

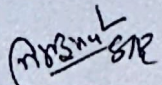
SONKHEDI TANK PROJECT

Annual rainfall data series of Sendhwa in descending order with dependability

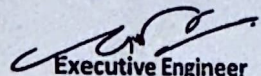
Raingauge Station : Sendhwa

Rainfall Series			Descending order			% Dependability (m)/n+1*100
Sr.No	Year	Rainfall (mm)	Year	Rainfall (mm)	Rank	
						2.38
1	1974	1290.00	2006	1304.00	1	4.76
2	1975	610.00	1974	1290.00	2	7.14
3	1976	469.00	2010	1243.00	3	9.52
4	1977	885.00	1990	1175.00	4	11.90
5	1978	641.00	1988	1139.00	5	14.29
6	1979	792.00	1999	1133.00	6	16.67
7	1980	824.00	1991	1104.00	7	19.05
8	1981	709.00	2013-14	1095.00	8	21.43
9	1982	1015.00	2003	1052.00	9	23.81
10	1983	527.00	2004	1019.00	10	26.19
11	1984	717.00	1982	1015.00	11	28.57
12	1985	689.00	1994	993.00	12	30.95
13	1986	707.00	1989	945.00	13	33.33
14	1987	519.00	1977	885.00	14	35.71
15	1988	1139.00	1997	866.00	15	38.10
16	1989	945.00	1995	846.00	16	40.48
17	1990	1175.00	2014-15	836.00	17	42.86
18	1991	1104.00	1980	824.00	18	45.24
19	1992	446.00	1979	792.00	19	47.62
20	1993	789.00	1993	789.00	20	50.00
21	1994	993.00	1996	770.00	21	52.38
22	1995	846.00	2011-12	765.00	22	54.76
23	1996	770.00	2009	734.00	23	57.14
24	1997	866.00	1984	717.00	24	59.52
25	1998	620.00	2001	713.00	25	61.90
26	1999	1133.00	2002	712.00	26	64.29
27	2000	678.00	1981	709.00	27	66.67
28	2001	713.00	1986	707.00	28	69.05
29	2002	712.00	2012-13	698.00	29	71.43
30	2003	1052.00	1985	689.00	30	73.81
31	2004	1019.00	2000	678.00	31	75.00
				659.50		76.19
32	2005	593.00	1978	641.00	32	78.57
33	2006	1304.00	2007	627.00	33	80.95
34	2007	627.00	1998	620.00	34	83.33
35	2008	559.00	1975	610.00	35	85.71
36	2009	734.00	2005	593.00	36	

Rainfall Series			Descending order			% Dependability (m)/n+1*100
Sr.No	Year	Rainfall (mm)	Year	Rainfall (mm)	Rank	
37	2010	1243.00	2008	559.00	37	88.10
38	2011-12	765.00	1983	527.00	38	90.48
39	2012-13	698.00	1987	519.00	39	92.86
40	2013-14	1095.00	1976	469.00	40	95.24
41	2014-15	836.00	1992	446.00	41	97.62


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Water Resources Sub Division
Sendhwa


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Water Resources Division
Barwani

SONKHEDI TANK PROJECT

Dependable Rainfall and Water Yield

Sr.No	Rainfall Percentage	Rainfall (mm)	By Binnies'Yield per sq km of CA	Yield as per CA (MCM)		Diminishing Facctor	Yield as per CA (MCM)	
				By Binnie	(By R-R)		By Binnie After Diminishing	
1	Annual Maximum Rainfall	1304.00	0.590	14.76	15.49	0.900	13.28	
2	Annual Minimum Rainfall	446.00	0.065	1.63	3.54	0.900	1.46	
3	Average Rainfall	825.56	0.244	6.10	6.10	0.900	5.49	
4	75% Dependable Rainfall	659.50	0.151	3.79	3.79	0.900	3.41	
5	60% Dependable Rainfall	712.80	0.179	4.47	7.26	0.900	4.02	
6	50% Dependable Rainfall	770.00	0.210	5.27	8.05	0.900	4.74	

Net water available for Net CA at 75% dependable yield

: 3.412 MCM


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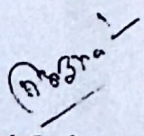

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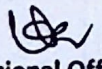

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Water Resources Division
Barwani

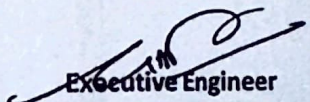
FIXATION OF STORAGE CAPACITY AND PRINCIPAL LEVELS

Name of the Scheme : SONKHEDI TANK PROJECT

S.No.	Particulars	Unit	Value
1	Total Catchment Area	sq km	25.03
2	Net Catchment Area	sq km	25.03
2	75% dependable Yield for total Catchment Area	MCM	3.79
3	Diminishing Factor		0.90
4	75% dependable Yield available at site	MCM	3.41
5	<u>Silt Reserve</u>		
a	NBL	RL in m	382.84
b	Silt factor 0.375 Th cum/year/sqkm for 50 years < 5 MCM of Tank Capacity	MCM	0.45
c	LSL	RL in m	395.10
d	Capacity at LSL	MCM	0.45
6	Live Storage (above LSL)	MCM	2.96
7	Full Reservoir Level	RL in m	405.30
8	Gross storage (Live Storage + LSL)	MCM	3.41
9	Head over Crest / Flood Lift	m	2.00
10	Maximum Water Level (FRL + Flood Lift)	RL in m	407.30
11	Providing free board	m	2.00
12	Top Bund Level (MWL + Free Board)	RL in m	409.30


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SONKHEDI TANK PROJECT

AREA CAPACITY TABLE

Sr. No	Contour R.L. (m)	Contour Interval (h) (m)	Contour Area (sq m)	Contour Area (sq km)	Sum Area (A1+A2) (sq km)	Root area (A1*A2) ^{0.5}	Capacity (MCM)	Cumulative Capacity (MCM)
1	382.84	0.00	0.00	0.0000	0.000	0.000	0.000	0.000
2	383.00	0.16	119.41	0.0001	0.000	0.000	0.000	0.000
3	384.00	1.00	2127.03	0.0021	0.002	0.001	0.001	0.001
4	385.00	1.00	6234.36	0.0062	0.008	0.004	0.004	0.005
5	386.00	1.00	10899.00	0.0109	0.017	0.008	0.008	0.013
6	387.00	1.00	15062.90	0.0151	0.026	0.013	0.013	0.026
7	388.00	1.00	19741.20	0.0197	0.035	0.017	0.017	0.044
8	389.00	1.00	27789.60	0.0278	0.048	0.023	0.024	0.067
9	390.00	1.00	35507.30	0.0355	0.063	0.031	0.032	0.099
10	391.00	1.00	43465.70	0.0435	0.079	0.039	0.039	0.138
11	392.00	1.00	58134.00	0.0581	0.102	0.050	0.051	0.189
12	393.00	1.00	74126.70	0.0741	0.132	0.066	0.066	0.255
13	394.00	1.00	93826.60	0.0938	0.168	0.083	0.084	0.339
14	395.00	1.00	112354.00	0.1124	0.206	0.103	0.103	0.442
15	395.10		113719.26	0.1137				0.448
LSL								

Sr. No	Contour R.L. (m)	Contour Interval (h) (m)	Contour Area (sq m)	Contour Area (sq km)	Sum Area (A1+A2) (sq km)	Root area (A1*A2) ^{0.5}	Capacity (MCM)	Cumulative Capacity (MCM)
15	396.00	1.00	139235.00	0.1392	0.252	0.125	0.126	0.567
16	397.00	1.00	167554.00	0.1676	0.307	0.153	0.153	0.720
17	398.00	1.00	199651.00	0.1997	0.367	0.183	0.183	0.904
18	399.00	1.00	242216.00	0.2422	0.442	0.220	0.221	1.124
19	400.00	1.00	278202.00	0.2782	0.520	0.260	0.260	1.384
20	401.00	1.00	313583.00	0.3136	0.592	0.295	0.296	1.680
21	402.00	1.00	352634.00	0.3526	0.666	0.333	0.333	2.013
22	403.00	1.00	392918.00	0.3929	0.746	0.372	0.373	2.386
23	404.00	1.00	430174.00	0.4302	0.823	0.411	0.411	2.797
24	405.00	1.00	464942.00	0.4649	0.895	0.447	0.447	3.244
25	405.30		475425.5	0.4754				3.408
25	406.00	1.00	499887.00	0.4999	0.965	0.482	0.482	3.727
26	407.00	1.00	534700.00	0.5347	1.035	0.517	0.517	4.244
26	407.30		544753.09	0.5448				4.406
27	408.00	1.00	568210.30	0.5682	1.103	0.551	0.551	4.795
28	409.00	1.00	601472.40	0.6015	1.170	0.585	0.585	5.380
29	409.30		611559.31	0.6116				5.562
29	410.00	1.00	635289.80	0.6353	1.237	0.618	0.618	5.998

FRL

TBL


Sub Engineer


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