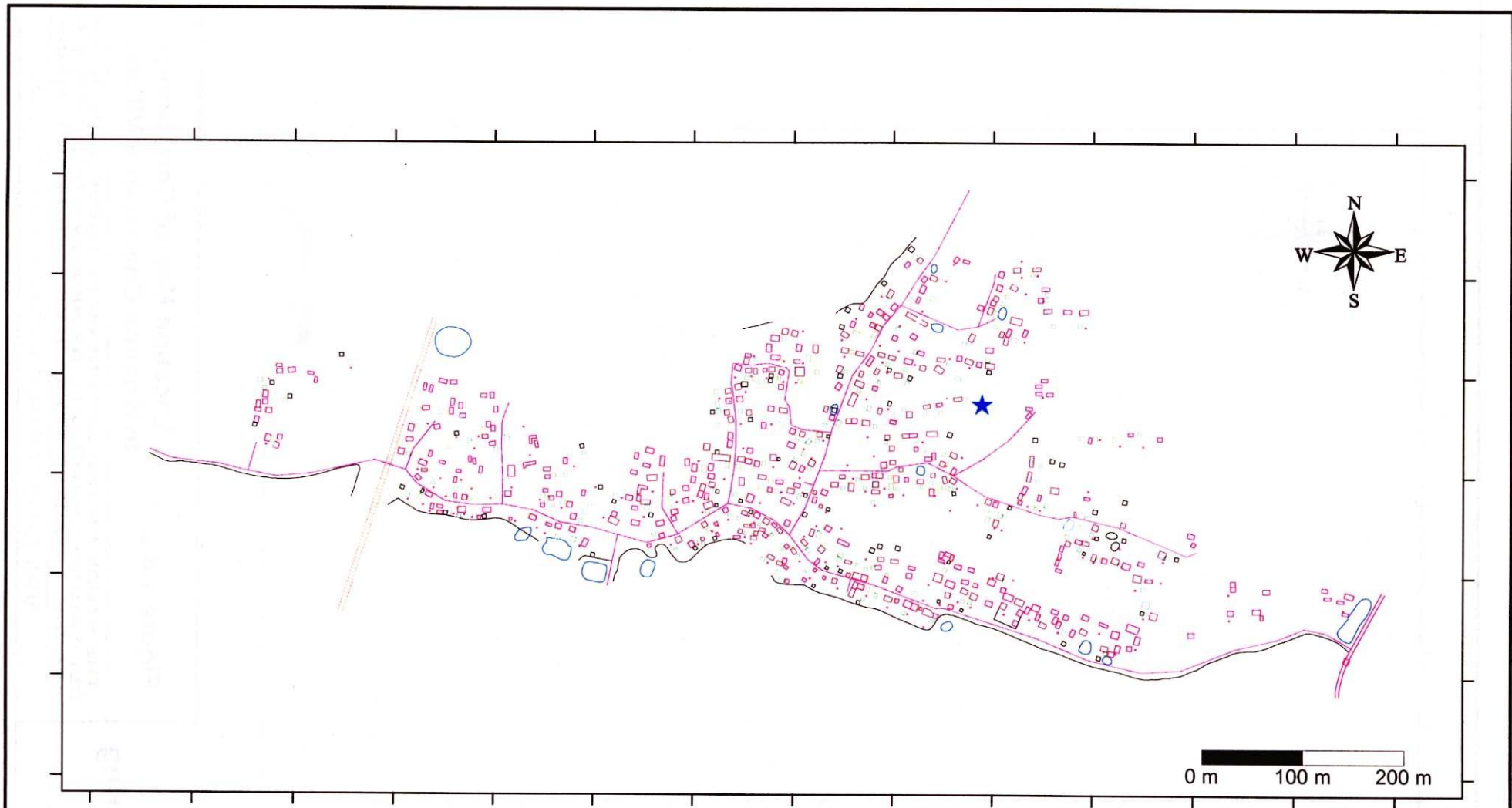
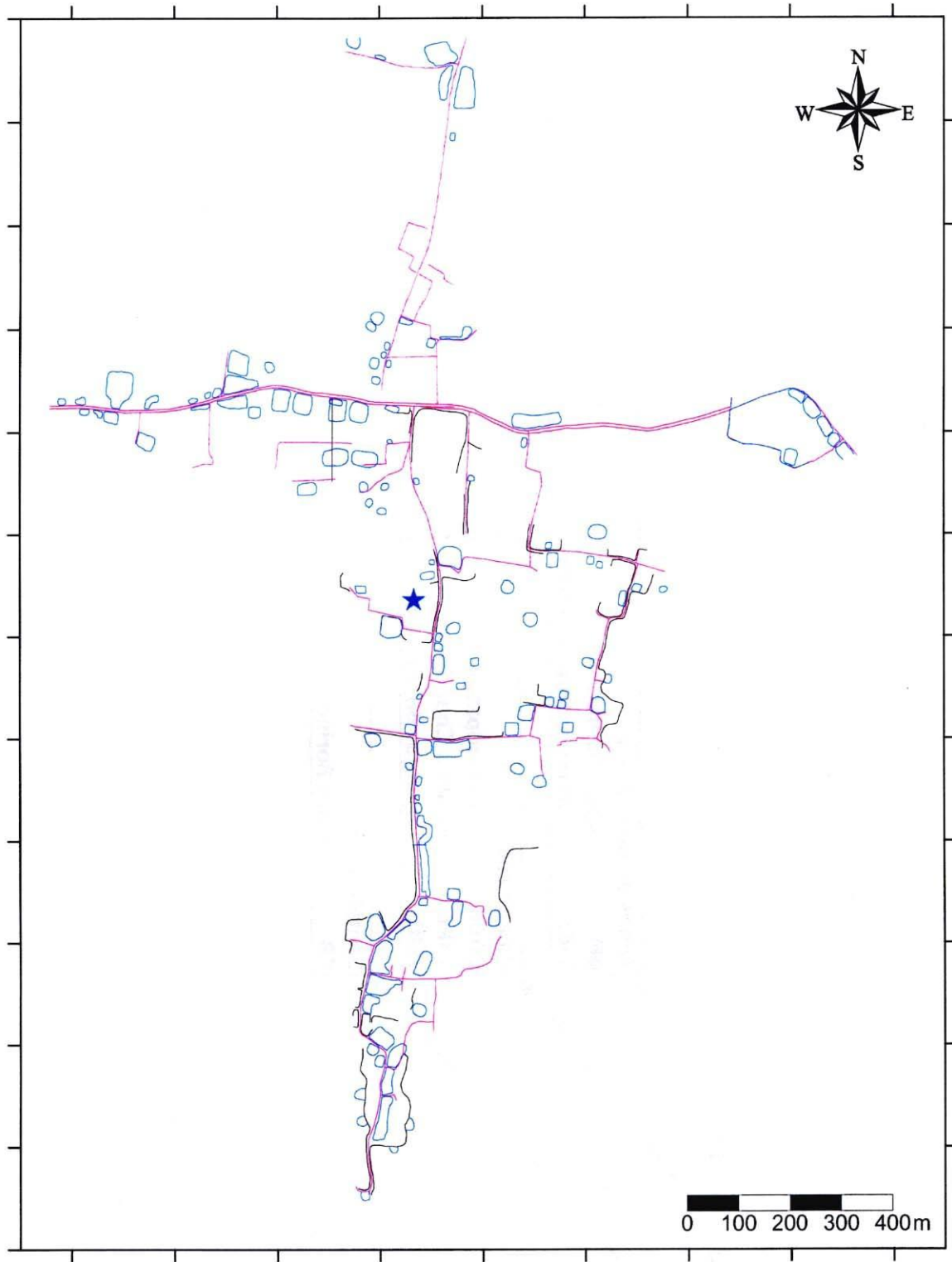


1.4 Core Borings



★ Core Boring

Figure 1.4.1	Location Map of Core Boring in Bara Dudpatila Village
THE STUDY ON THE GROUNDWATER DEVELOPMENT OF DEEP AQUIFERS FOR SAFE DRINKING WATER SUPPLY TO ARSENIC AFFECTED AREAS IN WESTERN BANGLADESH	
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	



★ Core Boring

<p>Figure 1.4.3</p>	<p>Location Map of Core Boring in Rajnagar Bankabarsi Village</p>
<p>THE STUDY ON THE GROUNDWATER DEVELOPMENT OF DEEP AQUIFERS FOR SAFE DRINKING WATER SUPPLY TO ARSENIC AFFECTED AREAS IN WESTERN BANGLADESH</p>	
<p>JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)</p>	

Sample Code

CB - CDBd - 1M

Times of Monitoring
0M After instlation
1-6M Monthly monitoring times

Village code
CDBd Bara Dudpatila
JHKc Krishna Chandrapur
JSRb Rajnagar Bankabarsi

Sample Type
CB Core Boring

Table 1.4.1 Results of Core Boring

Well	Date	EC (mS/m)	pH	ORP(Eh)	Fe2+(mg/l)	Temp (deg-C)	As by FK(mg/l)	As by AAS(mg/l)
Jessore								
CB-JSRb-0M	09-May-01	67.2	7.87	176	1	27.7	<0.01	0.00064
CB-JSRb-SIP30min	09-May-01	65.3	7.80	170	2	28.6	<0.01	0.0022
CB-JSRb-SIP140min	09-May-01	67.3	7.66	165	1	29.1	<0.01	0.00051
CB-JSRb-1M	21-Jun-01	66.2	7.79	108	0.2	28.5	<0.01	0.0023
CB-JSRb-2M	09-Jul-01	67.2	7.88	110	0.3	28.7	<0.01	0.0012
CB-JSRb-3M	20-Aug-01	68.3	7.79	144	0.2	28.6	<0.01	0.0016
CB-JSRb-4M	11-Sep-01	74.5	7.78	162	0.2	28.3	<0.01	0.0012
CB-JSRb-5M	16-Oct-01	68.4	7.78	114	<0.2	27.8	<0.01	0.0011
CB-JSRb-6M	07-Nov-01	68.3	7.40	94.5	<0.2	27.6	<0.01	<0.0005
CB-JSRb-7M	03-Dec-01	68.6	7.67	64.1	<0.2	28.1	<0.01	0.00068
CB-JSRb-8M	20-Mar-02	69.7	7.42	73.8	<0.2	28.5	<0.01	0.00078
Jhenaidah								
CB-JHKc-0M	05-May-01	90.5	7.10	76.7	10	27.3	0.01	0.026
CB-JHKc-SIP30min	05-May-01	89.9	7.01	73.9	5	27.1	0.01	0.056
CB-JHKc-SIP140min	05-May-01	90.0	7.13	104	3	27.6	0.03	0.053
CB-JHKc-1M	17-Jun-01	62.5	7.87	90.1	<0.2	26.7	<0.01	0.0079
CB-JHKc-2M	08-Jul-01	92.0	7.42	100	1	26.9	<0.01	0.045
CB-JHKc-3M	15-Aug-01	89.5	6.93	105	3	27.0	<0.01	0.080
CB-JHKc-4M	11-Sep-01	88.7	6.98	110	3	26.7	<0.01	0.062
CB-JHKc-5M	16-Oct-01	89.2	6.93	89.2	4	26.6	<0.01	0.080
CB-JHKc-6M	09-Nov-01	86.0	7.04	112	3	26.2	0.02	0.10
CB-JHKc-7M	08-Dec-01	93.0	7.75	35.6	2	26.1	0.01	0.037
Chuadanga								
CB-CDBd-0M	30-Jan-01	89.6	7.38	4.15	10	25.3	<0.01	<0.0005
CB-CDBd-SIP30min	27-Feb-01	85.1	7.02	159	5	26.8	<0.01	0.0063
CB-CDBd-SIP2h	27-Feb-01	86.1	7.06	158	4	26.8	<0.01	0.0061
CB-CDBd-1M	27-Feb-01	86.1	7.06	158	4	26.8	<0.01	0.0094
CB-CDBd-2M	26-Mar-01	65.7	7.32	16.8	10	27.2	<0.01	<0.0005
CB-CDBd-3M	27-Apr-01	41.7	7.39	66.6	4	28.9	<0.01	<0.0005
CB-CDBd-4M	23-Jun-01	81.0	7.06	88.5	5	27.6	<0.01	0.0021
CB-CDBd-5M	10-Jul-01	81.2	7.30	75.6	3	27.4	<0.01	0.0015
CB-CDBd-6M	18-Aug-01	82.0	7.03	71.8	3	27.2	<0.01	0.0024
CB-CDBd-7M	11-Sep-01	48.3	7.24	-0.783	5	26.6	<0.01	<0.0005
CB-CDBd-8M	15-Oct-01	82.5	6.90	107	3	27.2	<0.01	0.0015
CB-CDBd-9M	08-Nov-01	80.7	7.01	94.0	4	26.9	<0.01	0.0054
CB-CDBd-10M	08-Dec-01	82.0	7.24	55.2	4	26.6	<0.01	0.0015

Table 1.4.2 Results of Core Boring

Analyte	pH	Temperature	Conductivity	Hardness	TDS	Nitrate	Nitrite	Ammonium	Dissolved Mn	Sulfate	Dissolved Fe	Chloride	Bicarbonate	Calcium	Magnesium	Sodium	Potassium	Fluoride	Cadmium	Total Cr	Copper	Cyanide	Lead	Mercury	Nickel	Zinc	COD		
Method	pH meter	Thermo meter	Conductivity meter	Standard	Standard	SP	SP	SP	FAAS	SP	FAAS	SP	Titration	FAAS	FAAS	FAAS	FAAS	SP	Extraction/FAAS	Extraction/FAAS	Extraction/FAAS	SP	Extraction/FAAS	Extraction/FAAS	Extraction/FAAS	Extraction/FAAS	Titration		
Practical Quantitation Limit	0	0 Deg C	0.02	0.5	0.13	0.2	0.02	0.1	0.08	5	0.2	0.6	20	0.5	0.05	0.05	0.1	0.1	0.0015	0.025	0.005	0.01	0.005	0.001	0.005	0.005	20		
Unit		Deg C	mS/m	mg CaCO3/l	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg CaCO3/l	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L		
Sample No	Date of sampling	pH	Temp	EC	Hardness	TDS	NO3	NO2	NH4	Mn	SO4	Fe	Cl	HCO3	Ca	Mg	Na	K	F	Cd	Cr	Cu	CN	Pb	Hg	Ni	Zn	COD	
Jessore																													
CB-JSRb-0M	09-May-01	7.87	30.1	57.2	40.5	366	2.0	<PQL	<PQL	<PQL	<PQL	0.23	34	336	24	17	94	4.2	0.32	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	39
CB-JSRb-1M	21-Jun-01	7.91	31.1	59.2	38.0	296	1.9	2.2	0.16	<PQL	<PQL	0.26	29	338	23	15	100	4.7	0.34	<PQL	<PQL	0.0073	<PQL	<PQL	<PQL	0.012	0.0087	<PQL	
CB-JSRb-2M	09-Jul-01	8.01	28.7	48.0	40.5	307	1.7	<PQL	0.15	<PQL	<PQL	<PQL	45	324	27	14	110	5.4	0.40	<PQL	<PQL	0.0082	<PQL	<PQL	<PQL	0.037	0.0062	27	
CB-JSRb-3M	20-Aug-01	7.91	29.9	56.1	36.5	357	1.8	<PQL	<PQL	<PQL	<PQL	<PQL	30	312	20	15	140	3.6	0.36	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	
CB-JSRb-4M	11-Sep-01	7.94	28.2	53.5	39.4	342	<PQL	0.97	0.84	<PQL	<PQL	0.39	25	347	23	17	97	3.6	0.41	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	
CB-JSRb-5M	16-Oct-01	8.06	29.7	66.4	40.2	425	1.6	0.25	1.1	0.10	<PQL	0.32	26	351	24	16	94	4.2	0.39	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	
CB-JSRb-6M	07-Nov-01	7.88	27.0	66.4	43.1	425	0.49	1.9	<PQL	0.20	<PQL	0.70	21	342	27	16	86	3.7	0.36	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	
Jhenaidah																													
CB-JHKc-0M	05-May-01	7.35	31.3	65.4	138	419	2.0	<PQL	<PQL	<PQL	<PQL	1.8	8.1	505	110	29	35	6.1	0.22	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	0.0071	0.011	27	
CB-JHKc-1M	17-Jun-01	8.78	31.0	86.4	5.78	432	<PQL	<PQL	0.70	<PQL	<PQL	<PQL	96	442	4.3	1.5	200	2.4	0.60	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	39	
CB-JHKc-2M	08-Jul-01	8.01	28.1	58.0	81.8	371	1.7	<PQL	0.12	0.12	<PQL	3.7	38	443	68	14	110	4.0	0.30	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	
CB-JHKc-3M	15-Aug-01	7.27	29.2	63.0	138	403	<PQL	<PQL	1.6	0.10	<PQL	2.4	7.0	507	110	23	25	4.3	0.30	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	0.0097	<PQL	
CB-JHKc-4M	11-Sep-01	7.17	28.0	58.5	147	374	<PQL	<PQL	1.2	0.17	<PQL	2.5	2.9	517	120	29	20	3.9	0.20	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	0.0052	<PQL	
CB-JHKc-5M	16-Oct-01	7.23	29.6	87.7	159	561	<PQL	<PQL	1.4	0.24	<PQL	2.7	2.2	513	130	26	19	4.8	0.22	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	
CB-JHKc-6M	09-Nov-01	7.29	27.3	85.7	151	548	<PQL	<PQL	1.5	0.28	<PQL	5.3	1.8	513	122	29	27	4.0	0.17	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	
Chudanga																													
CB-CDBd-0M	30-Jan-01	7.01	24.4	82.2	124	526	<PQL	<PQL	1.8	0.25	<PQL	15	1.8	481	90	34	24	3.8	0.16	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	0.0051	<PQL	
CB-CDBd-1M	27-Feb-01	7.12	23.2	80.4	141	514	<PQL	<PQL	1.4	0.17	<PQL	2.1	1.3	481	98	43	18	3.9	0.23	<PQL	<PQL	0.0088	<PQL	<PQL	<PQL	0.0061	0.0067	<PQL	
CB-CDBd-2M	26-Mar-01	7.41	27.9	62.0	165	397	<PQL	<PQL	1.1	<PQL	<PQL	6.9	1.7	353	70	23	22	6.7	0.17	<PQL	<PQL	0.0054	0.013	<PQL	<PQL	0.012	<PQL	39	
CB-CDBd-3M	27-Apr-01	7.98	24.9	43.7	67.6	279	<PQL	<PQL	0.72	<PQL	<PQL	0.79	1.3	273	35	33	14	4.7	0.11	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	0.11	39	
CB-CDBd-4M	23-Jun-01	7.33	31.0	63.4	124	317	<PQL	<PQL	0.92	0.46	<PQL	3.5	0.73	459	94	30	16	4.8	0.16	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	
CB-CDBd-5M	10-Jul-01	7.28	29.1	52.5	128	336	<PQL	<PQL	1.2	0.51	<PQL	3.5	2.5	475	110	23	27	4.2	0.22	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	
CB-CDBd-6M	18-Aug-01	7.29	29.6	58.7	122	375	<PQL	<PQL	1.2	0.39	<PQL	2.6	0.77	488	96	26	16	4.5	0.18	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	

Excess of WHO guideline
Excess of Bangladesh Standard
Excess of both Bangladesh Standard and WHO guideline

(The values were determined as exceeding the standards before rounding off)

1.5 Improved Deep Weel

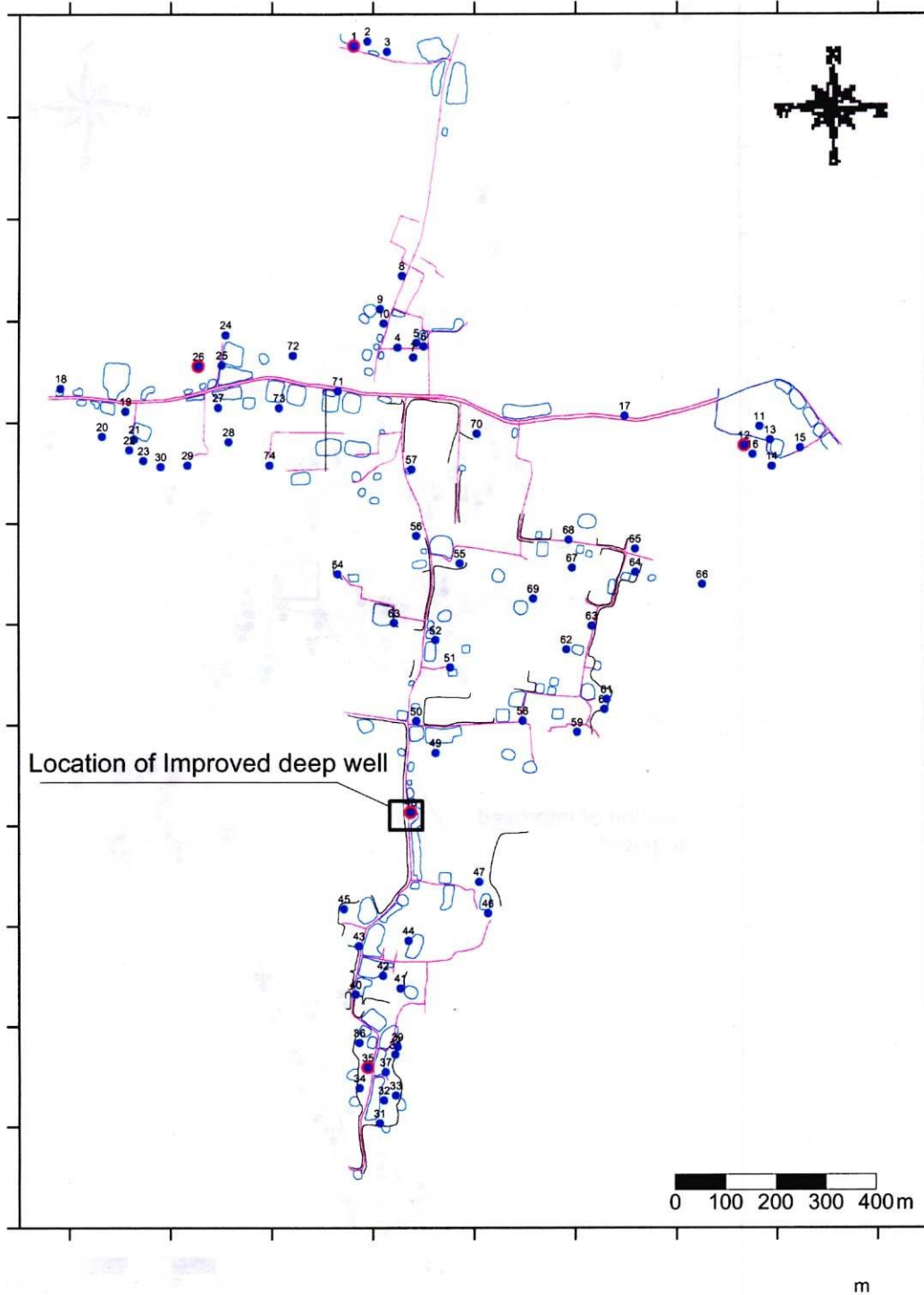
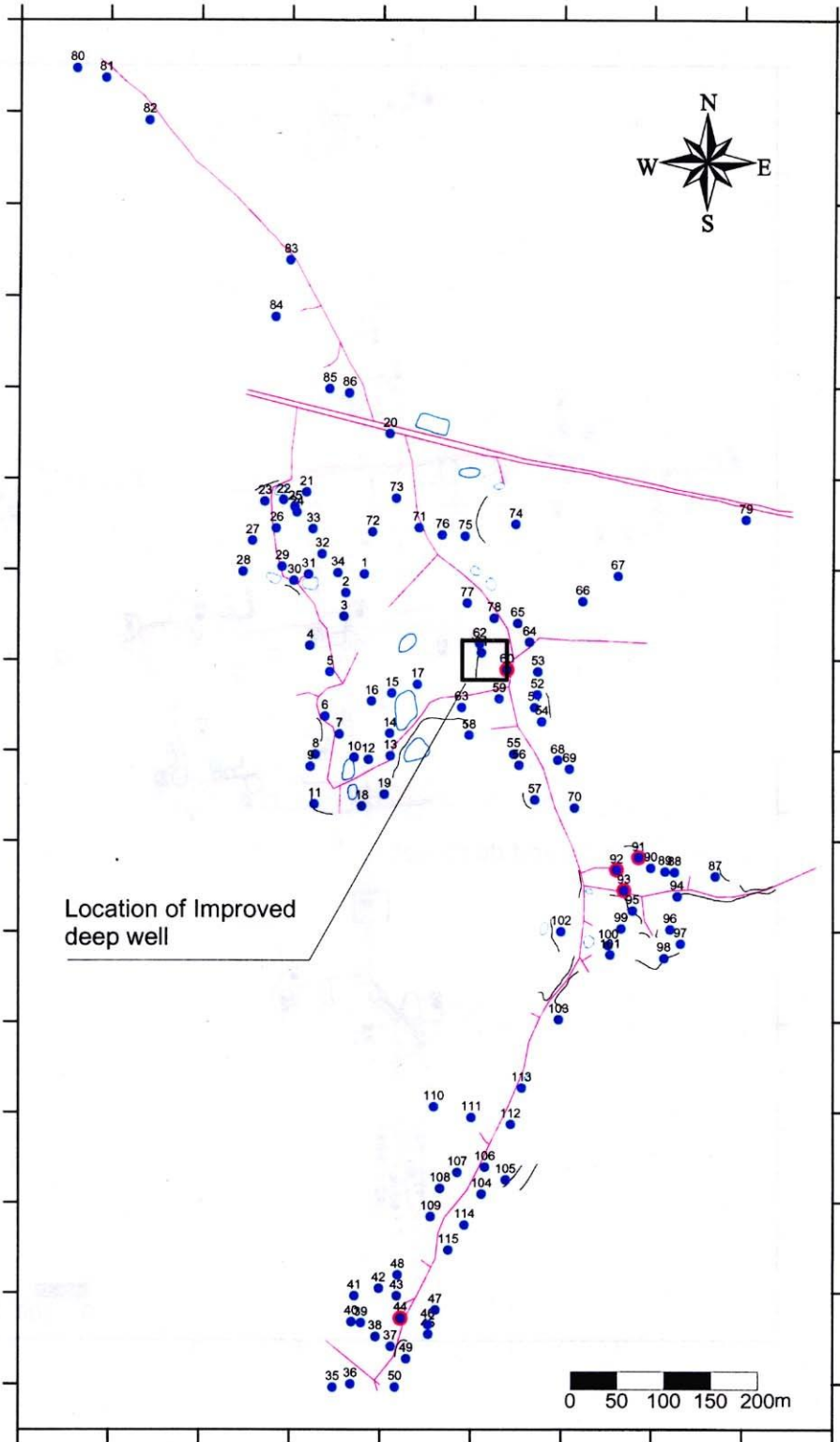


Figure 1.5.1

**Location Map of Improved Deep wells
in Rajinagar Bankabarsi Village**

**THE STUDY ON THE GROUNDWATER DEVELOPMENT OF
DEEP AQUIFERS FOR SAFE DRINKING WATER SUPPLY TO
ARSENIC AFFECTED AREAS IN WESTERN BANGLADESH**

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)



- 115 ● Existing Well with TW No.
- Existing Well where General Water Quality Sample Collected

Figure 1.5.2	Location Map of Improved Deep wells in Krishna Chandrapur Village
THE STUDY ON THE GROUNDWATER DEVELOPMENT OF DEEP AQUIFERS FOR SAFE DRINKING WATER SUPPLY TO ARSENIC AFFECTED AREAS IN WESTERN BANGLADESH	
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	

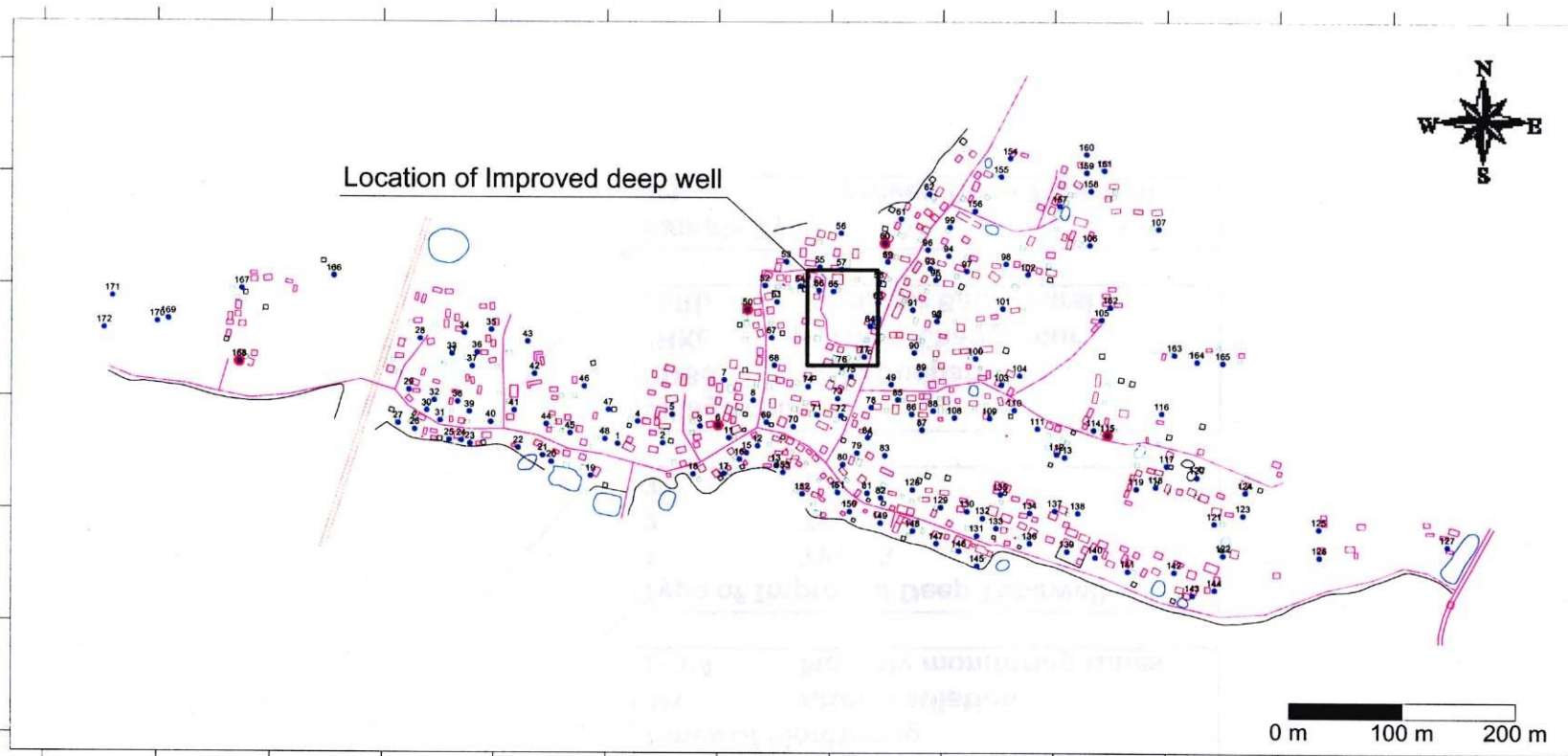


Figure 1.5.3

**Location Map of Improved Deep Wells
in Bara Dudpatila Village**

**THE STUDY ON THE GROUNDWATER DEVELOPMENT OF
DEEP AQUIFERS FOR SAFE DRINKING WATER SUPPLY TO
ARSENIC AFFECTED AREAS IN WESTERN BANGLADESH**

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

Sample Code

IM - CDBd - 1 - 0M

Times of Monitoring
0M After instlation
1-3M Monthly monitoring times

Type of Improved Deep Tubewell
1 Type A
2 Type B
3 Type C

Village code
CDBd Bara Dudpatila
JHKc Krishna Chandrapur
JSRb Rajnagar Bankabarsi

Sample Type
IM Improved Deep Tubewell

Table 1.5.1 Results of Improved Deep Tubewell(1/3)

Well	Date of sampling	EC (mS/m)	pH	ORP(Eh)	Fe2+FK (mg/l)	Temp (°C)	As by FK(mg/l)	As by AAS(mg/l)
Jessore								
IM-JSRb-1-0M	26-Nov-00	60.1	7.71	143	0.2	25.9	0.01	<0.0005
IM-JSRb-1-1M	03-Jan-01	60.2	7.79	131	0.5	24.6	<0.01	0.00060
IM-JSRb-1-2M	06-Feb-01	55.1	7.80	149	<0.2	25.5	<0.01	<0.0005
IM-JSRb-1-3M	27-Mar-01	51.8	7.50	224	0.2	26.5	<0.01	0.00056
IM-JSRb-1-4M	21-Jun-01	51.7	7.65	135	<0.2	27.5	<0.01	<0.0005
IM-JSRb-1-5M	09-Jul-01	49.1	7.55	111	<0.2	27.0	<0.01	<0.0005
IM-JSRb-1-6M	20-Aug-01	48.5	7.49	101	<0.2	26.8	<0.01	0.00054
IM-JSRb-1-7M	11-Sep-01	79.6	7.57	108	<0.2	26.7	<0.01	0.00062
IM-JSRb-1-8M	16-Oct-01	50.8	7.59	187	<0.2	28.7	<0.01	<0.0005
IM-JSRb-1-9M	07-Nov-01	50.3	7.07	120	0.2	26.4	<0.01	<0.0005
IM-JSRb-1-10M	03-Dec-01	51.4	7.53	67.6	<0.2	26.1	<0.01	<0.0005
IM-JSRb-1-11M	20-Mar-02	49.9	7.39	96	<0.2	25.9	<0.01	<0.0005
IM-JSRb-2-0M	26-Nov-00	60.0	7.75	122	0.2	25.3	<0.01	<0.0005
IM-JSRb-2-1M	03-Jan-01	59.8	7.76	193	<0.2	25.4	<0.01	0.00090
IM-JSRb-2-2M	06-Feb-01	53.9	7.77	195	<0.2	25.7	<0.01	<0.0005
IM-JSRb-2-3M	27-Mar-01	51.7	7.59	216	0.2	26.6	<0.01	0.0010
IM-JSRb-2-4M	21-Jun-01	52.1	7.68	120	<0.2	27.2	<0.01	<0.0005
IM-JSRb-2-5M	09-Jul-01	50.0	7.60	143	<0.2	27.1	<0.01	<0.0005
IM-JSRb-2-6M	20-Aug-01	49.2	7.56	117	<0.2	26.9	<0.01	0.00055
IM-JSRb-2-7M	11-Sep-01	76.1	7.88	114	0.2	26.5	<0.01	0.0052
IM-JSRb-2-8M	16-Oct-01	52.1	7.52	170	0.2	26.7	<0.01	<0.0005
IM-JSRb-2-9M	07-Nov-01	49.3	7.07	137	<0.2	26.6	<0.01	<0.0005
IM-JSRb-2-10M	03-Dec-01	54.2	7.71	65.8	<0.2	25.8	<0.01	<0.0005
IM-JSRb-2-11M	20-Mar-02	49.6	7.38	101	<0.2	25.9	<0.01	<0.0005
IM-JSRb-3-0M	26-Nov-00	59.1	7.59	144	0.5	25.5	<0.01	0.00070
IM-JSRb-3-1M	03-Jan-01	55.8	7.72	193	0.5	24.2	<0.01	0.0013
IM-JSRb-3-2M	06-Feb-01	60.5	7.55	195	0.0	25.4	<0.01	0.00072
IM-JSRb-3-3M	27-Mar-01	51.2	7.42	222	0.2	26.7	<0.01	0.00078
IM-JSRb-3-4M	21-Jun-01	53.1	7.55	90.9	0.2	27.0	<0.01	0.00055
IM-JSRb-3-5M	09-Jul-01	49.2	7.68	128	0.3	27.1	<0.01	<0.0005
IM-JSRb-3-6M	20-Aug-01	68.3	7.79	144	0.2	28.6	<0.01	0.00093
IM-JSRb-3-7M	11-Sep-01	52.1	7.95	106	0.2	26.2	<0.01	0.00071
IM-JSRb-3-8M	16-Oct-01	50.9	7.39	177	0.2	28.8	<0.01	0.0040
IM-JSRb-3-9M	07-Nov-01	48.3	7.05	149	0.2	26.5	<0.01	<0.0005
IM-JSRb-3-10M	03-Dec-01	51.8	7.56	61.7	<0.2	25.9	<0.01	<0.0005
IM-JSRb-3-11M	20-Mar-02	49.2	7.29	61.6	<0.2	26.1	<0.01	<0.0005

Table 1.5.1 Results of Improved Deep Tubewell(2/3)

Well	Date of sampling	EC (mS/m)	pH	ORP(Eh)	Fe2+FK (mg/l)	Temp (deg C)	As by FK(mg/l)	As by AAS(mg/l)
Jhenaidah								
IM-JHKc-1-0M	28-Feb-01	94.1	6.84	122	10	25.9	0.01	0.049
IM-JHKc-1-1M	24-Mar-01	97.8	6.88	160	10	26.8	0.05	0.044
IM-JHKc-1-2M	1st-May-01	96.6	6.97	84.9	10	27.0	0.01	0.033
IM-JHKc-1-3M	17-Jun-01	92.6	7.01	80.8	9	27.2	0.01	0.018
IM-JHKc-1-4M	08-Jul-01	90.1	7.12	88.1	4	26.8	0.01	0.089
IM-JHKc-1-5M	15-Aug-01	91.3	6.95	92.6	3	26.0	0.01	0.11
IM-JHKc-1-6M	13-Sep-01	91.2	6.95	106	3	26.7	<0.01	0.063
IM-JHKc-1-7M	17-Oct-01	91.6	6.92	85.3	5	26.5	<0.01	0.056
IM-JHKc-1-8M	09-Nov-01	90.5	7.07	99.5	4	26.2	0.03	0.059
IM-JHKc-1-9M	08-Dec-01	91.7	7.15	27.9	4	25.7	0.02	0.060
IM-JHKc-2-0M	28-Feb-01	90.6	6.96	131	2	26.7	0.01	0.045
IM-JHKc-2-1M	24-Mar-01	89.0	6.97	145	3	26.8	0.02	0.054
IM-JHKc-2-2M	1-Mar-01	90.8	7.03	162	2	26.2	0.04	0.036
IM-JHKc-2-3M	17-Jun-01	106	7.15	115	3	26.6	0.01	0.045
IM-JHKc-2-4M	08-Jul-01	88.4	7.10	107	2	26.9	<0.01	0.054
IM-JHKc-2-5M	15-Aug-01	88.4	6.96	110	2	26.5	<0.01	0.061
IM-JHKc-2-6M	13-Sep-01	90.9	6.97	116	2	26.4	<0.01	0.055
IM-JHKc-2-7M	17-Oct-01	90.9	6.99	97.3	3	26.5	<0.01	0.063
IM-JHKc-2-8M	09-Nov-01	88.0	7.05	120	3	26.2	0.02	0.043
IM-JHKc-2-9M	08-Dec-01	89.5	7.13	88.8	3	25.8	0.02	0.048
IM-JHKc-3-0M	28-Feb-01	92.2	6.87	135	10	25.9	<0.01	0.049
IM-JHKc-3-1M	24-Mar-01	91.8	6.94	109	3	27.0	0.02	0.055
IM-JHKc-3-2M	1st-May-01	93.2	6.92	143	4	26.5	0.08	0.046
IM-JHKc-3-3M	17-Jun-01	96.3	6.96	101	4	26.7	0.01	0.042
IM-JHKc-3-4M	08-Jul-01	90.4	7.20	90.1	4	26.7	0.01	0.053
IM-JHKc-3-5M	15-Aug-01	90.4	6.89	95.1	4	26.7	<0.01	0.065
IM-JHKc-3-6M	13-Sep-01	90.7	6.90	108	4	26.9	<0.01	0.060
IM-JHKc-3-7M	17-Oct-01	89.0	7.09	108	7	26.4	0.04	0.011
IM-JHKc-3-8M	09-Nov-01	89.8	7.07	108	4	26.1	0.03	0.057
IM-JHKc-3-9M	08-Dec-01	89.9	7.17	79.9	3	25.7	0.03	0.044

Table 1.5.1 Results of Improved Deep Tubewell(3/3)

Well	Date of sampling	EC (mS/m)	pH	ORP(Eh)	Fe2+FK (mg/l)	Temp (deg-C)	As by FK(mg/l)	As by AAS(mg/l)
Chudanga								
IM-CDBd-1-0M	14-Mar-01	95.2	7.05	134	7	26.2	0.01	0.068
IM-CDBd-1-1M	14-Apr-01	49.0	7.02	165	5	26.0	0.04	0.055
IM-CDBd-1-2M	17-May-01	47.4	7.12	150	5	27.2	0.09	0.070
IM-CDBd-1-3M	23-Jun-01	48.8	7.15	91.1	3	26.8	0.03	0.058
IM-CDBd-1-4M	10-Jul-01	47.9	7.10	91.4	2	26.4	<0.01	0.087
IM-CDBd-1-5M	18-Aug-01	48.2	6.98	84.3	3	26.5	<0.01	0.11
IM-CDBd-1-6M	12-Sep-01	46.9	6.93	90.4	2	26.3	<0.01	0.089
IM-CDBd-1-7M	15-Oct-01	84.9	6.94	97.3	2	26.5	0.02	0.084
IM-CDBd-1-8M	08-Nov-01	46.3	7.06	98.0	3	26.9	<0.01	0.073
IM-CDBd-1-9M	08-Dec-01	48.4	7.19	76.9	2	25.7	0.05	0.057
IM-CDBd-2-0M	14-Mar-01	91.9	7.01	187	2	26.3	0.01	0.077
IM-CDBd-2-1M	14-Apr-01	49.3	6.95	184	2	26.0	0.03	0.081
IM-CDBd-2-2M	17-May-01	46.1	7.13	123	4	27.4	0.08	0.085
IM-CDBd-2-3M	23-Jun-01	47.0	7.11	87.1	2	26.7	0.08	0.070
IM-CDBd-2-4M	10-Jul-01	47.3	7.16	89.3	3	26.5	<0.01	0.13
IM-CDBd-2-5M	18-Aug-01	46.3	7.06	78.4	3	26.4	0.06	0.084
IM-CDBd-2-6M	12-Sep-01	46.7	6.97	92.6	3	26.0	<0.01	0.18
IM-CDBd-2-7M	15-Oct-01	47.8	7.00	101	3	28.8	0.04	0.11
IM-CDBd-2-8M	08-Nov-01	45.9	7.02	101	3	26.2	0.07	0.079
IM-CDBd-2-9M	08-Dec-01	47.4	7.22	78.8	3	25.8	0.03	0.064
IM-CDBd-3-0M	14-Mar-01	93.9	6.89	186	8	26.0	<0.01	0.084
IM-CDBd-3-1M	14-Apr-01	49.5	6.91	284	2	25.9	0.20	0.088
IM-CDBd-3-2M	17-May-01	45.5	7.16	119	2	27.3	0.30	0.080
IM-CDBd-3-3M	23-Jun-01	46.6	7.16	88.1	2	26.7	0.03	0.10
IM-CDBd-3-4M	10-Jul-01	46.3	7.21	94.4	2	26.4	<0.01	0.14
IM-CDBd-3-5M	18-Aug-01	46.9	6.99	86.2	3	26.6	<0.01	0.12
IM-CDBd-3-6M	12-Sep-01	46.8	6.97	93.4	3	26.4	<0.01	0.10
IM-CDBd-3-7M	15-Oct-01	48.7	6.91	100	2	26.4	0.03	0.085
IM-CDBd-3-8M	08-Nov-01	46.3	7.03	103	3	26.3	0.08	0.090
IM-CDBd-3-9M	08-Dec-01	48.5	7.23	75.8	3	25.8	0.07	0.064

Table 1.5.2 Results of Improved Deep Tubewell(1/2)

Analyte		pH	Temperature	Conductivity	Hardness	TDS	Nitrate	Nitrite	Ammonium	Dissolved Mn	Sulfate	Dissolved Fe	Chloride	Bicarbonate	Calcium	Magnesium	Sodium	Potassium	Fluoride	Cadmium	Total Cr	Copper	Cyanide	Lead	Mercury	Nickel	Zinc	COD
Method		pH meter	Thermo meter	Conductivity meter	Standard	Standard	SP	SP	SP	FAAS	SP	FAAS	SP	Titration	FAAS	FAAS	FAAS	FAAS	SP	Extraction / FAAS	Extraction / FAAS	Extraction / FAAS	SP	Extraction / FAAS	Extraction / FAAS	Extraction / FAAS	Extraction / FAAS	Titration
Practical Quantitation Limit		0	0 Deg C	0.02	0.5	0.13	0.2	0.02	0.1	0.08	5	0.2	0.6	20	0.5	0.05	0.05	0.1	0.1	0.0015	0.025	0.005	0.01	0.005	0.001	0.005	0.005	20
Unit			Deg C	mS/m	mg CaCO3	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg CaCO3	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Sample No	Date of sampling	pH	Temp	EC	Hardness	TDS	NO3	NO2	NH4	Mn	SO4	Fe	Cl	HCO3	Ca	Mg	Na	K	F	Cd	Cr	Cu	CN	Pb	Hg	Ni	Zn	COD
Jessore																												
IM-JSRb-1-0M	26-Nov-00	7.79	24.0	60.4	48.1	387	<PQL	<PQL	4.1	<PQL	<PQL	0.27	9.4	333	31	17	53	3.5	0.37	<PQL	<PQL	<PQL	0.017	0.0076	<PQL	<PQL	<PQL	<PQL
IM-JSRb-1-1M	03-Jan-01	7.63	24.0	62.4	55.5	399	<PQL	<PQL	5.9	0.20	<PQL	1.3	9.3	317	39	16	55	3.6	0.35	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL
IM-JSRb-1-2M	06-Feb-01	7.73	25.7	58.2	56.2	373	1.6	<PQL	<PQL	<PQL	<PQL	0.21	11	315	37	19	71	3.1	0.39	<PQL	<PQL	<PQL	0.013	<PQL	<PQL	<PQL	<PQL	<PQL
IM-JSRb-1-3M	27-Mar-01	7.83	28.4	56.3	56.0	360	<PQL	<PQL	1.1	<PQL	<PQL	0.73	13	315	39	17	69	5.8	0.38	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	0.095	<PQL
IM-JSRb-2-0M	26-Nov-00	7.80	23.6	63.2	47.3	404	<PQL	0.13	2.4	<PQL	<PQL	0.21	5.5	320	30	17	53	3.4	0.42	<PQL	<PQL	<PQL	0.025	<PQL	<PQL	0.010	<PQL	<PQL
IM-JSRb-2-1M	03-Jan-01	7.67	24.0	62.1	54.5	398	1.7	<PQL	8.4	0.17	<PQL	1.3	12	328	38	16	53	3.5	0.38	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	0.0075	<PQL	<PQL
IM-JSRb-2-2M	06-Feb-01	7.72	23.6	56.9	55.1	364	1.5	1.5	<PQL	<PQL	<PQL	<PQL	11	315	36	19	68	3.1	0.40	<PQL	<PQL	<PQL	0.014	0.0061	<PQL	<PQL	<PQL	<PQL
IM-JSRb-2-3M	27-Mar-01	7.88	28.1	56.7	55.7	363	<PQL	<PQL	1.1	<PQL	<PQL	0.66	12	298	39	17	66	5.7	0.31	<PQL	<PQL	<PQL	<PQL	0.0066	<PQL	<PQL	0.017	<PQL
IM-JSRb-3-0M	26-Nov-00	7.45	23.9	64.0	50.0	410	<PQL	<PQL	2.7	0.16	<PQL	0.62	4.2	320	32	17	49	4.7	0.46	<PQL	<PQL	<PQL	0.015	0.015	<PQL	0.0059	<PQL	39
IM-JSRb-3-1M	03-Jan-01	7.45	23.8	61.5	55.7	393	2.3	0.15	6.7	0.20	<PQL	1.5	8.5	315	40	16	50	3.7	0.43	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	0.0064	<PQL	<PQL
IM-JSRb-3-2M	06-Feb-01	7.46	24.3	56.9	57.8	364	2.4	2.0	<PQL	<PQL	<PQL	0.41	7.3	305	40	18	66	2.8	0.45	<PQL	<PQL	<PQL	0.017	<PQL	<PQL	<PQL	0.015	<PQL
IM-JSRb-3-3M	27-Mar-01	7.61	28.0	56.0	58.1	358	1.6	1.5	0.18	<PQL	<PQL	0.71	8.4	296	41	17	66	5.9	0.49	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	0.026	<PQL
Jhenaidah																												
IM-JHKc-1-0M	28-Feb-01	7.16	24.6	94.9	162	608	<PQL	<PQL	0.75	0.20	<PQL	3.2	0.87	546	130	29	29	4.9	0.31	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	0.0098	<PQL	27
IM-JHKc-1-1M	24-Mar-01	6.99	27.5	59.6	152	382	<PQL	<PQL	4.0	0.24	<PQL	7.8	1.1	555	130	22	23	8.6	0.22	<PQL	<PQL	<PQL	0.017	<PQL	<PQL	<PQL	0.030	<PQL
IM-JHKc-1-2M	1st-May-01	7.26	30.9	68.2	153	437	<PQL	<PQL	5.4	0.46	<PQL	9.8	1.7	557	120	30	26	6.2	0.27	<PQL	<PQL	<PQL	0.018	<PQL	<PQL	<PQL	<PQL	<PQL
IM-JHKc-1-3M	17-Jun-01	7.21	30.8	68.6	149	343	<PQL	<PQL	4.5	0.35	<PQL	6.2	2.8	524	120	25	26	5.1	0.18	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	27
IM-JHKc-2-0M	28-Feb-01	7.07	23.7	90.4	162	578	<PQL	<PQL	1.7	<PQL	<PQL	1.5	2.0	500	130	29	27	4.5	0.24	<PQL	<PQL	<PQL	0.011	<PQL	<PQL	<PQL	<PQL	<PQL
IM-JHKc-2-1M	24-Mar-01	7.21	27.6	89.3	146	572	<PQL	<PQL	1.2	<PQL	<PQL	2.3	3.6	509	120	22	23	6.7	0.21	<PQL	<PQL	<PQL	0.012	<PQL	<PQL	0.0073	0.10	<PQL
IM-JHKc-2-2M	1st-May-01	7.08	24.7	81.1	164	519	0.81	<PQL	1.6	<PQL	<PQL	2.3	2.4	532	130	30	14	4.8	0.16	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	0.0062	0.072	<PQL
IM-JHKc-2-3M	17-Jun-01	7.23	30.9	66.0	144	330	<PQL	<PQL	1.5	0.10	<PQL	1.9	2.6	535	120	24	19	4.5	0.15	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL
IM-JHKc-3-0M	28-Feb-01	6.79	24.1	94.5	163	605	<PQL	<PQL	1.3	0.14	<PQL	3.6	1.3	555	130	29	27	4.9	0.33	<PQL	<PQL	<PQL	0.013	<PQL	<PQL	<PQL	<PQL	35
IM-JHKc-3-1M	24-Mar-01	7.11	27.6	87.3	146	559	<PQL	<PQL	1.8	<PQL	<PQL	2.5	3.1	505	120	21	22	6.7	0.31	<PQL	<PQL	0.0050	0.014	<PQL	<PQL	0.0087	0.036	<PQL
IM-JHKc-3-2M	1st-May-01	7.04	24.6	81.9	164	524	3.6	<PQL	2.1	<PQL	<PQL	3.6	1.1	525	130	30	14	5.3	0.18	<PQL	<PQL	0.0062	<PQL	0.0052	<PQL	<PQL	0.053	39
IM-JHKc-3-3M	17-Jun-01	7.09	30.9	65.9	146	330	<PQL	<PQL	4.7	0.18	<PQL	3.7	1.5	523	120	26	23	4.9	0.27	<PQL	<PQL	0.015	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL

Excess of WHO guideline

Excess of Bangladesh Standard

Excess of both Bangladesh Standard and WHO guideline

(The values were determined as exceeding the standards before rounding off)

Table 1.5.2 Results of Improved Deep Tubewell(2/2)

Analyte	pH	Temperature	Conductivity	Hardness	TDS	Nitrate	Nitrite	Ammonium	Dissolved Mn	Sulfate	Dissolved Fe	Chloride	Bicarbonate	Calcium	Magnesium	Sodium	Potassium	Fluoride	Cadmium	Total Cr	Copper	Cyanide	Lead	Mercury	Nickel	Zinc	COD	
Method	pH meter	Thermo meter	Conductivity meter	Standard	Standard	SP	SP	SP	FAAS	SP	FAAS	SP	Titration	FAAS	FAAS	FAAS	FAAS	SP	Extraction FAAS	Extraction FAAS	Extraction FAAS	SP	Extraction FAAS	Extraction FAAS	Extraction FAAS	Extraction FAAS	Titration	
Practical Quantitation Limit	0	0 Deg C	0.02	0.5	0.13	0.2	0.02	0.1	0.08	5	0.2	0.6	20	0.5	0.05	0.05	0.1	0.1	0.0015	0.025	0.005	0.01	0.005	0.001	0.005	0.005	20	
Unit		Deg C	mS/m	mg CaCO3	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg CaCO3	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Sample No	Date of sampling	pH	Temp	EC	Hardness	TDS	NO3	NO2	NH4	Mn	SO4	Fe	Cl	HCO3	Ca	Mg	Na	K	F	Cd	Cr	Cu	CN	Pb	Hg	Ni	Zn	COD
Chudanga																												
IM-CDBd-1-0M	14-Mar-01	7.01	28.2	62.5	100	400	<PQL	<PQL	1.5	0.32	<PQL	5.1	1.4	342	82	18	14	5.1	0.38	<PQL	<PQL	<PQL	0.010	<PQL	<PQL	0.0070	<PQL	<PQL
IM-CDBd-1-1M	14-Apr-01	7.22	26.0	57.8	116	370	3.8	<PQL	1.6	0.25	<PQL	2.6	0.93	357	92	23	6.8	3.2	0.39	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	0.12	<PQL
IM-CDBd-1-2M	17-May-01	7.23	31.3	50.2	102	321	2.6	1.0	0.11	0.19	<PQL	2.8	1.8	346	80	22	12	4.2	0.34	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL
IM-CDBd-1-3M	23-Jun-01	7.26	30.9	51.1	101	256	<PQL	<PQL	1.8	0.29	<PQL	2.9	<PQL	353	82	20	18	3.8	0.35	<PQL	<PQL	0.0063	<PQL	<PQL	<PQL	<PQL	0.0059	<PQL
IM-CDBd-2-0M	14-Mar-01	7.07	28.2	61.9	102	396	<PQL	<PQL	1.7	0.16	<PQL	3.2	0.81	348	83	19	13	5.6	0.47	<PQL	<PQL	<PQL	0.020	<PQL	<PQL	0.0052	0.066	<PQL
IM-CDBd-2-1M	14-Apr-01	7.15	25.7	55.4	112	355	2.6	2.3	<PQL	0.20	<PQL	2.5	1.0	341	90	22	6.9	3.2	0.32	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	0.15	<PQL
IM-CDBd-2-2M	17-May-01	7.23	31.3	50.0	101	320	2.7	2.5	<PQL	0.15	<PQL	2.1	1.6	333	80	21	12	4.2	0.40	<PQL	<PQL	<PQL	0.013	<PQL	<PQL	<PQL	0.0092	<PQL
IM-CDBd-2-3M	23-Jun-01	7.27	31.0	51.3	99.5	257	<PQL	<PQL	1.7	0.24	<PQL	2.6	<PQL	348	81	18	13	3.3	0.37	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL
IM-CDBd-3-0M	14-Mar-01	7.14	28.1	61.7	100	395	2.7	<PQL	<PQL	0.12	<PQL	2.5	1.3	326	82	18	13	5.3	0.39	<PQL	<PQL	<PQL	<PQL	0.0104	<PQL	<PQL	<PQL	<PQL
IM-CDBd-3-1M	14-Apr-01	7.72	24.9	54.6	109	350	2.9	<PQL	1.3	0.22	<PQL	2.4	1.7	351	87	22	6.8	3.1	0.36	<PQL	<PQL	<PQL	<PQL	0.0093	<PQL	<PQL	0.18	<PQL
IM-CDBd-3-2M	17-May-01	7.42	31.2	50.4	100	322	<PQL	<PQL	1.0	0.13	<PQL	2.2	1.7	341	80	21	15	3.1	0.37	<PQL	<PQL	<PQL	0.014	<PQL	<PQL	<PQL	<PQL	<PQL
IM-CDBd-3-3M	23-Jun-01	7.29	31.0	51.2	95.8	256	<PQL	<PQL	1.7	0.23	<PQL	2.4	1.4	342	78	17	9.9	4.0	0.38	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL	<PQL

Excess of WHO guideline

Excess of Bangladesh Standard

Excess of both Bangladesh Standard and WHO guideline

(The values were determined as exceeding the standards before rounding off)