

孟加拉国东南部（吉大港）地下水位调查

Md. Abdul Hamid Mirdad, Swapan Kumar Palit

孟加拉国 吉大港 吉大港工程技术大学 (CUET) 土木工程系

摘要:

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关键词:

Investigation of ground water table in the South-East (Chittagong) part of Bangladesh

Md. Abdul Hamid Mirdad, Swapan Kumar Palit

Department of Civil Engineering, Chittagong University of Engineering & Technology (CUET), Chittagong, Bangladesh

Abstract: Ground water forms the major portion of earth's fresh water source and it is almost safe to drink. Depletion of ground water table due to continuous pumping causing scarcity of water in the city area of Bangladesh. So information about ground water table is required for future recommendation of ground water supply to general people. For the investigation purpose, depth of water table has been determined in three seasons with respect to mean sea level. Among 41 wards of Chittagong City, 18 wards have been selected for this purpose where depth of water table is measured from the shallow tube well. The present investigation includes field investigation for locating of tube well in Chittagong City Corporation area with the aim of measuring water level from ground surface. Seasonal variation of the water level has also been determined with respect to man sea level. Water collected from the well has been evaluated in the laboratory for determining quality of water. From the investigation, it has been established that, water table with respect to mean sea level is different at different wards. Seasonal variation has been observed due to lowering of water table and it has been found that water table is minimum at drought season.

Keywords: Ground water; Depletion of ground water; Sea level, Seasonal variation; Quality water; Drought

1.引言

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94%

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Aziz, 1975

, 1975

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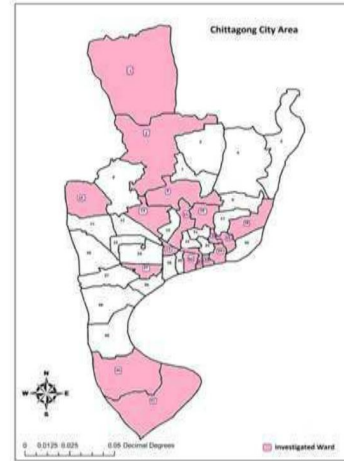
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MPO 1991 42543 Mm3
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Location	Depth (m)	Depth (ft.)
1. Head of Kaptai Road (13)	165.7 m	543.5 ft
2. Asian Housing Society (22)	175 m	574 ft
3. Moulabi Pukur Par (08)	141.7 m	464.1 ft
4. Agrabad Al Nahian, CDA	296.62 m	973 ft
5. Halishahar Housing & Settlement School, L Block	298.12 m	977.8 ft
6. Bishaw Colony, D Block	196.62 m	645 ft
7. Khawaja Road (3)	134.83 m	442.2 ft
8. Dewanhat CSD Gudam	208.90 m	685.2 ft
9. Salimpur Housing Society, Foujderhat	111.81 m	366.7 ft
10. Mojaffar Nagar, Polytechnic	190.32 m	624.2 ft

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2011

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5. Wagtech

3.地下水水位调查

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Ward No.	Name of the ward	Well location	Remarks
01	South Pahartali	Fatehabad Bohumuki City Corporation Girl's High School Kulgoan City Corporation High School	Shallow tube well Shallow tube well
02	Jalabad	Imaratnonesha City Corporation Girl's High School East Nasirabad A. Jalil Govt. Primary School Panchlaish City Corporation Girl's High School	Shallow tube well Deep tube well. Deep tube well.
03	Panchlaish	Sohid Dr. Mokbul Ahmed Govt. Primary School.	Deep tube well.
04	Chandgaon	Mohammadpur Govt. Primary School	Deep tube well.
05	Mohara	Kapashgola City Corporation Girl's High School Kapashgola Primary School	Deep tube well. Deep tube well.
06	East Sholashahar	Eklasar Rahman Govt. Primary School Rahmania High School	Deep tube well. Deep tube well.
07	West Sholashahar	Hamzarbag UCEEf School Mohammadpur Govt. Primary School Hossain/Ahmed Chowdhury City Corporation School	Deep tube well. Deep tube well. Shallow tube well
08	Sulakhahar	Ahmed Miah Primary School	Deep tube well.
09	North Pahartali	Kattali City Corporation Girl's High School	Shallow tube well
10	North Kattali		
11	South Kattali		
12	Sarajpan	Sarajpan City Corporation School & College.	Deep tube well
13	Pahartali	New Javalka Primary School	Shallow tube well
14	Lalkhan Bazar	Shahid Nagar City Corporation Girl's High School Bagmoniram Abdur Rashid City Corporation Boy's High School	Deep tube well Shallow tube well
15	Bagmoniram	Bagmoniram Sirinja Khatun City Corporation Girl's High School Gul A.Zar Begum C City Corporation Girl's High School	Shallow tube well Shallow tube well
16	Chavukbazar	West Bakalia Govt. Primary School	Deep tube well
17	West Bakalia	East Bakalia City Corporation Girl's High School	Shallow tube well
18	East Bakalia	Char Chakria City Corporation Boy's High School	Shallow tube well
19	South Bakalia	Boluarbhigi City Corporation Girl's High School	Shallow tube well
20	Dewan Bazar	Lamabazar AAS City Corporation Boy's High School Kadam Mubarak City Corporation Boy's High School	Shallow tube well Deep tube well
21	Jamal Khan	Jamal Khan Kusun Kuman City Corporation Girl's High School Saleh Jahur City Corporation High School	Deep tube well Deep tube well
22	Enakot Bazar	Postarpar City Corporation Boy's High School	Shallow tube well
23	Utar Pahartooly	Postarpar A Khatun City Corporation Girl's High School Patantooly Khan Shaheb City Corporation Girl's High School	Deep tube well Deep tube well
24	North Agrabad		
25	Rampur		
26	North Halishahar	Halishahar Mohabbat Ali City Corporation High School	Deep tube well
27	South Agrabad	Al Nahian Primary School Patangooly City Corporation Boy's High School.	Shallow tube well Deep tube well
28	Patantooly	Patantooly City Corporation Girl's High School.	Deep tube well
29	West Madarbari	West Madarbari City Corporation Girl's High School. East Madarbari City Corporation Girl's High School.	Deep tube well Deep tube well
30	East Madarbari	Primary Teacher's Institute	Shallow tube well
31	Alaman	Al-karan Nur Ahmed City Corporation Boy's High School.	Shallow tube well

Ward No.	Name of the ward	Well location	Remarks
32	Anderkilla	Oporacharon City Corporation Girl's High School.	Deep tube well
33	Firingi Bazar	Krishno Koman City Corporation Girl's High School.	Deep tube well
34	Patharghata	Al-karan Sultan Ahmed City Corporation Girl's High School.	Shallow tube well
35	Boxir Hat	Patharghata Meraska City Corporation Boy's High School.	Shallow tube well
36	Gosaldenga		
37	North Middle Halishahar	Gosaldenga KBAN City Corporation Girl's High School.	Deep tube well
38	South Middle Halishahar		
39	South Halishahar	Halishahar City Corporation Girl's High School.	Deep tube well
40	North Potenga	Potenga City Corporation Girl's High School.	Shallow tube well
41	South Potenga	South Potenga City Corporation High School.	Shallow tube well

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3.2. GPS

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Serial No.	Ward No.	Longitude	Latitude	Elevation (RL of ground surface w.r. to MSL)
01	08	91°49'29.9"	22°20'08.7"	97'
02	02	91°49'09.1"	22°24'14.8"	31'
03	01	91°49'08.5"	22°26'53.1"	21'
04	18	91°51'28.4"	22°21'03.9"	18'
05	16	91°50'17.8"	22°21'05.1"	54'
06	20	91°50'34.2"	22°20'24.9"	36'
07	19	91°50'51.8"	22°20'21.6"	34'
08	34	91°50'22.2"	22°20'08.0"	54'
09	33	91°50'03.1"	22°19'54.9"	19'

Serial No.	Ward No.	Longitude	Latitude	Elevation (RL of ground surface w.r. to MSL)
10	31	91°50'04.8"	22°19'9.1"	20'
11	30	91°49'37.3"	22°19'56.3"	18'
12	23	91°49'02.3"	22°20'17.2"	36'
13	41	91°47'36.7"	22°15'24.5"	44'
14	40	91°48'28.3"	22°14'16.7"	48'
15	13	91°48'31.8"	22°21'41.6"	76'
16	27	91°48'07.2"	22°19'25.9"	27'
17	15	91°49'21.6"	22°21'07.6"	61'
18	10	91°48'30.2"	22°20'18.5"	40'

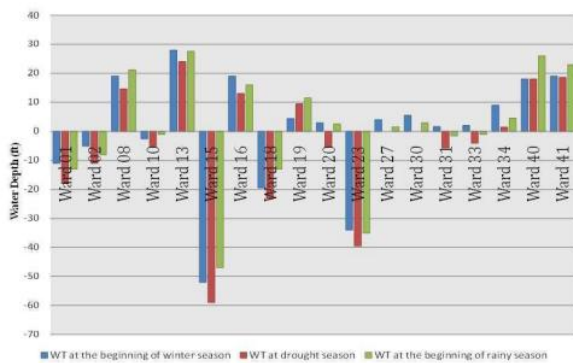
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Ward No	Name of Ward	Well location	At the beginning of winter season	At drought season	At the beginning of rainy season
01	South Pahartali	Fatehabad Bokumals City Corporation Girl's High School.	(21-32) = -11'	(21-39) = -18'	(21-34) = -13'
02	Jahab	Kulgaoon City Corporation High School.	(31-36) = -5'	(31-42) = -11'	(31-39) = -8'
08	Sulakbhar	Hossain Ahmed Chowdhury City Corporation School.	(97-78) = 19'	(97-824) = 148'	(97-7510) = 212'
10	North Kattali	Kattali City Corporation Girl's High School.	(40-425) = -26'	(40-45) = -5'	(40-41) = -1'
13	Pahartali	New Jostala Primary School.	(76-48) = 28'	(76-52) = 24'	(76-488) = 276'
15	Bagmoniram	Bagmoniram Abdul Rashid City Corporation Boy's High School.	(61-113) = -52'	(61-120) = -59'	(61-108) = -47'
16	Chawk Bazar	Gul A.Zar Begum City Corporation Girl's High School.	(54-35) = 19'	(54-41) = 13'	(54-38) = 16'
18	East Bakalia	East Bakalia City Corporation Girl's High School.	(18-176) = -196'	(18-41) = -23'	(18-31) = -13'
19	South Bakalia	Char Chikrai City Corporation Boy's High School.	(34-2977) = 45'	(34-246) = 96'	(34-226) = 116'
20	Dewan Bazar	Lama Bazar AAS City Corporation Boy's High School.	(36-33) = 3'	(36-416) = -56'	(36-336) = 26'
23	Uttar Paharbooly	Posterpar City Corporation Boy's High School.	(36-70) = -34'	(36-756) = -396'	(36-71) = -35'
27	South Agrabad	Al Nahian Primary School.	(27-23) = 4'	(27-27) = 0'	(27-256) = 16'
30	East Madarbari	Primary Teacher's Institute.	(18-126) = -56'	(18-18) = 0'	(18-15) = 3'
31	Alkaran	Alkaran Nur Ahmed City Corporation Boy's High School.	(20-183) = -17'	(20-259) = -59'	(20-20) = 0'
33	Firingi Bazar	Alkaran Sultan Ahmed City Corporation Girl's High School.	(19-17) = 2'	(19-23) = -4'	(19-20) = -1'
34	Patharghata	Patharghata Menaka City Corporation Boy's High School.	(54-45) = 9'	(54-527) = 15'	(54-496) = 46'
40	North Poenta	Potenpa City Corporation Girl's High School.	(48-30) = 18'	(48-30) = 18'	(48-22) = 26'
41	South Poenta	South Potenga City Corporation High School.	(44-25) = 19'	(44-255) = 187'	(44-21) = 23'

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4.调查井水质

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Ward No	pH	CO ₂ (mg/l)	Iron (mg/l)	Alkalinity (mg/l)	Arsenic (mg/l)	Chloride (mg/l)
WHO	6.5-8.5	---	0.1-1.0	---	0.01	250
Bangladesh	6.5-8.5	---	0.3-1.0	200-500	0.05	200-300
01	6.97	37.5	0.1	110	Na	7
02	6.98	32.5	0.1	120	Na	10
08	6.88	15	0.001	30	Na	20
10	6.99	22.5	0.1	80	Na	15
13	7.10	20	0.001	70	Na	5
15	7.20	37.5	0.1	110	Na	35
16	6.86	25	0.001	50	Na	15
18	7.02	30	0.2	130	Na	62
19	7.09	35	0.2	130	Na	85
20	7.19	62.5	0.1	80	Na	40
23	7.32	25	0.001	320	Na	950
27	7.45	22.5	0.3	350	<0.01	1000
30	6.95	20	0.001	120	Na	30
31	7.85	72.5	0.2	290	Na	145
33	7.11	55	0.1	230	Na	143
34	7.08	30	0.4	280	Na	70
40	7.38	95	0.8	420	<0.01	750
41	7.21	55	0.001	270	Na	20

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5.结论和讨论

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