Village
		Pump for Spring (2)	Vertical, 30 r	GRUNDFOS		1979	SHC
		Engine for Spring (2)		DORMAN		2003	
		Pump House for Spring (1&2)	RC			1980	Village
		Pump for Booster	Horizontal	CAPRARI		1995	Village
		Engine for Booster		Perkins		2002	Village
		Pump House for Booster	RC			1995	Village
		Booster Tank	RC	60m3	Also distribut	1985	SHC
		Distribution Tank No.1	RC	30m3	Not used no\	1979	SHC
		Distribution Tank No.2	RC	200m3	Now too sma	1985	SHC
		Pumping Main	SGP			1979-1996	*
		Distribution Main	SGP			1979 on	Village+SHC
		Public Tapstand	22 for mosques, 7 for schools				
		House Connection	1,501				
	Observations	SHC: Southern Highlands Corporation. *Pumping main: spring to tank, 1979 by SHC; Borehole 1 to booster and main tank, 1985 by SHC; Borehole 2 to borehole 1, 1985 by villlage; Borehole 3 to tank, 1996 by GAREW					

WATER SOURCE PANEL

No.	Item	Description		
	【Borehole Code】	T-05/1 Marda'a Alhomary		
	Grid (UTM)	North	East	
		1462356	395783	
	Grid (Lat/Lon)	Lat. N	Lon. E	
		13°13' 34.5"	44°02' 17.8"	
	Present Condition (Pump Type)	Not working	Vertical pump	
	Elevation (m)	1,377 m		
	Aquifer/Geological Description			
	Year of Construction	1985		
	Fund	Southern Highlands Corp.		
	Depth (m)	120 m		
	Casing Diameter (inch)	8-5/8 inch		
	Screen			
	Static Water Level (G.L.-m)	8.2 m		
	Dynamic Water Level (G.L.-m)	53.39 m		
	Drawdown (m)	45.19 m		
	Discharge (g/min)	32 g/min	2.0 L/sec	
	Specific Capacity	0.044 L/s/m		
	EC (mS/m)	167.5 mS/m		
	pH	7.03		
	Temperature (°C)	27.0		
	Remarks	High Fe content(?)		

12.7 Village Profile of Sites in Taiz Governorate

【Borehole Code】	T-05/2 Sohayb			
Grid (UTM)	North	East		
	1462113	396109		
Grid (Lat/Lon)	Lat. N	Lon. E		
	13°13' 27.2"	44°02' 28.4"		
Present Condition (Pump Type)	Working	Vertical pump		
Elevation (m)	1,379	m		
Aquifer/Geological Description				
Year of Construction	1992			
Fund	Village			
Depth (m)	120	m		
Casing Diameter (inch)	8-5/8	inch		
Screen				
Static Water Level (G.L.-m)	9	m		
Dynamic Water Level (G.L.-m)	50	m		
Drawdown (m)	41	m		
Discharge (g/min)	32	g/min	2.0 L/sec	
Specific Capacity	0.049	L/s/m		
EC (mS/m)	82	mS/m		
pH	6.9			
Temperature ('C)	28.1			
Remarks	High Fe content, cannot use			
【Borehole Code】	T-05/3 Wadi Masan			
Grid (UTM)	North	East		
	1460825	396602		
Grid (Lat/Lon)	Lat. N	Lon. E		
	13°12' 45"	44°02' 45"		
Present Condition (Pump Type)	Working	Submersible pump		
Elevation (m)	1,418	m		
Aquifer/Geological Description				
Year of Construction	1996			
Fund	GARWSP			
Depth (m)	160	m		
Casing Diameter (inch)	8-5/8	inch		
Screen				
Static Water Level (G.L.-m)	80?	m		
Dynamic Water Level (G.L.-m)	120?	m		
Drawdown (m)	40	m		
Discharge (g/min)	132	g/min	8.3 L/sec	
Specific Capacity	0.208	L/s/m		
EC (mS/m)		mS/m		
pH				
Temperature ('C)				
Remarks	Impeller dropped in well, but does not affect pumping rate?			
【Spring Code】	Spring (Al Hagareen)			
Grid (UTM)	North	East		
	1462162	400154		
Grid (Lat/Lon)	Lat. N	Lon. E		
	13°13' 28.9"	44°04' 42.7"		
Present Condition (Pump Type)	Working	Vertical pump × 2		
Elevation (m)	1,569	m		
Aquifer/Geological Description				
Year of Construction	1979			
Fund	Village30% and SHC70%			
Depth (m)		m		
Casing Diameter (inch)		inch		
Screen				
Static Water Level (G.L.-m)	0.0	m		
Dynamic Water Level (G.L.-m)		m		
Drawdown (m)		m		
Discharge (g/min)		g/min	0.0 L/sec	
Specific Capacity		L/s/m		
EC (mS/m)	109.3	mS/m		
pH	7.12			
Temperature ('C)	24.3			
Remarks				

12.7 Village Profile of Sites in Taiz Governorate

WATER SUPPLY PLANNING PANEL				
No.	Item	Description		
	【Design Parameter】			
	No. of Villages in Total			
	No. of Villages to be Covered			
	Current Population (2006)	11,784		
	Design Population (2016)	15,040		
	Design Water Supply Rate	30 L/c/d	451 m^3/day	
	Type of Work Required	Rehabilitation		
	Required Facilities	Component	Constructed by	Notes
		Pump for Deep Well (1) Marda'a Alhomary	Donor	Replace
		Engine for Deep Well (1) Marda'a Alhomary	Donor	Replace
		Pump House for Deep Well (1) Marda'a		
		Pump for Deep Well (2) Sohayb	Donor	Replace
		Engine for Deep Well (2) Sohayb	Donor	Replace
		Pump House for Deep Well (2) Sohayb		
		Pump for Deep Well (3) Wadi Masan		
		Generator for Deep Well (3) Wadi Masan		
		Pump House for Deep Well (3) Wadi Masan		
		Pump for Spring (1)	Donor	Replace
		Engine for Spring (1)	Donor	Replace
		Pump for Spring (2)	Donor	Replace
		Engine for Spring (2)	Donor	Replace
		Pump House for Spring (1&2)		
		Pump for Booster	Donor	Replace
		Eng./Gen. for Booster	Donor	Replace
		Pump House for Booster		
		Booster Tank		Expansion
		Distribution Tank		Expansion
		Pumping Main		Replace
		Distribution Main		Replace
		Public Tapstand		
		House Connection	Village	
	Accessibility			
	Security			
	Observation			

OPERATION AND MAINTENANCE PANEL		
No.	Item	Description
	No. of Village Head (Sheikh)	
	No. of Tribe	
	Observation in Current Supply Scheme	Pipeline from spring and borehole constructed in '85 to the water tank was installed by Ministry of Agriculture and Irrigation, while one from borehole of '93 to the tank was installed
		The served area is divided into three (3) zones for operational purpose.
		The scheme is covering two thirds (2/3) of whole Uzula.
		There are 82 sub-villages or Mahal, each of which is composed of 10-15 households.
		The scheme operation was commenced serving 300 households. The scheme has been extended as population increases, not considering the capacity of water source and tank, pipe diameter and undulation in pipe installation, and other technical factors in the scheme
		Al-Azaiz is name of Uzula
	Mode of Ownership	Legal ownership is arranged by written agreement with GARWSP.
	Mode of Management Entity	Administrative Board has been established and responsible for the scheme management.
		General Assembly, composed of 1,500 users, is called and elected fifteen (15) Directorial Board members.
		Directorial Board appointed four (4) Administrative Board members, which is composed of; a) director (1), b) accountant (2), and c) Treasurer (1).
		Administrative Board is employing the following operational staff on contract bases; a) operator/watchman/bill distributor (4), b) plumber (4), c) meter reader (1).
		First CBO was established in 1979 and the same CBO setting had been continued till 2005.
		In 2005, first election was conducted under current CBO setting. In January 2006, second election was conducted (Director is unchanged) following procedures for CBO registration under Ministry of Social Affairs.
		Current CBO setting is registered under Ministry of Social Affairs.
		Monitoring Committee (15 members) is also elected by General Assembly.

12.7 Village Profile of Sites in Taiz Governorate

Organizational Management	The Administrative Board and other CBO setting for the scheme management are registered under Ministry of Social Affairs, with supervision of Local Council and GARWSP.			
	Constitution of Administrative and Directorial Board is prepared.			
	Important decisions in the scheme management are made in the Directorial Board members, while Administrative Board is responsible for daily operation and maintenance.			
	The Administrative Board members mentioned that the all managerial decisions are made by Directorial Board (not by calling General Assembly). It gives impression that the Board is somehow dictating.			
	Terms of Office for Administrative and Directorial Board are set for three (3) years under their constitution. However, extension of terms of office is currently under consideration, prolonging them for six (6) years in accordance with ones for parliament			
Technical Operation and Maintenance	Spring/Dam with pump unit is operated for 15 hours, while borehole with pump unit is operated for 20 hours.			
	A Borehole was constructed and pump unit was installed by the community (the scheme management).			
	Booster pumps have been replaced six (6) times, with the cost borne by the community (the scheme account). Last replacement was carried out in 2005.			
	Maintenance of main pipeline from boreholes (constructed in '85 and '92) was carried out by the community (the scheme management).			
Financial Management and Transparency	General Assembly meeting is first called in Jan 2006 as the registration process of CBO for water scheme management. In the meeting, financial status of the scheme was reported.			
	Tariff Structure:	1-3 m3	YR 450 as basic charge	
		3-14 m3	YR 120/m3	
		> 15m3	YR 150/m3	
	Income in last month:	YR 1,171,440		
	Expenditure in last	YR 687,215		
	Expenditure break down in last month:	YR 219,000	Fuel	
		YR 293,000	Salary	
		YR 16,000	Allowance	
		YR 15,000	Others (Communication, electricity, transport, etc.)	
		YR 35,000	Maintenance	
	Income in average:	YR 1,000,000		
	Expenditure in average:	YR 700,000		
	Personnel Cost:	YR 50,000/month	Manager	
		YR 27,500/month	Treasurer	
		YR 27,500/month	Accountant	
		YR 24,000/month	Plumber	
		YR 24,000/month	Operator/watchman/bill distributor	
		YR 24,000/month	Meter reader	
	Pick-up truck was purchased by the scheme account.			
	Water bills are prepared by the Administrative Board and distributed to each user household by Bill Distributors. Revenue is collected at the office of Administrative Board.			
	Monitoring Committee is formed for auditing the scheme account.			
Stakeholder Involvement / Responsibility Sharin	GARWSP and Local Council were involved in the CBO registration process under Ministry of Social Affairs.			
Community Contribution	The scheme management (Administrative and Directorial Boards) owns the following assets; a) office, b) store room in each pump house, c) main storehouse beside the office, d) stock of spare parts, e) pick-up truck.			
	House connections were carried out by the users.			
	One borehole with pump unit is constructed in 1992 by the scheme management.			
Community Contracting-Out	Operation workers are hired on contract bases.			
	There is no private contracting-out setting.			
Conflict Resolution	No conflict cases are mentioned.			
Pro-Gender and Pro-Poor	N/A			
Remarks	There are needs perceived by the Board members that increase of tank capacity and enlargement of pipeline diameter.			

12.7 Village Profile of Sites in Taiz Governorate

SITE IDENTIFICATION PANEL

No.	Item	Description					
	Code No.	T-06					
	Site Name	Al Khunha					
	Sub-District (Uzlat)	Al Khunha					
	District	Al Wazieyah					
	Governorate	Taiz					
	Coordinates	Latitude	Longitude				
	Coordinates (Measured Location)						
	Annual precipitation (rainfall)	250 mm					
	Population (2006)	1,579					
	Population Forecast (2016)	2,015					
	No. of Village (Qariah) in Total						
	No. of Village (Qariah) to be served						
	Village (Qariah) in the Community	Name	Population	Household	Coordinate (Lat / Lon)		
		Al Khunha	550	106	13°06' 15"	43°44' 48"	
		Al Karbah Al Sufla	144	28	13°05' 01"	43°44' 59"	
		Al Hayemah	577	104	13°06' 54"	43°44' 00"	
		Al Karabah Al Uliyah	308	64			

EXISTING WATER SUPPLY SCHEME PANEL

No.	Item	Description				
	Functioning	No existing				
	Components of Existing Water Supply Scheme	Component	Specification	Condition	Year	Fund
		Pump for Deep Well				
		Eng./Gen. for Deep Well				
		Pump House for Deep We				
		Pump for Booster				
		Eng./Gen. for Booster				
		Pump House for Booster				
		Booster Tank				
		Distribution Tank				
		Pumping Main				
		Distribution Main				
		Public Tapstand				
		House Connection				
	Observations					

WATER SOURCE PANEL

No.	Item	Description		
	【Borehole Code】			
	Grid (UTM)	North	East	
		1449177	364618	
	Grid (Lat/Lon)	Lat. N	Lon. E	
		13°06' 21.0"	43°45' 03.9"	
	Present Condition (Pump Type)	Capped (Flowing)		
	Elevation (m)	539 m		
	Aquifer/Geological Description			
	Year of Construction	2004		
	Fund	GARWSP		
	Depth (m)	200 m		
	Casing Diameter (inch)	8 inch		
	Screen	50m-56m, 83m-98m, 116m-188m		
	Static Water Level (G.L.-m)	-0.53 m		
	Dynamic Water Level (G.L.-m)	5.14 m		
	Drawdown (m)	5.67 m		
	Discharge (g/min)	140 g/min	8.8 L/sec	
	Specific Capacity	1.552 L/s/m		
	EC (mS/m)	123.3 mS/m		
	pH	7.21		
	Temperature (℃)	39.5		
	Remarks			

12.7 Village Profile of Sites in Taiz Governorate

WATER SUPPLY PLANNING PANEL				
No.	Item	Description		
	【Design Parameter】			
	No. of Villages in Total	0		
	No. of Villages to be Covered	0		
	Current Population (2006)	1,579		
	Design Population (2016)	2,015		
	Design Water Supply Rate	40 L/c/d	81 m^3/day	
	Type of Work Required	New construction		
	Required Facilities	Component	To be Constructed by	Notes
		Pump for Deep Well	Donor	New
		Eng./Gen. for Deep Well	Donor	New
		Pump House for Deep We	Donor/Village	New
		Pump for Booster		
		Eng./Gen. for Booster		
		Pump House for Booster		
		Booster Tank		
		Distribution Tank	Donor	New
		Pumping Main	Donor	New
		Distribution Main	Donor	New
		Public Tapstand	Donor	New (for mosque, school and clinic only
		House Connection	Village	New
	Accessibility	Site approached through wadi, so difficult in rainy season		
	Security			
	Observation			

OPERATION AND MAINTENANCE PANEL		
No.	Item	Description
	No. of Village Head (Sheikh)	
	No. of Tribe	
	Observation in Current Supply Scheme	
	Mode of Ownership	
	Mode of Management Entity	
	Organizational Management	
	Technical Operation and Maintenance	
	Financial Management and Transparency	
	Stakeholder Involvement / Responsibility Sharing	
	Community Contribution	
	Community Contracting-Out	
	Conflict Resolution	
	Pro-Gender and Pro-Poor	
	Remarks	