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**Annexure I: Annual Rainfall Pattern of the period from 1941-2002**

Station	m (Slope)	c (Intercept)	R <sup>2</sup>	Remarks
Jaffna	1.7089	-2299.9	0.0051	
Puttlam	-0.3707	1740	0.0004	Low
Colombo	-0.3835	2853.7	0.0003	Low
Kandy	-1.4293	4513.7	0.0033	Low
Kurunegala	-1.7055	5170.2	0.0048	Low
Rathnapura	-1.7571	6920.5	0.0037	Low
Badulla	-2.4553	6546.6	0.0115	Low
Mahailuppallama	-2.8906	7094.4	0.0205	Low
Ratmalana	-3.1974	8793.8	0.0218	Moderate
Diyathalawa	-3.2762	7912.3	0.0309	Moderate
Batticaloa	-3.4809	8513.4	0.0189	Moderate
Nuwara Eliya	-3.491	8753.8	0.0297	Moderate
Kankasanthurai	-3.9674	9002.3	0.0158	Moderate
Hambantota	-4.4924	9840.9	0.0723	Moderate
Galle	-5.3877	12804	0.0562	Moderate
Trincomalee	-5.9501	13333	0.0453	Moderate
Anuradhapura	-7.1183	15878	0.0507	Remarkable
Mullativui	-8.7556	18539	0.1113	Remarkable
Kalutara	-9.9088	22134	0.0503	Remarkable
Vavuniya	-12.169	25413	0.0988	Remarkable

(Source: Manawadu L., Fernando, N, Climate Changes in Sri Lanka)

## Annexure II: Calculation Methodology

Start

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Year	Hydro Generation						
	RainFall Prediction	predicted Hydro Production	NCRE committed capacity (MW)	SPP Net Addition	Cumulative addition(SPP)	CEB Hydro Addition	Plant Factor (SPP)
2013		4753.761786	321	94	94	0	0.3655
2014	5,556.56	4,750.49	341.00	20.00	114.00	-	0.3655
2015	5,548.37	3,895.40	398.00	57.00	171.00	-	0.3655
2016	5,540.17	4,743.97	438.00	40.00	211.00	155.00	0.3655
2017	5,531.97	4,740.72	474.00	36.00	247.00	155.00	0.3655
2018	5,523.78	4,737.47	498.00	24.00	271.00	204.00	0.3655
2019	5,515.58	3,884.73	534.00	36.00	307.00	204.00	0.3655
2020	5,507.39	4,731.00	570.00	36.00	343.00	204.00	0.3655
2021	5,499.19	4,727.77	592.00	22.00	365.00	204.00	0.3655
2022	5,490.99	4,724.55	617.00	25.00	390.00	204.00	0.3655
2023	5,482.80	3,874.13	641.00	24.00	414.00	204.00	0.3655
2024	5,474.60	4,718.12	659.00	18.00	432.00	204.00	0.3655
2025	5,466.40	4,714.91	672.00	13.00	445.00	204.00	0.3655



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Plant Factor (SPP)	Plant Factor (CEB)	Units Generated SPP	Units Generated CEB	Total Hydro Addition (GWh)	Total Generation (GWh)	Total Thermal Production	Coal
0.3655	0.3208	300.96732	0	300.96732	13402	8,347.27	300
0.3655	0.3208	365.00292	0	365.00292	14,315.00	9,199.50	930
0.3655	0.3208	547.50438	0	547.50438	15,238.00	10,795.09	930
0.3655	0.3208	675.57558	435.58224	1111.15782	16,220.00	10,364.87	930
0.3655	0.3208	790.83966	435.58224	1226.4219	17,168.00	11,200.86	1430
0.3655	0.3208	867.68238	573.282432	1440.964812	18,188.00	12,009.56	1680
0.3655	0.3208	982.94646	573.282432	1556.228892	19,257.00	13,816.04	1930
0.3655	0.3208	1098.21054	573.282432	1671.492972	20,397.00	13,994.51	1930
0.3655	0.3208	1168.6497	573.282432	1741.932132	21,741.00	15,271.30	2530
0.3655	0.3208	1248.6942	573.282432	1821.976632	23,019.00	16,472.48	2830
0.3655	0.3208	1325.53692	573.282432	1898.819352	24,436.00	18,663.05	2830
0.3655	0.3208	1383.16896	573.282432	1956.451392	25,992.00	19,317.43	3430
0.3655	0.3208	1424.7921	573.282432	1998.074532	27,559.00	20,846.02	3730

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Existing Capacity									Price Prediction World Bank		CIF Price		
Coal	Diesel CEB	Diesel IPP	FO CEB	FO IPP	Naptha	CEB Thermal Diesel	CEB Thermal FO	Non CEB Thermal	Coal Price (USD) Australian (USD/MT)	Crude Spot Prices (USD- FOB) (USD/bbl)	Coal	Crude Oil	Fuel Oil(USD/T )
300	325	230	160	600.98	165	295		743.98	90	102.4	137.5	102.4	578.8972
930	240	230	160	600.98	165	329		743.98	91	101	138.75	101	571.0166
930	240	230	160	341.84	165	399		484.84	90	101	137.5	101	571.0166
930	240	230	160	341.84	165	399		484.84	91	100.8	138.75	100.8	569.8908
1430	240	230	160	341.84	165	399		484.84	91.9	100.6	139.875	100.6	568.765
1680	240	230	160	272.8	165	379		435.8	92.9	100.4	141.125	100.4	567.6392
1930	240	230	88	272.8	165	307		435.8	93.9	100.2	142.375	100.2	566.5134
1930	240	230	88	272.8	165	307		435.8	94.9	100	143.625	100	565.3876
2530	240	230	88	272.8	165	307		435.8	95.92	100.42	144.9	100.42	567.75178
2830	240	230	88	272.8	165	307		435.8	97.195	100.84	146.49375	100.84	570.11596
2830	89	230	88	272.8	165	271		435.8	98.47	101.26	148.0875	101.26	572.48014
3430	89	230	88	109.8	165	271		272.8	99.745	101.68	149.68125	101.68	574.84432
3730	89	230	52	109.8	165	235		272.8	100	102.1	150	102.1	577.2085

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In USD			Forecasted Prices(LKR)					U	
Fuel Oil(USD/T )	Fuel Oil(USD/bbl)	Naptha (USD/bbl)	Coal	Diesel Auto (world Price is Taken)	Fuel Oil(LKR/T)	Fuel Oil(LKR/bbl)	Naptha (LKR/bbl)	Hydro	Hydro (SPP)
578.8972	91.78994	99.97286	17875	123.76	75,256.64	11,932.69	12,996.47	4.16	18
571.0166	90.540392	98.5681	18037.5	122.27	74,232.16	11,770.25	12,813.85	4.16	18
571.0166	90.540392	98.5681	17875	122.27	74,232.16	11,770.25	12,813.85	4.16	18
569.8908	90.361885	98.36742	18037.5	122.06	74,085.80	11,747.05	12,787.76	4.16	18
568.765	90.183378	98.16674	18183.75	121.85	73,939.45	11,723.84	12,761.68	4.16	18
567.6392	90.004872	97.96606	18346.25	121.63	73,793.10	11,700.63	12,735.59	4.16	18
566.5134	89.826365	97.76538	18508.75	121.42	73,646.74	11,677.43	12,709.50	4.16	18
565.3876	89.647858	97.5647	18671.25	121.21	73,500.39	11,654.22	12,683.41	4.16	18
567.75178	90.022722	97.986128	18837	121.66	73,807.73	11,702.95	12,738.20	4.16	18
570.11596	90.397587	98.407556	19044.1875	122.10	74,115.07	11,751.69	12,792.98	4.16	18
572.48014	90.772451	98.828984	19251.375	122.55	74,422.42	11,800.42	12,847.77	4.16	18
574.84432	91.147315	99.250412	19458.5625	123.00	74,729.76	11,849.15	12,902.55	4.16	18
577.2085	91.52218	99.67184	19500	123.44	75,037.11	11,897.88	12,957.34	4.16	18

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Unit Cost(LKR/kWh)						Tx Cost	Distribution Cost				Hydro (SPP)	Coal with Assumed PF
Hydro (SPP)	Coal	Diesel	FO	FO & Diesel Average	Naptha			Coal (Assumed)	CEB Thermal	Non CEB Thermal		
18	7.15	30.94077	21.95615	26.44846	24.81025	0.77	2.72	0.5364	0.4508	0.6637	300.9673	1409.6592
18	7.215	30.56816	21.65726	26.11271	24.46163	0.77	2.72	0.5364	0.4508	0.6637	365.0029	4369.94352
18	7.15	30.56816	21.65726	26.11271	24.46163	0.77	2.72	0.5364	0.4508	0.6637	547.5044	4369.94352
18	7.215	30.51492	21.61456	26.06474	24.41183	0.77	2.72	0.5364	0.4508	0.6637	675.5756	4369.94352
18	7.2735	30.46169	21.57186	26.01678	24.36202	0.77	2.72	0.5364	0.4508	0.6637	790.8397	6719.37552
18	7.3385	30.40846	21.52917	25.96881	24.31222	0.77	2.72	0.5364	0.4508	0.6637	867.6824	7894.09152
18	7.4035	30.35523	21.48647	25.92085	24.26242	0.77	2.72	0.5364	0.4508	0.6637	982.9465	9068.80752
18	7.4685	30.302	21.44377	25.87288	24.21261	0.77	2.72	0.5364	0.4508	0.6637	1098.2105	9068.80752
18	7.5348	30.41379	21.53344	25.97361	24.3172	0.77	2.72	0.5364	0.4508	0.6637	1168.6497	11888.12592
18	7.617675	30.52557	21.6231	26.07434	24.42179	0.77	2.72	0.5364	0.4508	0.6637	1248.6942	13297.78512
18	7.70055	30.63736	21.71277	26.17506	24.52637	0.77	2.72	0.5364	0.4508	0.6637	1325.5369	13297.78512
18	7.783425	30.74914	21.80244	26.27579	24.63096	0.77	2.72	0.5364	0.4508	0.6637	1383.1690	16117.10352
18	7.8	30.86092	21.89211	26.37651	24.73554	0.77	2.72	0.5364	0.4508	0.6637	1424.7921	17526.76272

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**Total units of Generation**

Coal with Assumed PF	Diesel CEB	Diesel IPP	FO CEB	FO IPP	Naptha	Coal Adjusted	Diesel CEB Adjusted	Diesel IPP Adjusted
1409.6592	1283.4276	1337.22276	631.84128	3494.104932	651.58632	1409.6592	1057.869167	1102.209994
4369.94352	947.76192	1337.22276	631.84128	3494.104932	651.58632	4369.94352	21.58033561	30.44827539
4369.94352	947.76192	1337.22276	631.84128	1987.461862	651.58632	5239.217696	947.76192	1337.22276
4369.94352	947.76192	1337.22276	631.84128	1987.461862	651.58632	4808.996811	947.76192	1337.22276
6719.37552	947.76192	1337.22276	631.84128	1987.461862	651.58632	6719.37552	502.1279498	708.465817
7894.09152	947.76192	1337.22276	631.84128	1586.062474	651.58632	7894.09152	516.8055312	729.174811
9068.80752	947.76192	1337.22276	347.512704	1586.062474	651.58632	9068.80752	896.7812545	1265.292769
9068.80752	947.76192	1337.22276	347.512704	1586.062474	651.58632	9124.362574	947.76192	1337.22276
11888.12592	947.76192	1337.22276	347.512704	1586.062474	651.58632	11888.12592	330.9976406	467.0134653
13297.78512	947.76192	1337.22276	347.512704	1586.062474	651.58632	13297.78512	244.5244925	345.006177
13297.78512	351.461712	1337.22276	347.512704	1586.062474	651.58632	14389.20689	351.461712	1337.22276
16117.10352	351.461712	1337.22276	347.512704	638.3785176	651.58632	16117.10352	325.2723237	1237.578773
17526.76272	351.461712	1337.22276	205.348416	638.3785176	651.58632	17662.01772	351.461712	1337.22276



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							Electricity Production Cost				
Diesel IPP Adjusted	FO CEB	FO IPP	Naptha	Total-Thermal	Hydro	Hydro (SPP)	Coal	Diesel Adjusted CEB	Diesel Adjusted IPP	FO CEB	
67	1102.209994	631.84128	3494.104932	651.58632	8347.270894	19,775.65	5,417.41	10,079.06	32,731.29	34,103.23	13,872.80
61	30.44827539	631.84128	3494.104932	651.58632	9199.504663	19,762.05	6,570.05	31,529.14	659.67	930.75	13,683.95
92	1337.22276	631.84128	1987.461862	651.58632	10795.09184	16,204.88	9,855.08	37,460.41	28,971.33	40,876.43	13,683.95
92	1337.22276	631.84128	1987.461862	651.58632	10364.87095	21,546.94	12,160.36	34,696.91	28,920.88	40,805.25	13,656.25
98	708.465817	631.84128	1987.461862	651.58632	11200.85875	21,533.41	14,235.11	48,873.38	15,295.67	21,581.07	13,629.99
12	729.174811	631.84128	1586.062474	651.58632	12009.56194	22,092.74	15,618.28	57,930.79	15,715.26	22,173.09	13,603.03
45	1265.292769	347.512704	1586.062474	651.58632	13816.04304	18,545.32	17,693.04	67,140.92	27,222.00	38,408.26	7,466.82
92	1337.22276	347.512704	1586.062474	651.58632	13994.50875	22,065.81	19,767.79	68,145.30	28,719.08	40,520.53	7,451.98
06	467.0134653	347.512704	1586.062474	651.58632	15271.29852	22,052.38	21,035.69	89,574.65	10,066.89	14,203.65	7,483.95
25	345.006177	347.512704	1586.062474	651.58632	16472.47729	22,038.97	22,476.50	101,298.21	7,464.25	10,531.51	7,514.30
12	1337.22276	347.512704	1586.062474	651.58632	18663.05286	18,501.23	23,859.66	110,804.81	10,767.86	40,968.97	7,545.51
37	1237.578773	347.512704	638.3785176	651.58632	19317.43216	22,012.22	24,897.04	125,446.27	10,001.84	38,054.48	7,576.62
12	1337.22276	205.348416	638.3785176	651.58632	20846.01544	21,998.88	25,646.26	137,763.74	10,846.43	41,267.93	4,495.51

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Electricity Production Cost (million LKR)							Total units Generated (GWh)	Generation Cost (LKR/kWh)	Electricity Cost (Capacity Cost+ Production)	Electricity Price	Capacity Charge
Coal	Diesel CEB Adjusted	Diesel IPP Adjusted	FO CEB	FO IPP	Thermal naptha	Total Production Cost (GWh)					
10,079.06	32,731.29	34,103.23	13,872.80	76,717.10	16,166.02	208,862.56	13402	15.58443242	18.891058	22.381058	3.306625
31,529.14	659.67	930.75	13,683.95	75,672.75	15,938.86	164,747.22	14315	11.50871267	15.266446	18.756446	3.757734
37,460.41	28,971.33	40,876.43	13,683.95	43,042.98	15,938.86	206,033.93	15238	13.521061	17.133368	20.623368	3.612307
34,696.91	28,920.88	40,805.25	13,656.97	42,958.12	15,906.41	210,651.85	16220	12.98716732	16.538821	20.028821	3.551654
48,873.38	15,295.67	21,581.07	13,629.99	42,873.26	15,873.96	193,895.86	17168	11.29402698	15.016398	18.506398	3.722371
57,930.79	15,715.26	22,173.09	13,603.02	34,146.60	15,841.51	197,121.29	18188	10.83798608	14.583823	18.073823	3.745837
67,140.92	27,222.00	38,408.26	7,466.82	34,078.88	15,809.06	226,364.29	19257	11.75490955	15.468616	18.958616	3.713706
68,145.30	28,719.08	40,520.53	7,451.98	34,011.16	15,776.61	236,458.25	20397	11.59279571	15.122143	18.612143	3.529347
89,574.65	10,066.89	14,203.65	7,483.14	34,153.37	15,844.76	214,414.53	21741	9.862220282	13.514944	17.004944	3.652724
101,298.21	7,464.25	10,531.51	7,514.30	34,295.59	15,912.90	221,532.22	23019	9.623885661	13.243048	16.733048	3.619162
110,804.81	10,767.86	40,968.97	7,545.46	34,437.81	15,981.05	262,866.85	24436	10.75735988	14.325536	17.815536	3.568176
125,446.27	10,001.84	38,054.48	7,576.62	13,918.21	16,049.20	257,955.88	25992	9.924433694	13.288107	16.778107	3.363673
137,763.74	10,846.43	41,267.93	4,495.51	13,975.45	16,117.34	272,111.54	27559	9.873781351	13.311353	16.801353	3.437572