


6. CONCLUSIONS

1. Flood Transposition showed to produce good estimation of peak flows of a catchment when such catchments are similar in Peak flow characteristics. Such catchments could be identified easily by an index called Peakflow Similarity Index which would lie between 1.25 and 0.75. However, though the similarity index fluctuates around unity with a maximum deviation of 25%, there could be extreme cases of slope, rainfall and shape, which may lead to poor estimation. All three criteria of Rainfall, slope and shape ratio should be satisfied to avoid such extreme combinations.
2. Peakflow estimation for a watershed using flow data from another watershed showed that superior estimates could be obtained when watersheds from the same basin is used. Reasonable estimates could be done even with adjacent catchments of which peakflow characteristics are similar.
3. Flood Transposition using the catchment area as the only parameter showed that for watersheds of which peak flow characteristics are similar the annual peakflow is proportionate to its watershed area raised to a power of 0.8.
4. Errors in estimation of peak flow using n equalling 0.8 showed an average estimated error of 35% for similar catchments within the same river basin whereas an average error of 55% was recorded for any other catchments from the wet zone.
5. Design flow estimations using transposed data had an average error of 15% for catchments within the same river basin and an average error of 40% for any other basins in the wet zone for return period based flows.
6. Design flow computations using flood transposition when compared with other methods showed to produce results with better accuracy.
7. The results obtained from the wet zone were based on a data series range from 23 years to 43 years peak flow records. It may be good to obtain more data to perform similar analysis for more reliable values. Hence in the absence of observed data, wherever possible flood transposition between watersheds having similar peakflow characteristics would produce most appropriate results for designs.



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**ANNEX 1:
ANNUAL PEAKFLOW BEHAVIOUR**



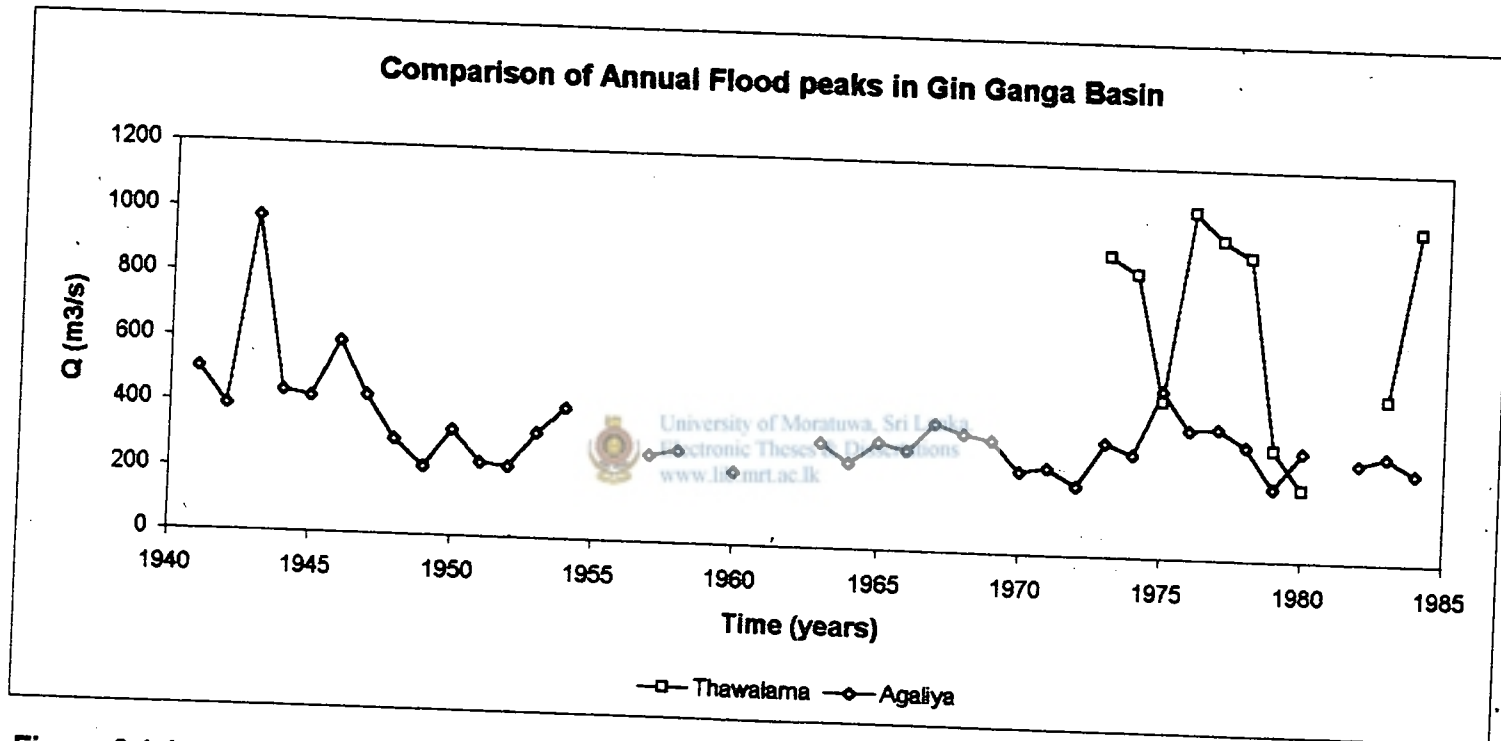


Figure 8.1.1
Annual Flood Peak Behavior in Gin Ganga Basin

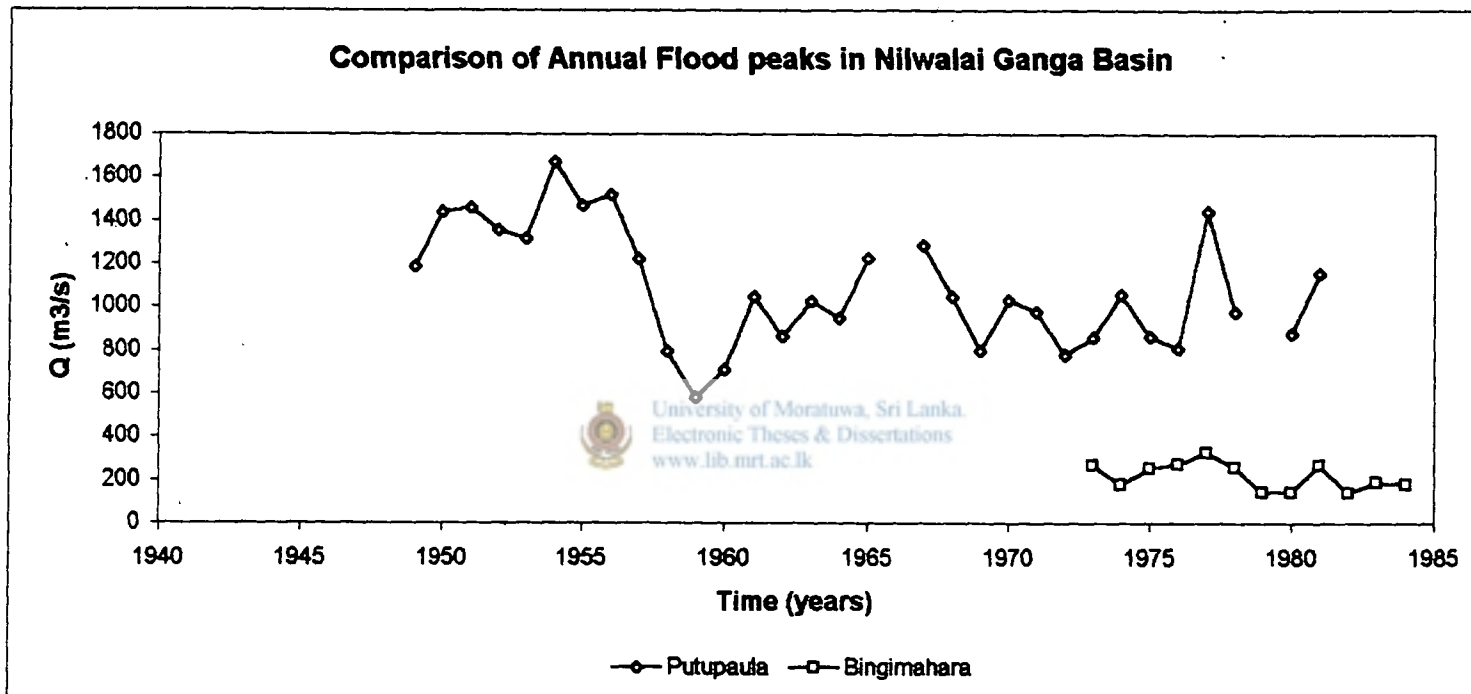


Figure 8.1.2
Annual Flood Peak Behavior in Nilwala Ganga Basin



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**ANNEX2:
RELATIONSHIP BETWEEN ANNUAL PEAKFLOWS**

Relationship Between Annual Flood Peaks in Kelani Ganga Basin

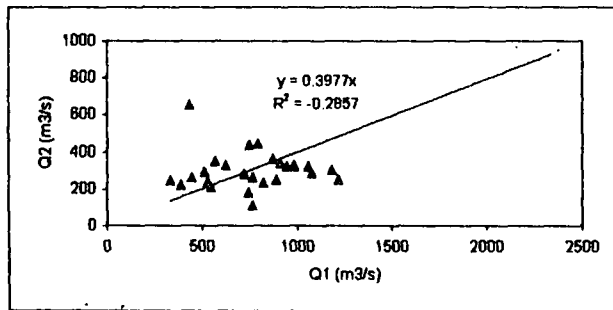


Fig.8.2.1 Comparison of Flood Peaks, Deraniyagala Vs Methyadola

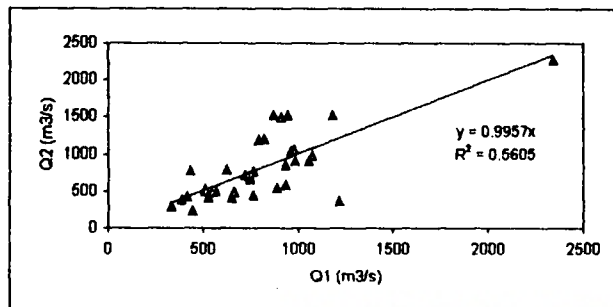


Fig.8.2.2 Comparison of Flood Peaks, Kitulgala Vs Methyadola

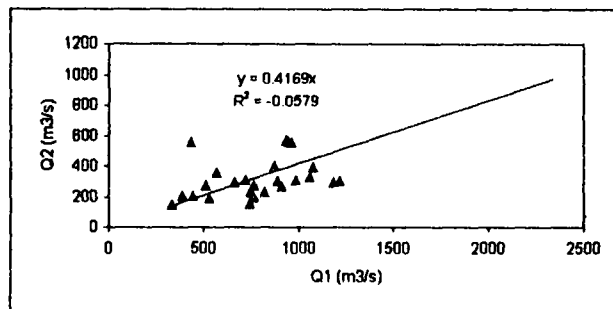


Fig.8.2.3 Comparison of Flood Peaks, Imbulana Vs Methyadola

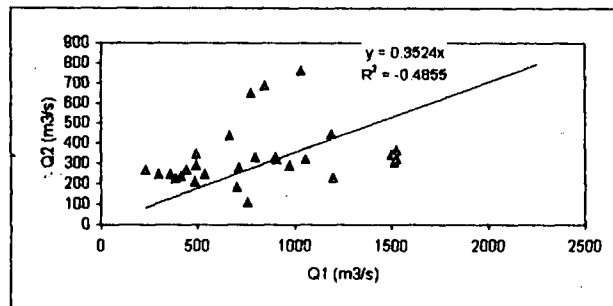


Fig.8.2.4 Comparison of Flood Peaks, Deraniyagala Vs Kitulgala

**Relationship Between Annual Flood Peaks in Kelani Ganga Basin
(contd.)**

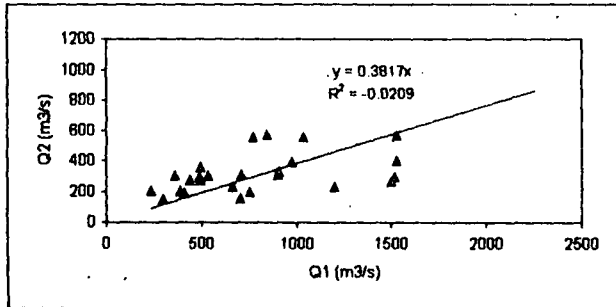


Fig 8.2.5 Comparison of Flood Peaks, Imbulana Vs Kitulgala

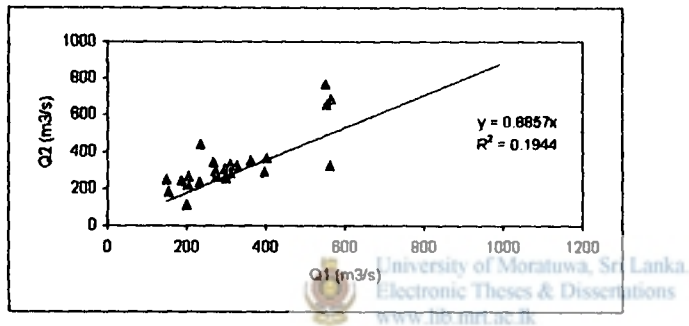


Fig.8.2.6 Comparison of Flood Peaks, Deraniyagala Vs Imbulana

Relationship Between Annual Flood Peaks in Kalu Ganga Basin

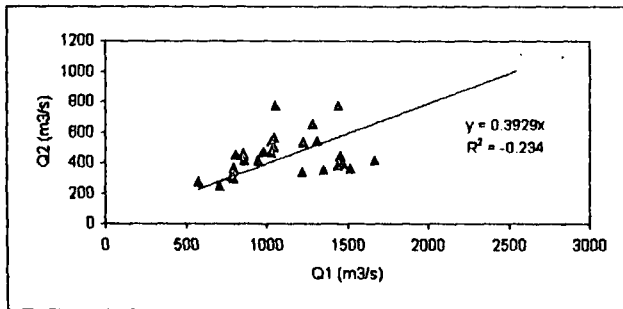


Fig.8.2.7 Comparison of Flood Peaks, Millakanda Vs Putupaula

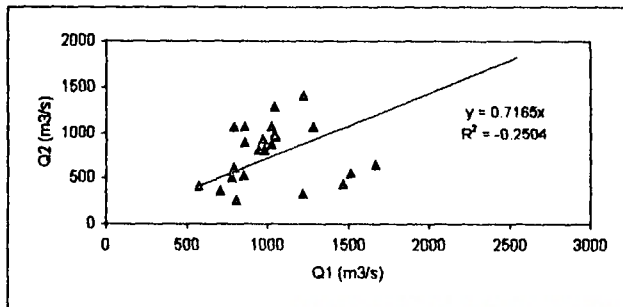


Fig.8.2.8 Comparison of Flood Peaks, Maiwala Vs Putupaula

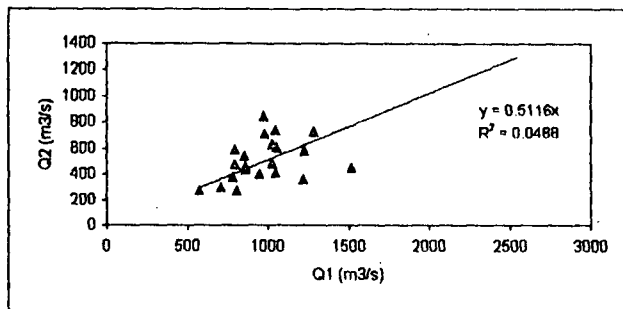


Fig.8.2.9 Comparison of Flood Peaks, Nambapana Vs Putupaula

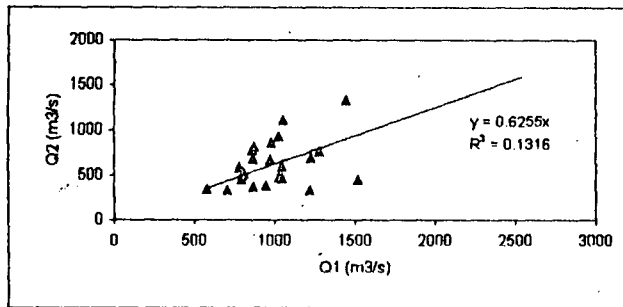


Fig.8.2.10 Comparison of Flood Peaks, Ellagawa Vs Putupaula

**Relationship Between Annual Flood Peaks in Kalu Ganga Basin
(contd.)**

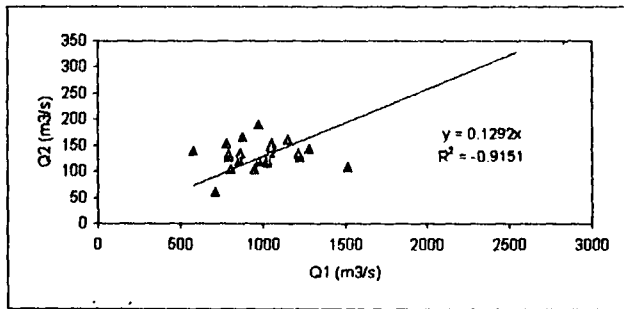


Fig.8.2.11 Comparison of Flood Peaks, Dela Vs Putupaula

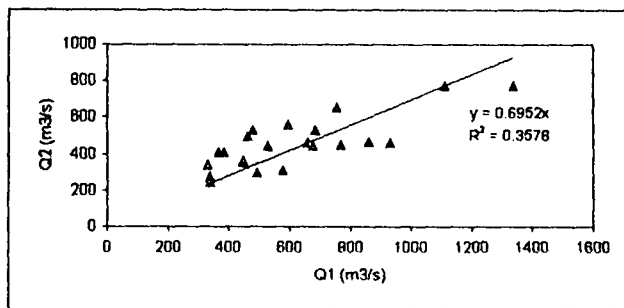


Fig.8.2.12 Comparison of Flood Peaks, Millakanda Vs Ellagawa

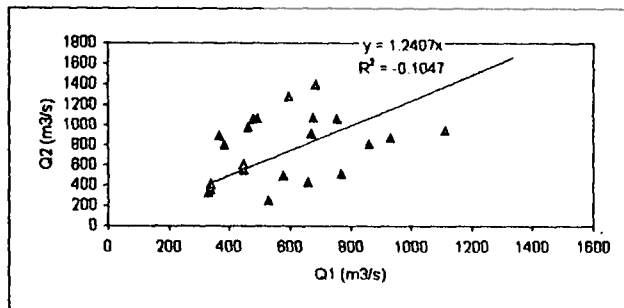


Fig.8.2.13 Comparison of Flood Peaks, Malawaia Vs Ellagawa

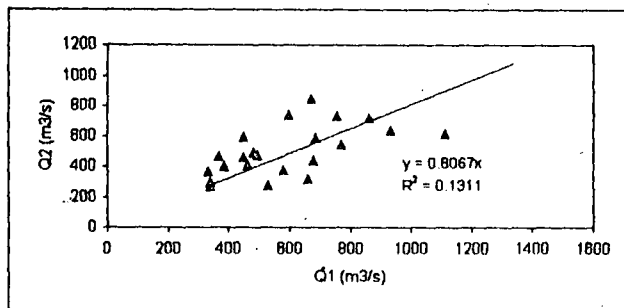


Fig.8.2.14 Comparison of Flood Peaks, Nambapana Vs Ellagawa

**Relationship Between Annual Flood Peaks In Kalu Ganga Basin
(contd.)**

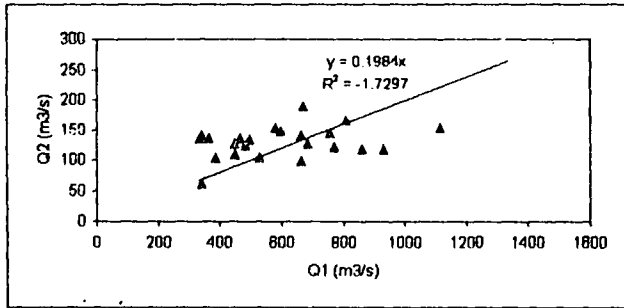


Fig.8.2.15 Comparison of Flood Peaks, Dela Vs Ellagawa

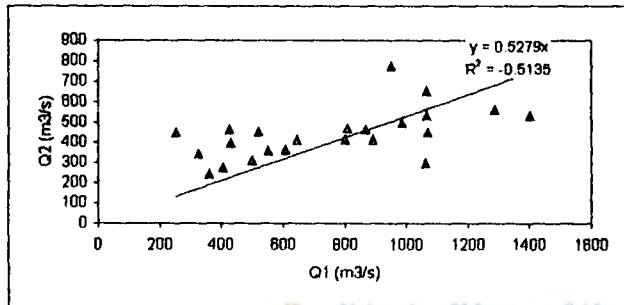


Fig.8.2.16 Comparison of Flood Peaks, Malawala Vs Millakanda

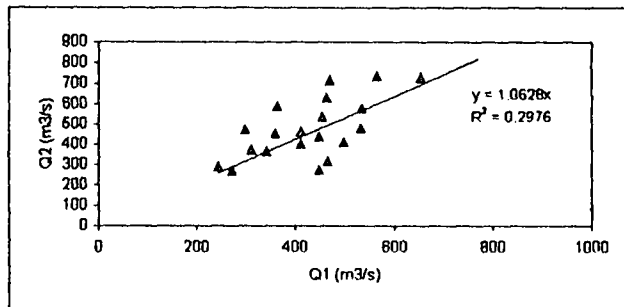


Fig.8.2.17 Comparison of Flood Peaks, Nambapana Vs Millakanda

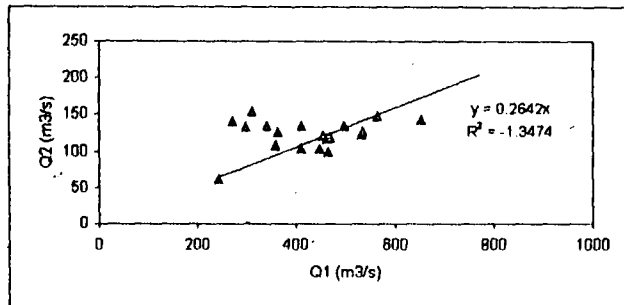


Fig.8.2.18 Comparison of Flood Peaks, Dela Vs Millakanda



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ANNEX 3:
EXPONENT N FOR PEAKFLOW TRANSPOSITION

Table 8.3.1 Exponent (n) for Transposition of Peakflow at Glencourse to Metiyadola

A2 606 km² (Area of Metiyadola Watershed)
 A1 1463 km² (Area of Glencours Watershed)
 A2/A1 0.41

Trial Value of Exponent n			0.5	0.8	0.7	0.8	0.9	1	1.2
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941									
1942									
1943									
1944									
1945									
1946									
1947									
1948	892	1770	27.71	18.94	7.07	1.98	10.23	17.81	31.09
1949	787	1019	14.49	21.71	28.31	34.38	39.60	44.97	53.89
1950	743	892	22.73	29.25	35.22	40.69	45.69	50.27	58.31
1951	883	1857	10.74	1.40	7.16	14.99	22.16	28.73	40.25
1952	935	1331	8.39	18.11	23.19	29.67	35.60	41.03	50.56
1953	391	722	18.84	8.82	0.38	8.77	16.47	23.51	35.87
1954	912	1303	8.05	15.80	22.91	28.41	35.37	40.82	50.38
1955	793	1104	10.40	17.98	24.88	31.22	37.02	42.33	51.85
1956	750	1246	8.92	2.10	10.36	17.82	24.84	31.18	42.31
1957	765	1232	3.85	5.10	13.10	20.43	27.15	33.29	44.07
1958	871	1700	25.82	15.02	6.32	3.57	11.70	19.15	32.22
1959	432	895	33.34	22.09	11.78	2.36	6.28	14.18	28.05
1960	532	736	10.98	18.47	25.35	31.85	37.41	42.89	51.89
1961	568	844	4.03	12.13	19.54	26.33	32.54	38.23	48.22
1962	513	957	20.08	9.93	0.86	7.83	15.81	22.73	35.22
1963	1076	1954	16.69	7.02	2.01	10.28	17.85	24.78	38.84
1964	948	1730	17.45	7.54	1.53	9.84	17.45	24.41	38.83
1965	986								
1966	664	3795	267.84	238.81	208.39	182.38	158.55	136.74	98.48
1967	1060	3075	86.70	70.95	58.53	43.32	31.23	20.18	0.74
1968	1215	1897	0.49	7.99	15.75	22.88	29.37	35.33	45.78
1969	331	983	91.13	75.01	60.25	48.73	34.35	23.01	3.13
1970	821	2039	59.84	46.36	34.01	22.70	12.35	2.87	13.76
1971	722	1400	24.80	14.27	4.63	4.20	12.28	19.68	32.86
1972	446	826	19.20	9.14	0.07	8.50	16.22	23.29	35.88
1973	1185	3121	69.51	55.21	42.11	30.12	19.15	9.09	8.54
1974	980	2982	95.84	79.32	64.19	50.34	37.85	28.04	5.87
1975	544	1323	56.52	43.32	31.23	20.18	10.02	0.74	15.54
1976	823	1380	42.58	30.54	18.52	9.44	0.21	8.25	23.08
1977	510	1681	112.13	94.24	77.85	62.85	49.11	38.53	14.48
1978	2344	4220	15.87	6.09	2.88	11.05	18.58	25.43	37.43
1979	418	573	11.35	18.83	25.68	31.95	37.69	42.95	52.17
1980	938	2695	85.31	69.68	55.38	42.25	30.25	19.28	0.01
1981	654	1974	94.28	77.87	62.87	49.13	38.54	25.03	4.82
1982		1060							
1983		4288							
1984		2096							
1985									
no of data	34	36	33	33	33	33	33	33	33
MRAE			42.23	35.24	30.30	26.07	20.39	30.14	33.93

Note
 Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)
 Q2obs Observed peakflow at Catchment at Metiyadola
 Q1obs Observed peakflow at Catchment at Glencourse
 RAE Ratio of Absolute Error
 MRAE Mean Ratio of Absolute Error

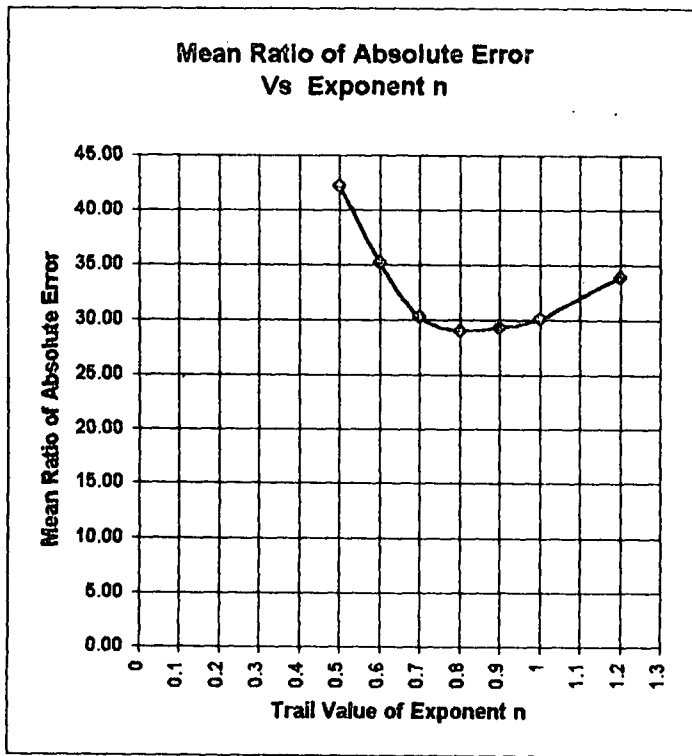


Figure 8.3.1
Mean Ratio of Absolute Error (MRAE) for Different n Values for Transposing Peakflow from Gleancourse to Metiyadola

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Table 8.3.2 Exponent (n) for Transposition of Peakflow at Glencourse to Deraniyagala

A2 152 km² (Area of Deraniyagala Watershed)
 A1 1463 km² (Area of Glencourse Watershed)
 A2/A1 0.10

Trail Value of Exponent n			0.4	0.6	0.7	0.8	0.9	1	1.2
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941									
1942									
1943									
1944									
1945									
1946									
1947									
1948	249	1770	187.35	82.70	45.88	18.16	7.38	28.15	53.04
1949	113	1019	264.53	131.77	84.81	47.36	17.50	6.31	40.43
1950	183	892	87.04	25.28	0.11	20.35	38.49	49.38	67.80
1951	765	1657	12.44	44.33	55.61	64.61	71.78	77.50	85.69
1952	667	1331	21.68	50.21	60.30	68.34	74.76	79.87	87.20
1953	224	722	30.30	17.16	33.94	47.33	58.00	66.51	78.71
1954	340	1303	54.92	1.50	21.46	37.38	50.07	60.18	74.68
1955	446	1104	0.08	36.38	48.27	59.55	67.75	74.29	83.85
1956	439	1246	14.73	27.05	41.83	53.62	63.02	70.51	81.25
1957	266	1232	87.23	19.04	5.08	24.32	39.65	51.88	69.41
1958	365	1700	88.29	19.71	4.55	23.89	39.31	51.61	69.23
1959	654	895	44.88	64.83	71.95	77.64	82.17	85.78	90.96
1960	239	736	24.49	20.85	36.89	49.68	59.87	68.01	79.68
1961	348	844	1.98	37.67	50.30	60.37	68.40	74.80	83.98
1962	292	957	32.49	15.77	32.83	46.44	57.30	65.95	78.35
1963	289	1954	173.32	73.77	38.56	10.49	11.90	29.75	55.34
1964	320	1730	118.54	38.85	10.79	11.66	29.58	43.83	64.28
1965	329	-	-	-	-	-	-	-	-
1966	-	3795	-	-	-	-	-	-	-
1967	323	3075	284.84	144.68	95.10	55.57	24.05	1.09	37.11
1968	249	1897	207.97	95.81	56.13	24.49	0.73	20.85	49.67
1969	246	983	61.53	2.70	18.11	34.70	47.93	58.48	73.80
1970	231	2039	256.82	126.86	80.89	44.24	15.01	8.29	41.69
1971	280	1400	102.12	28.51	2.47	18.29	34.85	48.05	66.97
1972	288	828	25.53	20.19	36.36	49.26	59.54	67.74	79.49
1973	308	3121	312.30	162.14	109.02	68.67	32.90	5.97	32.63
1974	321	2982	275.53	138.76	90.38	51.80	21.04	3.48	38.63
1975	210	1323	154.67	61.92	29.11	2.95	17.91	34.55	58.38
1976	329	1380	69.56	7.81	14.04	31.46	45.35	56.42	72.29
1977		1681							
1978		4220							
1979		573							
1980		2695							
1981		1974							
1982		1060							
1983		4286							
1984		2096							
1985									
no of data	28	36	27	27	27	27	27	27	27
MRAE			111.29	55.42	43.54	40.69	42.01	47.87	66.45

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peak flow at Catchment at Deraniyagala

Q1obs Observed peak flow at Catchment Glencourse

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error

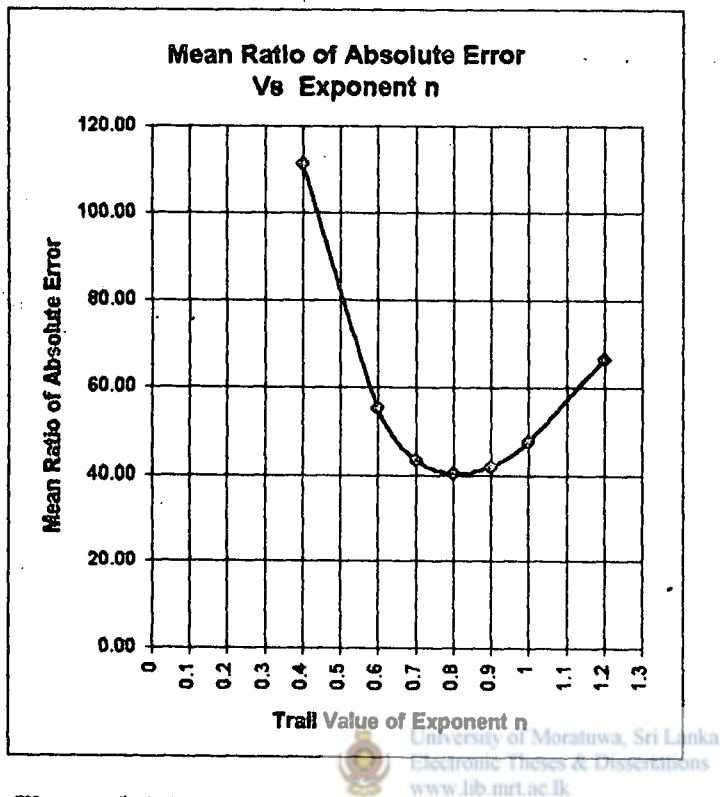


Figure 8.3.2
Mean Ratio of Absolute Error (MRAE) for Different n Values for Transposing Peakflow from Glencourse to Deraniyagala

Table 8.3.3 Exponent (n) for Transposition of Peakflow at Glencourse to Kitulgala

A2 388 km² (Area of Kitulgala Watershed)
 A1 1463 km² (Area of Glencourse Watershed)
 A2/A1 0.27

Trail Value of Exponent n			0.4	0.6	0.7	0.8	0.9	1	1.2
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941									
1942									
1943									
1944									
1945									
1946									
1947	527								
1948	535	1770	94.56	49.20	30.66	14.42	0.20	12.26	32.71
1949	756	1019	20.73	39.21	48.77	53.39	59.18	64.25	72.58
1950	705	892	25.59	42.84	50.03	56.24	61.68	66.44	74.27
1951	1034	1657	5.76	27.73	36.71	44.58	51.47	57.50	67.41
1952	847	1331	7.59	29.13	37.94	45.65	52.41	58.32	68.04
1953	366	722	10.00	15.65	26.13	35.31	43.35	50.39	61.66
1954	1497	1303	48.81	60.75	65.63	69.90	73.64	76.92	82.30
1955	1188	1104	45.35	58.09	63.30	67.66	71.86	75.35	81.10
1956	663	1246	10.52	15.25	25.78	35.01	43.08	50.16	61.79
1957	440	1232	64.68	26.27	10.58	3.17	15.20	25.74	43.05
1958	1526	1700	34.49	49.76	56.00	61.47	66.26	70.46	77.34
1959	772	895	31.82	47.72	54.22	59.91	64.89	69.25	76.42
1960	413	738	4.80	19.63	29.62	38.37	46.03	52.74	63.76
1961	495	844	0.27	23.11	32.66	41.03	48.38	54.78	65.32
1962	495	957	13.70	12.81	23.65	33.14	41.45	48.73	60.68
1963	973	1854	18.10	9.43	20.69	30.55	39.18	46.74	59.16
1964	1526	1730	33.33	48.87	55.23	60.79	65.67	69.93	76.94
1965	903	-	-	-	-	-	-	-	-
1966	488	3785	357.33	250.71	207.12	168.94	135.52	106.24	58.16
1967	909	3075	98.94	52.58	33.60	16.99	2.45	10.28	31.20
1968	359	1897	210.75	138.30	108.66	82.74	60.03	40.14	7.47
1969	297	983	94.64	49.26	30.71	14.48	0.24	12.22	32.69
1970	1200	2039	0.08	23.37	32.90	41.24	48.54	54.94	65.44
1971	712	1400	15.63	11.33	22.35	32.00	40.45	47.85	60.01
1972	235	826	108.70	56.51	38.81	21.56	6.45	6.78	28.51
1973	1517	3121	20.99	7.22	18.75	28.85	37.69	45.44	58.16
1974	1058	2982	65.75	27.11	11.31	2.53	14.64	25.25	42.69
1975	487	1323	59.78	22.51	7.29	6.05	17.73	27.95	44.75
1976	798	1380	1.95	21.82	31.53	40.04	47.50	54.02	64.74
1977	529	1681	86.87	43.31	25.49	9.90	3.76	15.72	35.37
1978	2259	4220	9.86	15.75	26.23	35.39	43.42	50.46	62.01
1979	430	573	21.64	38.90	47.37	53.82	59.64	64.68	72.80
1980	590	2695	168.62	106.00	60.39	57.97	38.34	21.14	7.10
1981	415	1974	179.73	114.51	87.85	64.50	44.05	26.15	3.28
1982	328	1060	90.05	45.74	27.63	11.76	2.13	14.29	34.27
1983	1342	4286	87.82	44.03	26.13	10.45	3.28	15.30	35.05
1984	925	2096	33.28	2.19	10.51	21.64	31.38	39.91	53.92
1985									
no of data	38	38	36	36	36	36	36	36	36
MRAE			60.57	45.52	42.78	40.88	41.14	45.24	53.40

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

- Q2obs Observed peak flow at Catchment at Kitulgala
- Q1obs Observed peak flow at Catchment at Glencourse
- RAE Ratio of Absolute Error
- MRAE Mean Ratio of Absolute Error

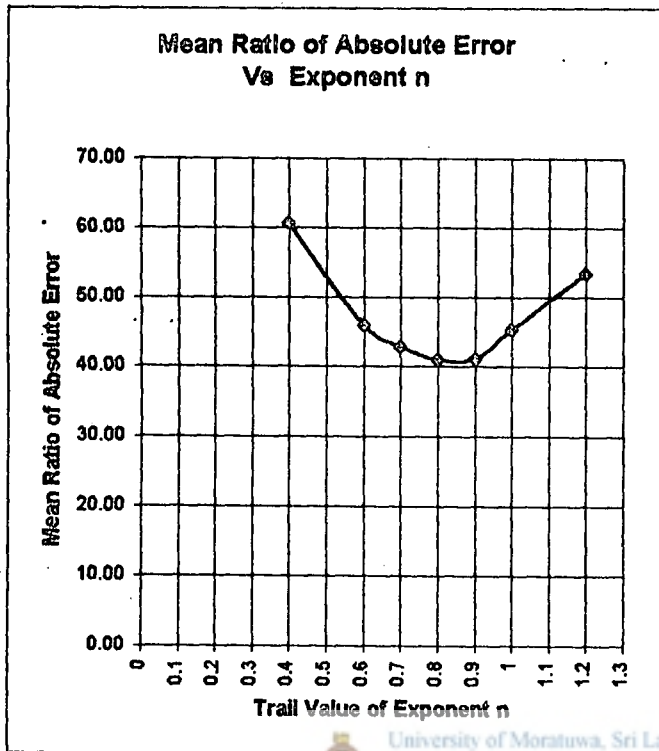


Figure 8.3.3
Mean Ratio of Absolute Error (MRAE) for Different n Values for Transposing Peakflow from Glencourse to Kitulgala

Table 8.3.4 Exponent (n) for Transposition of Peakflow at Glencourse to Imbulana

A2 329 km2 (Area of Imbulana Watershed)
 A1 1463 km2 (Area of Glencourse Watershed)
 A2/A1 0.22

Trail Value of Exponent n			0.4	0.6	0.8	1	1.1	1.2	1.3
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941									
1942									
1943									
1944									
1945									
1946									
1947									
1948	299	1770	225.90	141.81	79.42	33.12	14.87	1.23	14.92
1949	200	1019	180.49	108.12	54.42	14.58	1.31	14.99	26.77
1950	153	892	220.96	138.15	76.70	31.11	12.93	2.72	16.21
1951	552	1857	85.28	22.82	9.02	32.50	41.85	49.91	56.86
1952	566	1331	29.46	3.94	28.73	47.12	54.45	60.78	66.20
1953	204	722	94.84	44.57	7.27	20.41	31.44	40.95	49.13
1954	268	1303	167.66	98.60	47.36	9.34	5.82	18.88	30.12
1955	991	1104	38.67	54.49	66.24	74.95	78.42	81.41	83.69
1956	235	1246	191.90	116.58	60.70	19.23	2.71	11.53	23.79
1957	275	1232	148.84	83.00	35.78	0.75	13.22	25.25	35.61
1958	402	1700	132.81	72.74	29.17	4.90	18.08	29.44	39.22
1959	555	895	11.22	34.13	51.12	83.74	68.76	73.09	76.82
1960	187	736	116.88	60.77	19.29	11.49	23.76	34.33	43.43
1961	361	844	28.71	4.50	28.14	47.42	54.71	60.99	66.40
1962	272	957	93.70	43.72	6.64	20.88	31.85	41.28	49.43
1963	396	1954	171.85	101.56	49.55	10.98	4.42	17.67	29.08
1964	561	1730	69.77	25.97	6.54	30.85	40.28	48.55	55.68
1965	312	-	-	-	-	-	-	-	-
1966	297	3795	603.45	421.95	287.27	187.35	147.52	113.20	83.65
1967	328	3075	416.12	282.95	184.14	110.83	81.60	56.43	34.74
1968	300	1897	248.12	158.30	91.65	42.20	22.49	5.51	9.12
1969	148	983	265.66	171.31	101.30	49.36	28.66	10.82	4.54
1970	232	2039	383.85	259.00	166.37	97.64	70.25	46.85	26.32
1971	312	1400	147.03	83.29	36.00	0.91	13.08	25.13	35.51
1972	206	826	120.75	83.79	21.53	9.83	22.33	33.10	42.37
1973	297	3121	478.52	329.25	218.49	136.31	103.56	75.34	51.03
1974		2982							
1975		1323							
1976		1380							
1977		1681							
1978		4220							
1979		573							
1980		2695							
1981		1974							
1982		1060							
1983		4286							
1984		2098							
1985									
no of data	26	36	25	25	25	25	25	25	25
MRAE			185.99	117.00	70.51	44.30	39.53	39.17	42.04

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

- Q2obs Observed peak flow at Catchment at Imbulana
- Q1obs Observed peak flow at Catchment at Glencourse
- RAE Ratio of Absolute Error
- MRAE Mean Ratio of Absolute Error

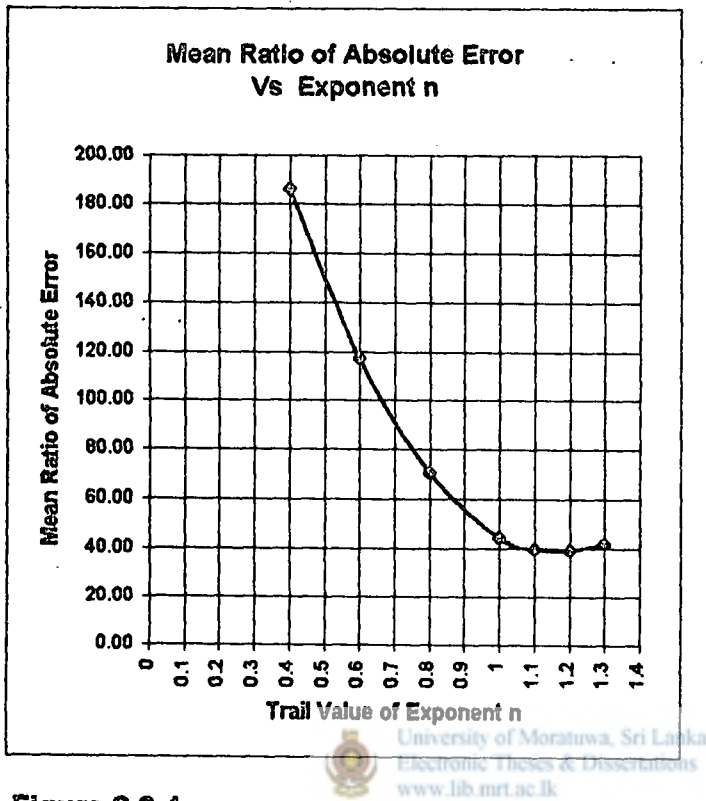


Figure 8.3.4
Mean Ratio of Absolute Error (MRAE) for Different n Values for Transposing Peakflow from Glencourse to Imbulana

Table 8.3.5 Exponent (n) for Transposition of Peakflow at Metiyadola to Deraniyagala

A2 152 km² (Area of Deraniyagala Watershed)
 A1 606 km² (Area of Metiyadola Watershed)
 A2/A1 0.25

Trail Value of Exponent n			0.4	0.6	0.7	0.8	0.9	1	1.2
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941									
1942									
1943									
1944									
1945									
1946									
1947									
1948	249	892	106.02	56.24	36.06	18.48	3.18	10.15	31.66
1949	113	767	290.36	196.03	157.80	124.50	95.50	70.25	29.11
1950	183	743	133.50	77.08	54.20	34.29	16.94	1.84	22.77
1951	785	963	27.60	45.10	52.19	58.36	63.74	69.43	76.03
1952	687	935	21.73	40.64	48.31	54.99	60.80	65.88	74.11
1953	224	391	0.39	23.87	33.70	42.27	49.72	56.22	66.80
1954	340	912	54.26	16.99	1.88	11.28	22.74	32.72	48.98
1955	446	793	2.26	22.45	32.47	41.19	48.79	55.40	66.18
1956	439	750	1.75	25.49	35.11	43.49	50.79	57.15	67.50
1957	268	785	65.40	25.43	9.23	4.88	17.17	27.66	45.30
1958	365	871	37.24	4.09	9.37	21.07	31.27	40.15	54.61
1959	654	432	62.01	71.19	74.91	78.15	80.97	83.43	87.44
1960	239	532	28.02	2.92	15.46	26.39	35.89	44.17	57.66
1961	348	566	6.46	29.07	38.23	46.21	53.15	59.20	68.06
1962	292	513	1.04	23.38	33.27	41.89	49.40	55.93	66.58
1963	289	1076	114.12	62.38	41.41	23.14	7.24	6.61	29.18
1964	320	948	70.38	29.21	12.52	2.02	14.67	25.69	43.65
1965	329	986	72.36	30.71	13.83	0.88	13.68	24.83	42.99
1966		664							
1967	323	1060	88.73	43.13	24.64	8.54	5.48	17.69	37.58
1968	249	1215	180.62	112.81	85.33	61.39	40.54	22.39	7.18
1969	246	331	22.62	41.32	48.90	55.50	61.25	66.25	74.41
1970	231	821	104.40	55.01	34.99	17.55	2.37	10.85	32.40
1971	280	722	48.30	12.46	2.08	14.71	25.73	35.32	50.95
1972	266	446	3.57	26.87	36.32	44.54	51.71	57.94	68.11
1973	306	1185	122.71	68.90	47.08	28.08	11.54	2.87	26.34
1974	321	980	75.58	33.15	15.95	0.99	12.07	23.42	41.93
1975	210	544	48.98	12.98	1.61	14.32	25.39	35.02	50.73
1976	329	623	6.90	17.41	28.08	37.37	45.46	52.50	63.88
1977		510							
1978		2344							
1979		416							
1980		936							
1981		654							
1982									
1983									
1984									
1985									
no of data	28	34	28	28	28	28	28	28	28
MRAE			64.26	43.08	36.80	34.16	35.61	39.65	51.10

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peak flow at Catchment at Deraniyagala

Q1obs Observed peak flow at Catchment at Metiyadola

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error

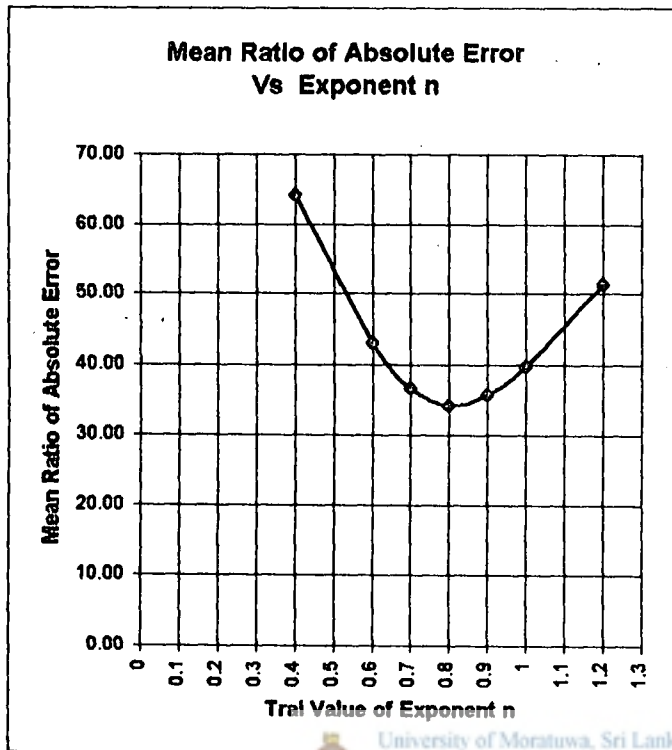


Figure 8.3.5
Mean Ratio of Absolute Error (MRAE) for Different n Values for Transposing Peakflow from Metiyadola to Deraniyagala

Table 8.3.6 Exponent (n) for Transposition of Peakflow at Metiyadola to Kitulgala

A2 388 km² (Area of Kitulgala Watershed)
 A1 606 km² (Area of Metiyadola Watershed)
 A2/A1 0.64

Trail Value of Exponent n			0	0.1	0.2	0.3	0.4	0.8	1.2
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941									
1942									
1943									
1944									
1945									
1946									
1947	527								
1948	535	892	66.73	59.46	52.50	45.85	39.49	18.71	2.36
1949	756	787	1.46	2.97	7.20	11.25	15.12	28.98	40.58
1950	705	743	5.39	0.79	3.60	7.80	11.83	26.23	38.28
1951	1034	963	6.87	10.93	14.81	18.53	22.08	34.81	45.46
1952	847	935	10.39	5.58	0.97	3.43	7.64	22.73	35.35
1953	386	391	1.30	3.12	7.35	11.39	15.25	29.10	40.88
1954	1497	912	39.08	41.73	44.28	46.71	49.03	57.36	64.32
1955	1188	793	33.25	36.16	38.94	41.61	44.15	53.28	60.91
1956	663	750	13.12	8.19	3.47	1.04	5.36	20.82	33.75
1957	440	785	73.86	66.28	59.03	52.10	45.48	21.70	1.82
1958	1526	971	42.92	45.41	47.79	50.07	52.25	60.05	66.57
1959	772	432	44.04	46.48	48.82	51.05	53.18	60.83	67.23
1960	413	532	28.81	23.20	17.82	12.69	7.77	9.83	24.59
1961	495	566	14.34	19.36	4.59	0.03	4.33	19.96	33.04
1962	495	513	3.64	0.66	5.21	9.34	13.29	27.46	39.31
1963	973	1076	10.59	5.76	1.15	3.26	7.48	22.59	35.24
1964	1526	948	37.88	40.59	43.18	45.65	48.02	56.51	63.62
1965	903	986	9.19	4.43	0.12	4.48	8.64	23.57	36.05
1966	488	664	36.07	30.13	24.46	19.03	13.84	4.76	20.31
1967	909	1060	16.61	11.53	6.66	2.01	2.44	18.37	31.71
1968	359	1215	238.44	223.68	209.57	196.07	183.16	136.90	98.20
1969	297	331	11.45	6.59	1.94	2.51	6.76	21.99	34.73
1970	1200	821	31.58	34.57	37.42	40.15	42.76	52.11	59.93
1971	712	722	1.40	3.02	7.25	11.29	15.18	29.02	40.61
1972	235	446	89.79	81.51	73.60	66.03	58.79	32.85	11.15
1973	1517	1185	21.89	25.29	28.55	31.67	34.65	45.32	54.25
1974	1058	980	7.37	11.41	15.27	18.97	22.50	35.16	45.75
1975	487	544	11.70	6.83	2.17	2.28	6.54	21.81	34.58
1976	796	623	21.73	25.15	28.41	31.53	34.52	45.21	54.16
1977	529	510	3.59	7.80	11.82	15.66	19.34	32.52	43.54
1978	2259	2344	3.76	0.76	5.09	9.23	13.19	27.37	39.23
1979	430	416	3.26	7.47	11.51	15.37	19.06	32.28	43.34
1980	590	936	58.64	51.73	45.11	38.78	32.73	11.05	7.09
1981	415	854	57.59	50.72	44.15	37.86	31.85	10.31	7.71
1982	328								
1983	1342								
1984	925								
1985									
no of data	38	34	34	34	34	34	34	34	34
MRAE			31.11	29.10	28.05	28.08	29.05	33.81	38.67

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peak flow at Catchment at Kitulgala

Q1obs Observed peak flow at Catchment at Metiyadola

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error

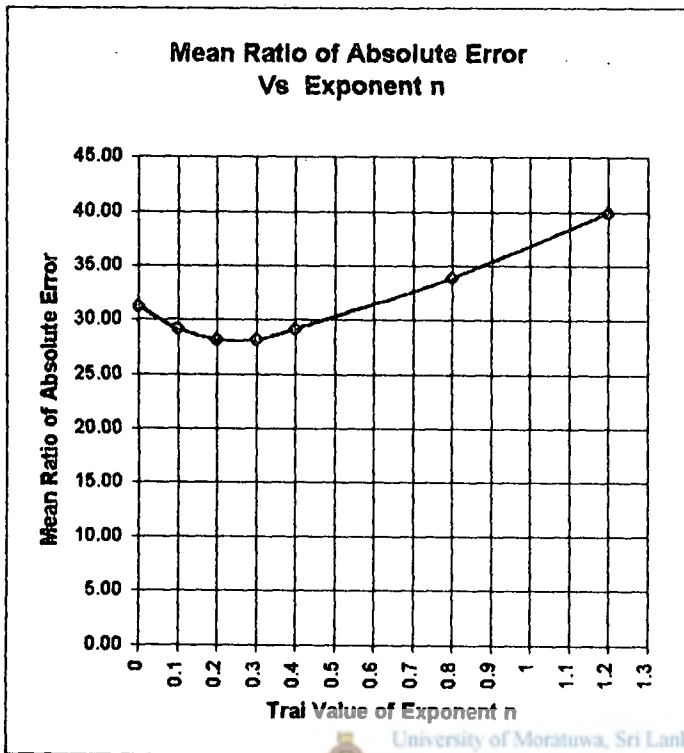


Figure 8.3.6
Mean Ratio of Absolute Error (MRAE) for Different n Values for Transposing Peakflow from Metiyadola to Kitulgala

Table 8.3.7 Exponent (n) for Transposition of Peakflow at Metiyadola tro Imbulanma

A2 329 km² (Area of Imbulana Watershed)
 A1 606 km² (Area of Metiyadola Watershed)
 A2/A1 0.54

Trail Value of Exponent n			0.8	1.2	1.6	1.7	1.8	1.9	2
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941									
1942									
1943									
1944									
1945									
1946									
1947									
1948	299	892	83.01	43.34	12.27	5.81	0.64	6.53	12.07
1949	200	787	135.28	84.26	44.32	35.77	27.72	20.15	13.03
1950	153	743	197.90	133.33	82.75	71.92	61.73	52.15	43.13
1951	552	983	7.02	16.18	34.35	38.24	41.90	45.34	48.58
1952	568	935	1.34	20.63	37.83	41.52	44.98	48.24	51.31
1953	204	391	17.58	7.91	27.87	32.15	36.17	39.95	43.51
1954	268	912	108.76	63.50	28.08	20.47	13.33	6.62	0.30
1955	991	793	50.91	81.55	69.89	71.67	73.35	74.93	76.41
1956	235	750	95.78	53.34	20.10	12.99	6.29	0.01	5.93
1957	275	765	70.85	33.66	4.69	1.52	7.35	12.64	18.01
1958	402	871	32.91	4.10	18.46	23.30	27.84	32.12	36.14
1959	555	432	152.25	62.60	70.71	72.44	74.08	75.61	77.08
1960	187	532	174.52	36.68	7.06	0.72	5.25	10.87	16.15
1961	361	566	3.82	24.67	41.00	44.49	47.78	50.88	53.79
1962	272	513	15.70	9.36	29.02	33.23	37.19	40.91	44.41
1963	398	1078	66.68	30.55	2.25	3.81	9.51	14.87	19.91
1964	561	948	3.68	18.81	36.41	40.18	43.72	47.08	50.19
1965	312	986	93.87	51.84	18.93	11.88	5.25	0.99	6.85
1966	297	664	37.15	7.42	15.87	20.85	25.54	29.85	34.10
1967	328	1080	98.25	55.27	21.62	14.41	7.63	1.25	4.75
1968	300	1215	146.45	94.59	52.41	43.38	34.88	26.89	19.37
1969	148	331	37.20	7.46	15.84	20.82	25.52	29.93	34.08
1970	232	821	117.09	70.03	33.17	25.28	17.83	10.87	4.30
1971	312	722	41.96	11.19	12.92	18.08	22.93	27.50	31.79
1972	206	446	32.91	4.02	18.52	23.35	27.89	32.17	36.19
1973	297	1185	144.76	91.70	50.15	41.25	32.88	25.01	17.60
1974		980							
1975		544							
1976		623							
1977		510							
1978		2344							
1979		416							
1980		936							
1981		654							
1982									
1983									
1984									
1985									
no of data	26	34	26	26	26	26	26	26	26
MRAE			53.61	33.27	24.44	23.31	23.01	23.14	24.21

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

- Q2obs Observed peak flow at Catchment at Imbulana
- Q1obs Observed peak flow at Catchment at Metiyadola
- RAE Ratio of Absolute Error
- MRAE Mean Ratio of Absolute Error

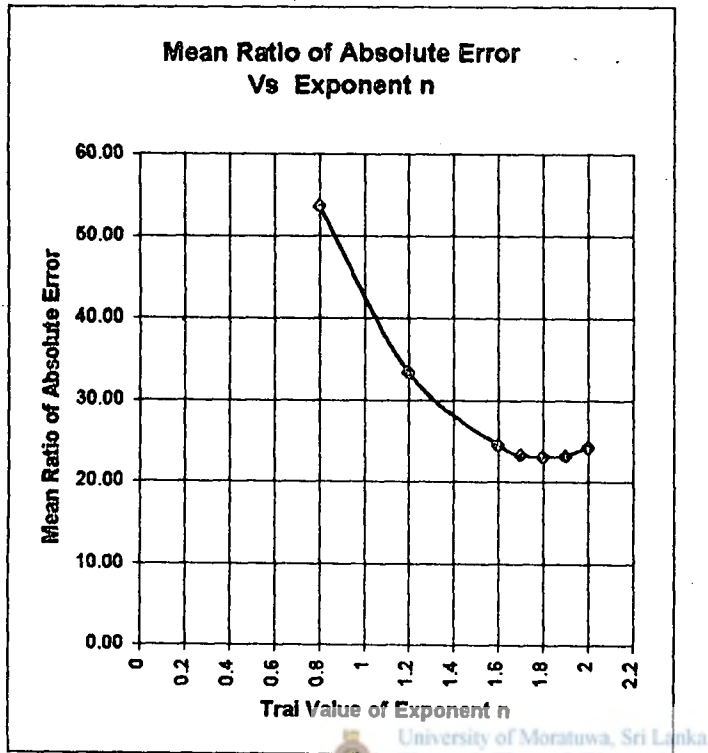


Figure 8.3.7
Mean Ratio of Absolute Error (MRAE) for Different n Values for Transposing Peakflow from Metiyadoia tro Imbulanma

Table 8.3.3 Exponent (n) for Transposition of Peakflow at Kitulgala to Deraniyagala

A2 152 km² (Area of Deraniyagala Watershed)
 A1 388 km² (Area of Kitulgala Watershed)
 A2/A1 0.39

Trail Value of Exponent n			0.8	1.2	1.4	1.5	1.6	1.8	2
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941									
1942									
1943									
1944									
1945									
1946									
1947		527							
1948	249	535	1.52	30.21	42.14	47.32	52.03	60.23	67.03
1949	113	758	216.12	117.30	80.16	64.04	49.37	23.84	2.68
1950	183	705	82.03	25.13	3.74	5.54	13.99	28.69	40.88
1951	785	1034	38.13	56.10	63.60	68.88	69.82	74.98	79.28
1952	687	847	41.74	59.98	68.80	69.77	72.47	77.18	81.08
1953	224	388	18.58	44.03	53.60	57.75	61.53	68.10	73.55
1954	340	1497	108.04	43.01	18.57	7.98	1.70	18.50	32.43
1955	446	1188	25.86	13.48	28.27	34.89	40.53	50.69	59.12
1956	439	863	28.64	50.95	59.33	62.97	66.28	72.04	76.82
1957	286	440	21.84	46.27	55.48	59.44	63.07	69.38	74.61
1958	385	1528	97.55	35.79	12.58	2.51	8.68	22.61	35.84
1959	654	772	44.22	61.66	68.21	71.08	73.65	78.15	81.68
1960	239	413	18.35	43.87	53.47	57.63	61.42	68.01	73.48
1961	348	485	32.79	53.80	61.70	65.12	68.24	73.67	78.17
1962	292	495	19.90	44.84	54.35	58.43	62.15	68.62	73.89
1963	289	973	59.08	9.35	9.34	17.45	24.83	37.68	48.33
1964	320	1528	125.33	54.89	28.42	16.93	6.47	11.73	26.81
1965	329	903	29.69	10.85	26.09	32.70	38.72	49.19	57.88
1966		488							
1967	323	909	32.98	8.59	24.22	31.00	37.17	47.91	56.81
1968	249	359	31.88	53.17	61.17	64.65	67.81	73.31	77.87
1969	246	297	42.95	60.79	67.49	70.40	73.04	77.65	81.47
1970	231	1200	145.46	68.73	39.89	27.38	15.68	3.84	20.28
1971	280	712	20.15	17.41	31.52	37.65	43.23	52.93	60.97
1972	266	235	58.26	71.31	78.21	78.34	80.28	83.65	88.44
1973	308	1517	134.25	61.02	33.50	21.56	10.68	6.23	23.92
1974	321	1058	55.74	7.05	11.24	19.18	26.41	38.99	49.42
1975	210	487	9.58	24.68	37.55	43.14	48.22	57.07	64.41
1976	329	798	14.32	21.42	34.85	40.68	45.98	55.21	62.87
1977		529							
1978		2259							
1979		430							
1980		590							
1981		415							
1982		328							
1983		1342							
1984		925							
1985									
no of data	28	38	28	28	28	28	28	28	28
MRRAE			55.48	42.71	42.98	44.00	45.78	51.88	58.87

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peak flow at Catchment at Deraniyagala

Q1obs Observed peak flow at Catchment at Kitulgala

RAE Ratio of Absolute Error

MRRAE Mean Ratio of Absolute Error

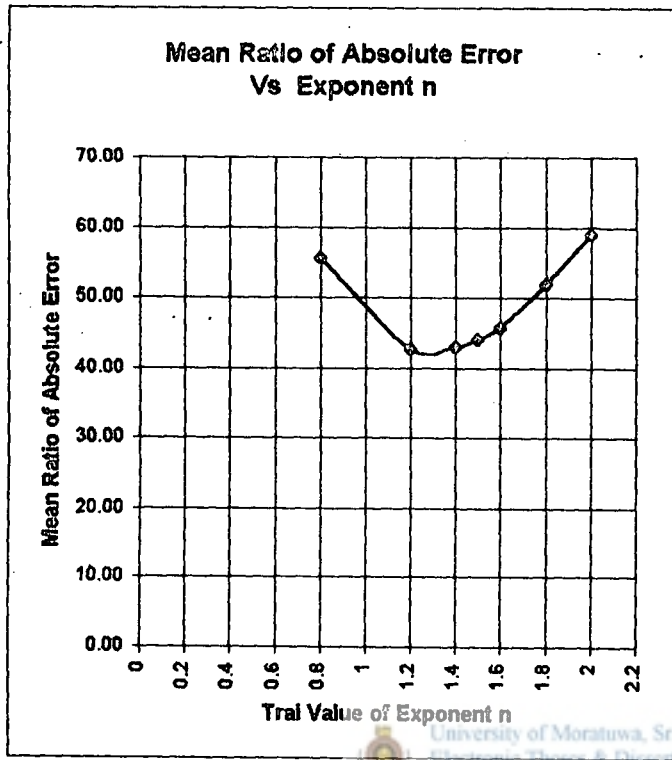


Figure 8.3.8
Mean Ratio of Absolute Error (MRAE) for Different n Values for Transposing Peakflow from Kitulgala to Deraniyagala

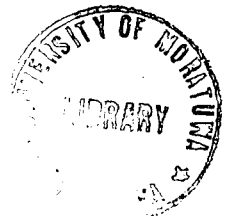


Table 8.3.9 Exponent (n) for Transposition of Peakflow at Kitulgala to Imbulana

A2 329 km² (Area of Imbulana Watershed)
A1 388 km² (Area of Kitulgala Watershed)
A2/A1 0.85

Trail Value of Exponent n			0.8	2	4	6	6.5	7	8
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941									
1942									
1943									
1944									
1945									
1946									
1947		527							
1948	299	535	56.81	28.65	7.50	33.49	38.76	43.61	52.18
1949	200	756	231.27	171.78	95.41	40.50	29.38	19.14	1.02
1950	153	705	303.82	231.30	138.21	71.27	57.71	45.23	23.14
1951	552	1034	64.16	34.68	3.16	30.37	35.69	40.96	49.94
1952	566	847	31.15	7.60	22.64	44.38	48.78	52.84	60.01
1953	204	386	65.82	36.05	2.18	29.67	35.24	40.36	49.43
1954	268	1497	389.53	301.62	188.76	107.62	91.19	76.05	49.28
1955	991	1188	5.06	13.81	38.03	55.44	58.97	62.22	67.96
1956	235	663	147.25	102.85	45.85	4.87	3.44	11.08	24.60
1957	275	440	40.22	15.04	17.29	40.53	45.24	49.57	57.24
1958	402	1526	232.67	172.93	96.24	41.10	29.93	19.64	1.45
1959	555	772	21.90	0.01	28.09	48.30	52.39	56.16	62.83
1960	187	413	93.55	58.79	14.17	17.91	24.41	30.39	40.98
1961	361	495	20.17	1.41	29.11	49.03	53.07	56.78	63.36
1962	272	495	58.48	30.85	5.92	32.36	37.71	42.64	51.36
1963	396	973	115.33	76.66	27.02	8.67	15.90	22.56	34.34
1964	561	1526	138.39	95.58	40.62	1.11	6.90	14.27	27.30
1965	312	903	153.64	108.09	49.62	7.58	0.84	8.78	22.65
1966	297	488	44.00	18.14	15.06	38.93	43.76	48.21	56.09
1967	328	909	142.87	99.26	43.27	3.01	5.15	12.65	25.64
1968	300	359	4.87	13.98	38.14	55.52	59.04	62.28	68.02
1969	148	297	75.87	44.29	3.74	25.41	31.32	36.75	46.37
1970	232	1200	353.30	271.90	167.39	92.26	77.04	63.02	38.23
1971	312	712	99.99	64.08	17.97	15.18	21.89	28.08	39.01
1972	206	235	0.02	17.98	41.03	57.60	60.95	64.05	69.51
1973	297	1517	347.63	267.25	164.05	89.85	74.82	60.98	36.50
1974		1058							
1975		487							
1976		798							
1977		529							
1978		2259							
1979		430							
1980		590							
1981		415							
1982		328							
1983		1342							
1984		925							
1985									
no of data	26	38	26	26	26	26	26	26	26
MRAE			124.57	87.87	51.56	40.07	39.99	41.09	43.63

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peak flow at Catchment at Imbulana

Q1obs Observed peak flow at Catchment at Kitulgala

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error

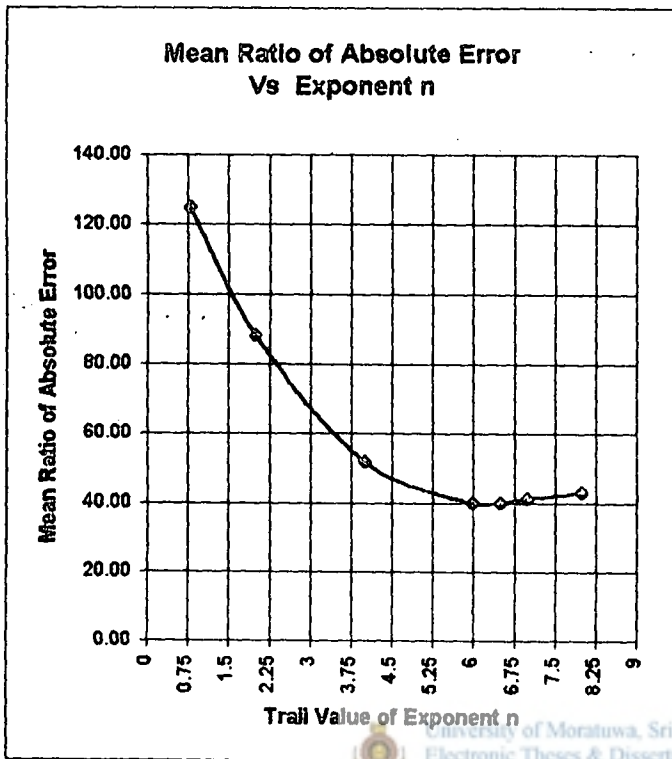


Figure 8.3.9
Mean Ratio of Absolute Error (MRAE) for Different n Values for Transposing Peakflow from Kitulgala to Imbulana

Table 8.3.10 Exponent (n) for Transposition of Peakflow at Imbulana to Deraniyagala

A2 152 km² (Area of Deraniyagala Watershed)
 A1 329 km² (Area of Imbulana Watershed)
 A2/A1 0.46

Trail Value of Exponent n			-0.3	-0.1	0	0.1	0.4	0.8	0.8
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941									
1942									
1943									
1944									
1945									
1946									
1947									
1948	249	299	51.38	29.72	20.08	11.16	11.83	24.45	35.28
1949	113	200	123.13	91.20	76.99	63.84	29.98	11.38	4.57
1950	183	153	5.40	9.68	16.39	22.61	38.61	47.39	54.92
1951	765	552	9.03	22.05	27.84	33.21	47.02	54.60	61.10
1952	687	566	3.86	11.00	17.61	23.74	39.51	48.16	55.58
1953	224	204	14.81	1.62	8.93	15.70	33.13	42.70	50.90
1954	340	288	0.63	14.85	21.18	27.03	42.12	50.40	57.50
1955	446	991	180.12	140.03	122.20	105.69	63.15	39.81	19.80
1956	439	235	32.51	42.17	46.47	50.45	60.69	66.32	71.14
1957	266	275	30.33	11.68	3.38	4.30	24.09	34.95	44.26
1958	365	402	36.85	18.98	10.14	1.95	19.13	30.70	40.62
1959	654	555	6.98	8.33	15.14	21.44	37.89	46.60	54.25
1960	239	187	1.36	15.48	21.78	27.57	42.55	50.77	57.81
1961	348	381	30.78	12.06	3.74	3.97	23.83	34.73	44.07
1962	292	272	17.43	0.63	6.65	13.77	31.60	41.39	49.78
1963	289	396	72.74	48.02	37.02	26.84	0.61	13.78	26.12
1964	320	561	121.01	89.39	75.31	62.28	28.73	10.31	5.48
1965	329	312	18.55	2.45	5.17	12.21	30.37	40.33	48.87
1966		297							
1967	323	328	28.02	9.70	1.55	6.00	25.44	36.11	45.25
1968	249	300	51.89	30.15	20.48	11.53	11.53	24.19	35.04
1969	246	148	24.15	35.01	39.84	44.31	55.82	62.15	67.56
1970	231	232	26.61	8.50	0.43	7.03	26.25	36.61	45.85
1971	280	312	49.48	20.37	11.43	3.15	18.18	29.89	39.92
1972	266	206	2.37	16.34	22.56	28.31	43.14	51.27	58.25
1973	306	297	22.36	4.85	2.94	10.15	26.73	38.93	47.67
1974	321								
1975	210								
1976	329								
1977									
1978									
1979									
1980									
1981									
1982									
1983									
1984									
1985									
no of data	29	28	25	25	25	25	25	25	25
MRAE			38.23	27.77	25.42	25.53	32.55	38.72	44.88

Note
 Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)
 Q2obs Observed peak flow at Catchment at Deraniyagala
 Q1obs Observed peak flow at Catchment at Imbulana
 RAE Ratio of Absolute Error
 MRAE Mean Ratio of Absolute Error

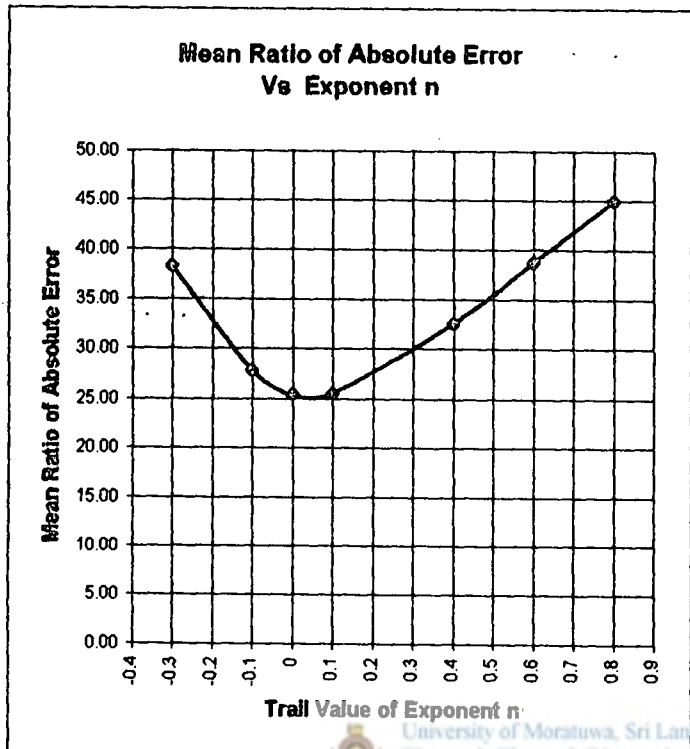


Figure 8.3.10
Mean Ratio of Absolute Error (MRAE) for Different n Values for Transposing Peakflow from Imbulana to Deraniyagala

Table 8.3.11 Exponent (n) for Transposition of Peakflow at Putupaula to Millakanda

A2 769 km² (Area of Millakanda Watershed)
 A1 2598 km² (Area of Putupaula Watershed)
 A2/A1 0.30

Trail Value of Exponent n			0.4	0.6	0.7	0.8	1	1.2	1.3
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941									
1942									
1943		2011							
1944		1430							
1945		1529							
1946		2549							
1947		1713							
1948		-							
1949		1184							
1950	382	1436	131.00	81.08	60.32	41.85	11.27	12.78	22.77
1951	438	1459	104.22	60.09	41.74	25.49	1.83	22.89	31.72
1952	348	1352	138.73	87.14	65.69	46.70	15.00	9.85	20.19
1953	538	1314	50.08	17.65	4.16	7.78	27.71	43.33	49.83
1954	413	1671	148.62	94.89	72.55	52.78	19.76	6.12	16.88
1955	396	1467	127.64	78.45	57.99	39.88	9.85	14.04	23.80
1956	357	1518	161.29	104.82	81.34	60.58	25.86	1.34	12.65
1957	340	1218	120.13	72.56	52.78	35.27	6.04	16.88	26.41
1958	363	783	34.24	5.23	6.83	17.51	35.34	49.31	55.12
1959	272	578	30.58	2.36	9.37	19.78	37.10	50.69	58.35
1960	244	708	78.30	39.77	23.75	9.57	14.11	32.67	40.39
1961	496	1048	29.84	1.78	9.89	20.22	37.48	50.97	58.58
1962	411	864	26.16	1.26	10.35	20.82	37.78	51.22	58.81
1963	532	1028	18.74	6.92	17.59	27.04	42.80	55.16	60.30
1964	411	847	41.59	10.99	1.73	13.00	31.80	46.54	52.67
1965	533	1226	41.34	10.80	1.90	13.15	31.92	46.63	52.75
1966	464	-	-	-	-	-	-	-	-
1967	654	1283	20.55	5.50	16.33	25.92	41.93	54.48	59.70
1968	564	1047	14.07	10.58	20.83	29.90	45.05	58.93	61.66
1969	287	797	64.90	29.26	14.45	1.33	20.57	37.73	44.87
1970	462	1029	36.86	7.29	5.01	15.90	34.07	48.32	54.24
1971	469	978	28.14	0.45	11.07	21.26	38.28	51.62	57.16
1972	311	779	53.92	20.68	6.83	5.42	25.86	41.88	48.54
1973	453	857	16.25	8.87	19.32	28.56	44.00	56.10	61.14
1974	773	1055	16.13	34.26	41.79	48.48	59.60	68.33	71.96
1975	446	864	19.04	6.69	17.38	26.85	42.66	55.05	60.20
1976	447	807	10.94	13.04	23.00	31.83	46.56	58.11	62.91
1977	773	1444	14.79	10.02	20.33	29.48	44.71	58.66	61.62
1978		975							
1979		-							
1980		876							
1981		1155							
1982		-							
1983		-							
1984		-							
1985		-							
no of data	28	36	27	27	27	27	27	27	27
MRAE			58.56	30.48	26.48	26.52	30.69	40.58	47.59

Note
 Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)
 Q2obs Observed peak flow at Catchment at Millakanda
 Q1obs Observed peak flow at Catchment at Putupaula
 RAE Ratio of Absolute Error
 MRAE Mean Ratio of Absolute Error

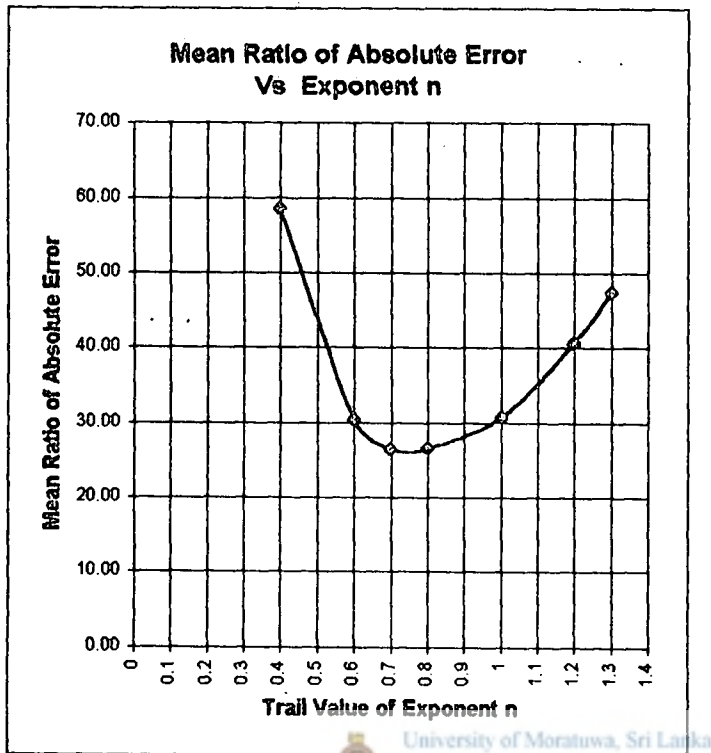


Figure 8.3.11
Mean Ratio of Absolute Error (MRAE) for Different n Values for Transposing Peakflow from Putupaula to Millakanda

Table 8.3.12 Exponent (n) for Transposition of Peakflow at Putupaula to Malawala

A2 329 km² (Area of Malawala Watershed)
 A1 2598 km² (Area of Putupaula Watershed)
 A2/A1 0.13

Trail Value of Exponent n			0.1	0.2	0.3	0.4	0.6	0.8	1
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941									
1942									
1943		2011							
1944		1430							
1945		1529							
1946		2549							
1947		1713							
1948									
1949		1184							
1950		1436							
1951		1459							
1952		1352							
1953		1314							
1954	646	1671	110.38	71.10	39.16	13.18	25.14	50.48	67.24
1955	430	1467	177.47	125.67	83.54	49.27	1.26	34.69	58.80
1956	552	1518	123.66	81.90	47.94	20.32	20.41	47.35	65.18
1957	327	1218	202.94	146.38	100.39	62.98	7.80	28.69	52.83
1958	609	793	5.90	13.87	29.95	43.03	62.31	75.07	83.51
1959	408	578	15.79	5.83	23.41	37.71	58.80	72.74	81.97
1960	360	708	59.95	30.09	5.80	13.95	43.08	62.35	75.09
1961	984	1048	13.39	29.55	42.70	53.40	69.18	79.61	86.51
1962	892	864	21.22	35.93	47.89	57.62	71.97	81.46	87.73
1963	1067	1028	21.64	36.27	48.17	57.84	72.12	81.56	87.80
1964	803	947	4.08	21.99	38.55	48.40	65.87	77.42	85.07
1965	1403	1226	28.93	42.20	52.99	61.77	74.71	83.27	89.93
1966	427	-	-	-	-	-	-	-	-
1967	1066	1283	2.11	20.39	35.25	47.34	65.17	76.96	84.76
1968	1288	1047	33.89	46.23	56.27	64.43	76.47	84.44	89.71
1969	1062	797	38.96	50.36	59.83	67.16	78.28	85.83	90.50
1970	899	1029	3.69	21.67	36.30	49.19	65.73	77.33	85.00
1971	807	978	1.44	19.84	34.80	46.97	64.92	76.80	84.65
1972	500	779	28.71	3.06	16.18	31.83	54.91	70.17	80.27
1973	521	857	33.78	8.81	11.51	28.03	52.39	68.51	79.17
1974	950	1055	9.68	26.54	40.26	51.41	67.86	78.74	85.94
1975	1070	864	34.33	46.59	56.56	64.67	76.63	84.54	89.77
1976	253	807	159.42	110.99	71.60	39.56	7.68	38.93	59.61
1977	-	1444	-	-	-	-	-	-	-
1978	920	975	13.81	29.90	42.99	53.63	69.33	79.71	86.58
1979	-	-	-	-	-	-	-	-	-
1980	-	876	-	-	-	-	-	-	-
1981	-	1155	-	-	-	-	-	-	-
1982	-	-	-	-	-	-	-	-	-
1983	-	-	-	-	-	-	-	-	-
1984	-	-	-	-	-	-	-	-	-
1985	-	-	-	-	-	-	-	-	-
no of data	24	36	23	23	23	23	23	23	23
MRAE			49.70	44.57	44.34	46.20	54.43	69.41	79.77

Note
 Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)
 Q2obs Observed peak flow at Catchment at Malawala
 Q1obs Observed peak flow at Catchment at Putupaula
 RAE Ratio of Absolute Error
 MRAE Mean Ratio of Absolute Error

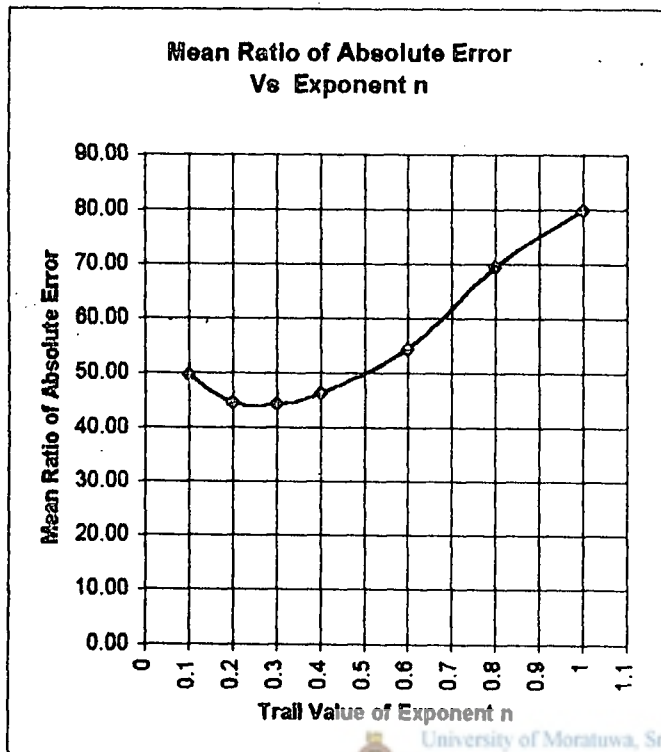


Figure 8.3.12
Mean Ratio of Absolute Error (MRAE) for Different n Values for Transposing Peakflow from Putupaula to Malawala

Table 8.3.13 Exponent (n) for Transposition of Peakflow at Putupaula to Nambapana

A2 629 km² (Area of Nambapana Watershed)
 A1 2598 km² (Area of Putupaula Watershed)
 A2/A1 0.24

Trail Value of Exponent n			0.4	0.5	0.6	0.8	1	1.1	1.2
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941									
1942									
1943		2011							
1944		1430							
1945		1529							
1946		2549							
1947		1713							
1948									
1949		1184							
1950		1436							
1951		1459							
1952		1352							
1953		1314							
1954		1671							
1955		1467							
1956	453	1518	90.01	64.68	43.08	7.74	18.87	29.60	36.91
1957	363	1218	90.26	65.10	43.27	7.88	18.76	29.51	36.63
1958	588	793	23.66	33.75	42.51	56.71	67.40	71.71	75.45
1959	268	578	22.29	6.12	7.91	30.66	47.78	54.69	60.68
1960	292	708	37.48	19.30	3.53	22.04	41.30	49.08	55.20
1961	408	1048	45.65	26.39	9.68	17.41	37.81	46.03	53.17
1962	462	864	6.04	7.96	20.15	39.87	54.72	60.71	65.91
1963	481	1028	21.19	5.16	8.75	31.28	48.26	55.10	61.04
1964	398	847	34.58	16.78	1.34	23.69	42.54	50.14	56.73
1965	579	1228	20.07	4.19	9.59	31.92	48.73	55.51	61.40
1966	316								
1967	729	1283	0.21	13.40	24.85	43.41	57.39	63.02	67.91
1968	736	1047	19.34	30.00	39.28	54.28	65.58	70.11	74.07
1969	473	797	4.46	17.09	28.05	45.82	59.20	64.80	69.28
1970	833	1029	7.82	20.01	30.59	47.73	60.64	65.85	70.36
1971	714	978	22.33	32.60	41.51	55.96	66.84	71.22	75.03
1972	375	779	17.79	2.21	11.30	33.21	49.71	56.38	62.13
1973	538	857	9.68	21.82	31.98	48.78	61.43	68.53	70.98
1974	609	1055	1.77	14.76	26.03	44.30	58.06	63.60	68.42
1975	436	864	11.85	2.94	15.77	36.58	52.24	58.58	64.04
1976	274	807	67.00	44.92	25.76	5.30	28.69	38.12	46.30
1977		1444							
1978	841	975	34.26	42.96	50.50	62.72	71.93	75.64	78.86
1979									
1980		878							
1981		1155							
1982									
1983									
1984									
1985									
no of data	22	36	21	21	21	21	21	21	21
MRAE			27.99	23.44	24.54	35.59	50.37	56.94	62.63

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peak flow at Catchment at Nambapana

Q1obs Observed peak flow at Catchment at Putupaula

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error

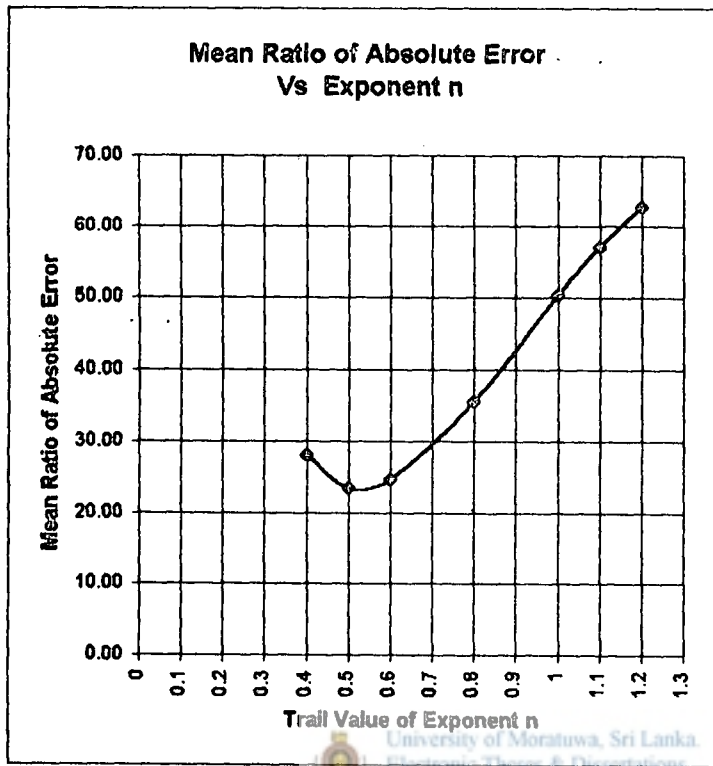


Figure 8.3.13
Mean Ratio of Absolute Error (MRAE) for Different n Values for Transposing Peakflow from Putupaula to Nambapana



Table 8.3.14 Exponent (n) for Transposition of Peakflow at Putupaula to Ellagawa

A2 1393 km² (Area of Ellagawa Watershed)
A1 2598 km² (Area of Putupaula Watershed)
A2/A1 0.54

Trail Value of Exponent n			0.4	0.6	0.8	0.9	1	1.2	1.3
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941									
1942									
1943		2011							
1944		1430							
1945		1529							
1946		2549							
1947		1713							
1948									
1949		1184							
1950		1436							
1951		1459							
1952		1352							
1953		1314							
1954		1671							
1955		1467							
1956	448	1518	164.07	133.12	105.80	93.38	81.68	60.39	50.70
1957	333	1218	185.05	151.65	122.15	108.73	96.12	73.13	62.67
1958	448	793	37.95	21.79	7.51	1.01	5.09	16.21	21.28
1959	340	578	32.49	16.86	3.25	2.99	8.85	19.53	24.39
1960	339	708	62.76	43.69	26.85	19.18	11.98	1.14	7.12
1961	464	1048	78.02	55.39	37.18	28.89	21.10	6.91	0.45
1962	366	864	83.97	62.41	43.36	34.71	26.57	11.74	4.99
1963	481	1028	66.56	47.04	29.81	21.98	14.59	1.16	4.65
1964	384	947	92.20	69.87	49.79	40.73	32.23	16.73	9.68
1965	685	1226	39.48	23.14	8.70	2.14	4.04	15.29	20.60
1966	662								
1967	756	1283	32.28	16.76	3.08	3.15	9.01	19.67	24.52
1968	598	1047	38.45	20.46	6.34	0.09	6.12	17.13	22.13
1969	496	797	25.23	10.55	2.41	8.30	13.84	23.94	28.54
1970	831	1029	13.86	23.96	32.87	36.93	40.74	47.68	50.64
1971	862	978	11.58	21.84	31.09	35.25	39.17	46.30	49.54
1972	578	779	5.04	7.28	18.14	23.09	27.74	36.21	40.68
1973	770	857	13.28	23.43	32.40	36.49	40.32	47.32	50.50
1974	1113	1055	26.13	34.79	42.43	45.91	49.18	55.13	57.84
1975	679	864	0.83	12.46	22.72	27.39	31.77	39.77	43.41
1976	529	807	18.89	4.98	7.35	12.84	16.20	27.79	32.15
1977	1337	1444	15.83	25.69	34.40	38.37	42.09	48.88	51.97
1978	670	975	13.41	0.12	11.61	16.96	21.97	31.12	35.28
1979	663								
1980	810	876	15.72	25.59	34.31	38.28	42.01	48.81	51.80
1981		1155							
1982									
1983									
1984									
1985									
no of data	25	36	23	23	23	23	23	23	23
MRAE			46.48	37.06	31.02	29.43	29.76	30.63	32.41

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peak flow at Catchment at Ellagawa

Q1obs Observed peak flow at Catchment at Putupaula

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error

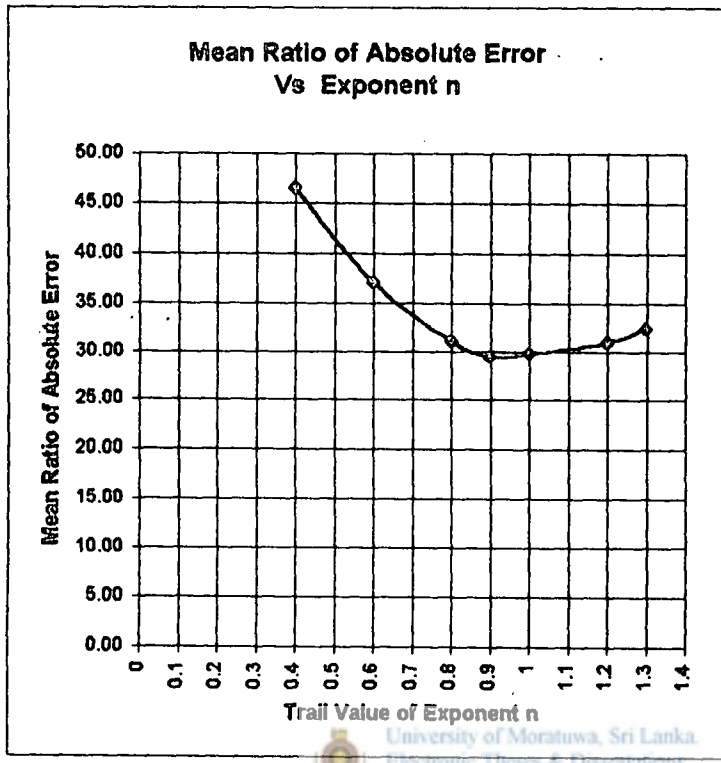


Figure 8.3.14
Mean Ratio of Absolute Error (MRAE) for Different n Values for Transposing Peakflow from Putupaula to Ellagawa

Table 8.3.15 Exponent (n) for Transposition of Peakflow at Putupaula to Dela

A2 220 km² (Area of Dela Watershed)
 A1 2598 km² (Area of Putupaula Watershed)
 A2/A1 0.08

Trail Value of Exponent n			0.4	0.6	0.7	0.8	0.9	1	1.2
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941									
1942		#							
1943		2011							
1944		1430							
1945		1529							
1946		2549							
1947		1713							
1948									
1949		1184							
1950		1436							
1951		1459							
1952		1352							
1953		1314							
1954		1671							
1955		1487							
1956	108	1519	423.55	219.53	149.63	95.02	52.35	19.02	27.36
1957	135	1218	236.07	105.11	60.24	25.18	2.20	23.60	53.37
1958	126	793	134.43	43.09	11.78	12.68	31.78	46.71	67.47
1959	140	578	53.78	6.14	26.68	42.72	55.25	65.04	78.66
1960	61	708	332.33	163.86	106.14	61.04	25.81	1.72	40.01
1961	135	1048	189.16	76.48	37.87	7.71	15.85	34.26	59.88
1962	135	864	138.39	45.50	13.67	11.20	30.63	45.80	66.92
1963	123	1028	211.32	90.00	48.44	15.96	9.41	29.23	56.91
1964	104	947	239.18	107.01	61.72	26.34	1.30	22.89	52.94
1965	127	1226	259.58	119.46	71.45	33.94	4.64	18.25	50.11
1966	99								
1967	144	1283	231.88	102.55	58.24	23.82	3.42	24.55	53.95
1968	147	1047	165.30	61.92	26.50	1.18	22.80	39.69	63.19
1969	133	797	123.21	36.23	6.43	16.86	35.05	49.26	69.03
1970	117	1029	227.60	99.94	56.20	22.03	4.67	25.52	54.55
1971	118	978	208.72	88.42	47.20	15.00	10.16	29.82	57.17
1972	153	779	89.85	15.75	9.57	29.36	44.81	56.98	73.69
1973	121	857	163.82	61.01	25.79	1.73	23.23	40.02	63.40
1974	153	1055	156.85	56.76	22.46	4.33	25.26	41.81	64.36
1975		864							
1976	104	807	189.04	76.40	37.81	7.66	15.89	34.29	59.90
1977		1444							
1978	190	975	91.15	16.66	8.86	28.80	44.38	56.55	73.48
1979	140								
1980	165	876	97.76	20.70	5.71	26.34	42.45	55.04	72.56
1981	162	1155	165.57	62.08	26.62	1.08	22.72	39.63	63.15
1982	130								
1983	148								
1984	153								
1985									
no of data	27	36	22	22	22	22	22	22	22
MRAE			187.65	76.12	41.77	23.17	23.62	39.34	60.09

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peak flow at Catchment at Dela

Q1obs Observed peak flow at Catchment at Putupaula

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error

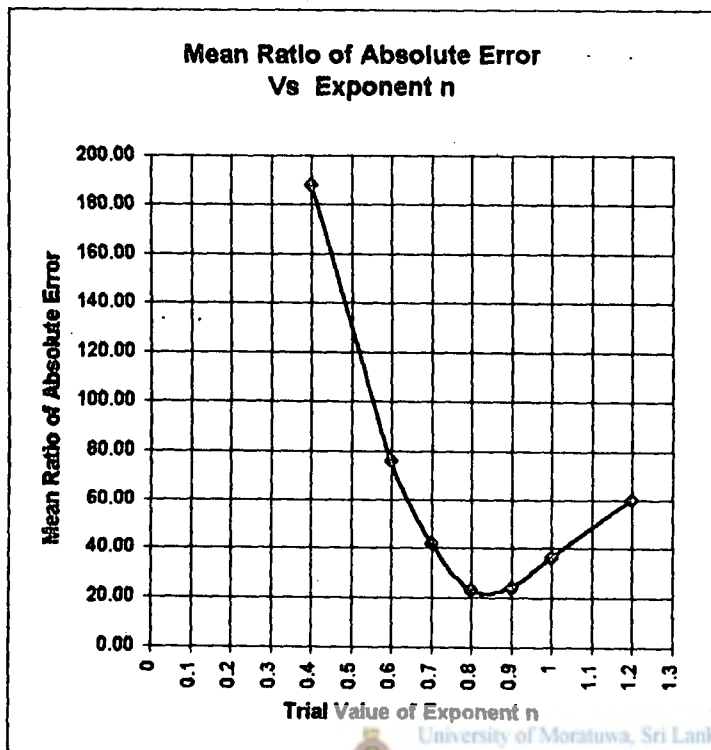


Figure 8.3.15
Mean Ratio of Absolute Error (MRAE) for Different n Values for Transposing Peakflow from Putupaula to Dela

Table 8.3.16 Exponent (n) for Transposition of Peakflow at Ellagawa to Millakanda

A2 769 km² (Area of Millakanda Watershed)
 A1 1393 km² (Area of Ellagawa Watershed)
 A2/A1 0.55

Trail Value of Exponent n			0.4	0.5	0.6	0.7	0.8	1	1.2
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941									
1942									
1943									
1944									
1945									
1946									
1947									
1948									
1949									
1950	382								
1951	439								
1952	348								
1953	538								
1954	413								
1955	396								
1956	357	448	1.05	6.78	12.14	17.21	21.98	30.72	38.49
1957	340	333	22.78	27.23	31.43	35.38	39.11	45.93	51.99
1958	363	449	2.69	8.30	13.59	18.58	23.27	31.87	39.50
1959	272	340	1.44	7.13	12.48	17.53	22.29	30.99	38.73
1960	244	339	9.55	3.23	2.73	8.34	13.62	23.30	31.89
1961	496	484	26.24	30.49	34.50	38.28	41.84	48.36	54.14
1962	411	366	29.79	33.84	37.65	41.25	44.64	50.84	56.35
1963	532	481	28.71	32.82	36.70	40.35	43.79	50.09	55.68
1964	411	384	26.33	30.58	34.59	38.36	41.81	48.42	54.20
1965	533	685	1.33	4.51	10.02	15.21	20.10	29.05	37.00
1966	464	662	-	-	-	-	-	-	-
1967	654	756	8.85	14.11	19.07	23.73	28.13	36.19	43.34
1968	564	598	16.40	21.22	25.77	30.05	34.08	41.47	48.03
1969	297	496	31.66	24.08	16.93	10.18	3.63	7.81	18.14
1970	462	931	58.89	49.73	41.09	32.95	25.28	11.25	1.22
1971	469	862	44.92	36.56	28.68	21.28	14.27	1.46	9.90
1972	311	578	46.54	38.09	30.12	22.62	15.54	2.60	6.90
1973	453	770	34.02	26.29	19.01	12.14	5.69	6.16	16.68
1974	773	1113	13.53	6.99	0.81	5.01	10.48	20.51	29.42
1975	446	679	20.04	13.12	6.59	0.44	5.35	15.98	25.37
1976	447	529	6.69	12.07	17.14	21.92	26.43	34.67	41.99
1977	773	1337	36.38	28.51	21.10	14.11	7.53	4.52	15.21
1978		670							
1979		663							
1980		610							
1981									
1982									
1983									
1984									
1985									
no of data	27	24	21	21	21	21	21	21	21
MRAE			22.28	21.70	21.53	22.14	23.29	27.25	34.10

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peak flow at Catchment at Millakanda

Q1obs Observed peak flow at Catchment at Ellagawa

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error

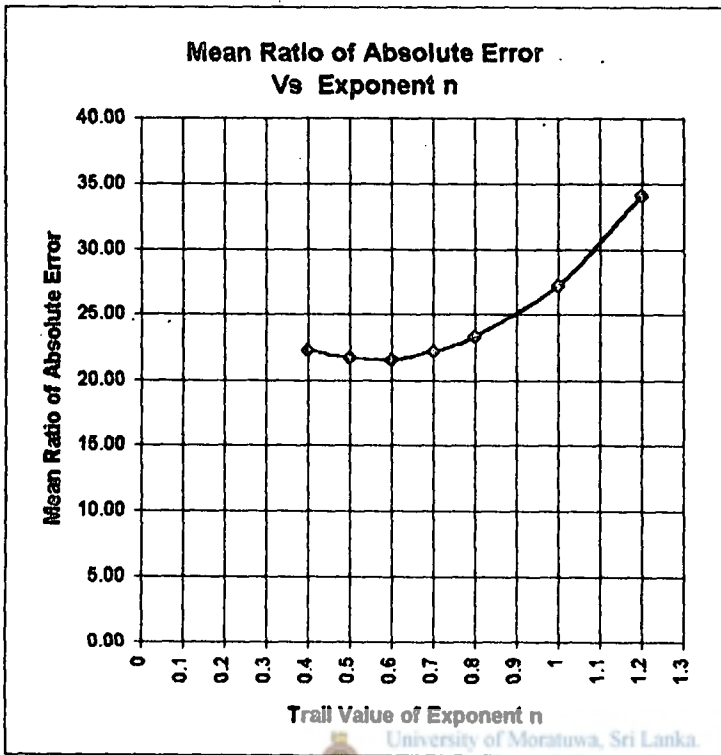


Figure 8.3.16
Mean Ratio of Absolute Error (MRAE) for Different n Values for Transposing Peakflow from Ellagawa to Millakanda

Table 8.3.17 Exponent (n) for Transposition of Peakflow at Ellagawa to Malawala

A2 329 km² (Aarea of Waershed at Malawala)
 A1 1393 km² (Area of Watershed at Ellagawa)
 A2/A1 0.24

Trail Value of Exponent n			-0.3	-0.1	0	0.1	0.4	0.6	0.8
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941									
1942									
1943									
1944									
1945									
1946									
1947									
1948									
1949									
1950									
1951									
1952									
1953									
1954	646								
1955	430								
1956	552	448	25.13	6.24	18.84	29.75	54.43	65.86	74.42
1957	327	333	57.01	17.64	1.83	11.85	42.83	57.16	67.90
1958	609	448	13.42	15.02	26.44	36.32	58.70	69.05	78.61
1959	406	340	29.12	3.26	18.26	27.51	52.98	64.77	73.60
1960	360	336	45.19	6.79	5.83	18.49	47.13	60.39	70.32
1961	884	464	27.30	45.52	52.95	59.18	73.53	80.16	85.14
1962	892	386	36.74	52.60	58.97	64.48	76.98	82.74	87.07
1963	1067	481	30.50	47.92	54.92	60.98	74.69	81.04	85.79
1964	803	384	26.27	44.76	52.18	58.61	73.15	79.88	84.93
1965	1403	685	24.72	43.60	51.18	57.74	72.59	79.46	84.61
1966	427	682	139.03	79.10	55.04	34.20	12.96	34.78	51.13
1967	1068	756	9.34	18.07	29.08	38.61	60.18	70.17	77.65
1968	1288	598	28.42	46.36	53.57	59.81	73.93	80.47	85.37
1969	1062	496	27.99	46.04	53.30	59.57	73.78	80.35	85.28
1970	869	931	65.18	23.77	7.13	7.26	39.65	54.93	66.23
1971	607	862	64.69	23.40	6.82	7.54	40.03	55.07	66.33
1972	500	578	78.23	33.55	15.60	0.07	35.10	51.37	63.56
1973	521	770	127.87	70.74	47.79	27.93	17.02	37.83	53.41
1974	950	1113	80.63	35.35	17.16	1.41	34.22	50.71	63.07
1975	1070	679	2.16	26.69	36.54	45.07	64.37	73.30	80.00
1976	253	528	222.38	141.55	109.09	80.99	17.39	12.04	34.09
1977		1337							
1978	920	670	12.28	15.87	27.17	36.96	59.11	69.36	77.04
1979		663							
1980		810							
1981									
1982									
1983									
1984									
1985									
no of data	24	25	22	22	22	22	22	22	22
MRAE			53.34	38.45	36.25	37.47	52.50	63.22	72.44

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Malawala

Q1obs Observed peakflow at Catchment at Ellagawa

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error

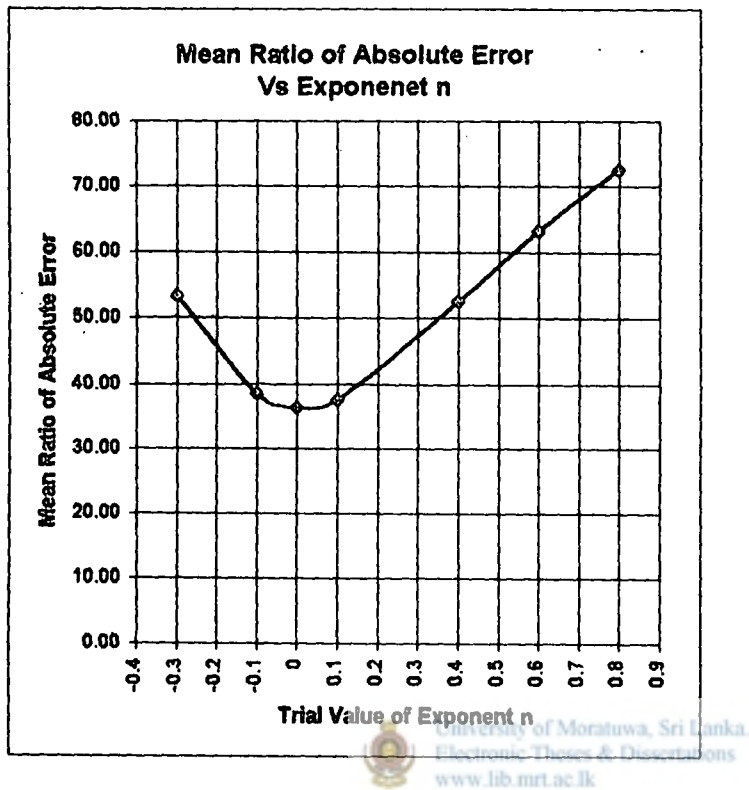


Figure 8.3.17
Mean Ratio of Absolute Error (MRAE) for Different n Values for Transposing Peakflow from Ellagawa to Malawala

Table 8.3.18 Exponent (n) for Transposition of Peakflow at Ellagawa to Nambapana

A2 629 km² (Area of Waershed at Nambapana)
 A1 1393 km² (Area of Watershed at Ellagawa)
 A2/A1 0.45

Trail Value of Exponent n			0	0.2	0.3	0.4	0.5	0.6	0.8
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941									
1942									
1943									
1944									
1945									
1946									
1947									
1948									
1949									
1950									
1951									
1952									
1953									
1954									
1955									
1956	453	448	1.10	15.64	22.09	28.05	33.54	38.62	47.65
1957	363	333	8.28	21.75	27.73	33.26	38.36	43.07	51.44
1958	589	448	23.94	35.12	40.08	44.66	48.69	52.80	59.74
1959	268	340	26.87	8.21	0.06	7.70	14.75	21.27	32.84
1960	292	339	16.10	0.97	8.54	15.53	21.99	27.95	38.54
1961	408	484	13.73	2.99	10.41	17.28	23.58	29.42	39.80
1962	462	366	20.78	32.43	37.59	42.36	46.77	50.83	58.08
1963	481	481	0.00	14.70	21.22	27.24	32.80	37.94	47.08
1964	399	384	3.76	17.91	24.18	29.98	35.33	40.27	49.05
1965	579	685	18.31	0.91	6.80	13.92	20.50	26.58	37.37
1966	316	662	109.49	78.69	65.04	52.42	40.77	30.01	10.90
1967	729	756	3.70	11.54	18.30	24.55	30.31	35.64	45.10
1968	736	598	18.75	30.70	35.99	40.88	45.40	49.58	56.99
1969	473	498	4.86	10.55	17.39	23.70	29.54	34.92	44.49
1970	633	931	47.08	25.45	15.87	7.01	1.17	8.72	22.14
1971	714	662	20.73	2.98	4.89	12.18	18.87	25.07	36.09
1972	375	578	54.13	31.47	21.42	12.14	3.57	4.34	18.41
1973	538	770	43.12	22.08	12.75	4.13	3.83	11.18	24.24
1974	809	1113	82.76	55.89	43.98	32.97	22.81	13.42	3.25
1975	438	679	55.02	32.23	22.13	12.79	4.17	3.79	17.94
1976	274	529	93.07	64.68	52.10	40.47	29.73	19.82	2.20
1977		1337							
1978	841	670	20.33	32.05	37.24	42.04	46.47	50.56	57.83
1979		663							
1980		810							
1981									
1982									
1983									
1984									
1985									
no of data	22	25	22	22	22	22	22	22	22
MRAE			31.18	24.95	24.81	25.69	26.66	29.81	33.41

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Nambapana

Q1obs Observed peakflow at Catchment at Ellagawa

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error

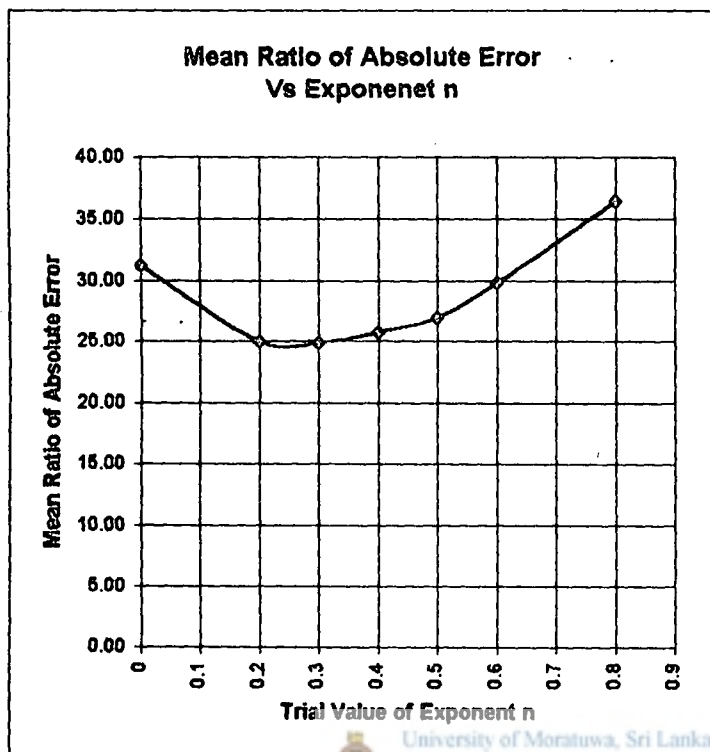


Figure 8.3.18
Mean Ratio of Absolute Error (MRAE) for Different n Values for Transposing Peakflow from Ellagawa to Nambapana

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Table 8.3.19 Exponent (n) for Transposition of Peakflow at Ellagawa to Dela

A2 220 km² (Area of Waershed at Dela)
 A1 1393 km² (Area of Watershed at Ellagawa)
 A2/A1 0.16

Trail Value of Exponent n			0.4	0.6	0.8	0.9	1	1.2	1.3
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941									
1942									
1943									
1944									
1945									
1946									
1947									
1948									
1949									
1950									
1951									
1952									
1953									
1954									
1955									
1956	108	448	98.26	37.07	5.24	21.21	34.49	54.71	62.34
1957	135	333	17.90	18.49	43.65	53.15	61.04	73.07	77.61
1958	128	448	69.94	17.49	18.78	32.48	43.85	61.18	67.72
1959	140	340	18.08	19.75	44.52	53.87	61.84	73.48	77.95
1960	61	338	185.82	63.63	26.95	5.56	12.23	39.32	49.55
1961	135	464	84.28	13.57	21.48	34.72	45.72	62.47	68.80
1962	135	366	29.56	10.42	36.07	48.50	57.18	70.40	75.39
1963	123	481	86.91	29.22	10.67	25.72	38.24	57.30	64.50
1964	104	384	78.48	22.01	15.65	29.87	41.69	58.89	66.48
1965	127	685	157.80	78.23	23.22	2.45	14.82	41.11	51.03
1966	99	662	219.60	120.98	52.76	27.01	5.61	28.99	39.29
1967	144	756	150.93	73.48	19.93	0.29	17.09	42.68	52.34
1968	147	598	94.43	34.42	7.07	22.73	35.75	55.58	63.07
1969	133	496	78.25	23.23	14.81	29.16	41.10	59.28	66.14
1970	117	931	280.32	162.93	61.78	51.14	25.67	13.12	27.76
1971	118	862	249.15	141.38	66.88	38.78	15.37	20.24	33.68
1972	153	578	80.56	24.83	13.70	28.24	40.34	58.75	65.70
1973	121	770	204.15	110.28	45.37	20.87	0.50	30.52	42.23
1974	153	1113	247.69	140.37	66.18	38.17	14.89	20.57	33.96
1975	-	679	-	-	-	-	-	-	-
1976	104	529	143.11	68.08	16.20	3.38	19.67	44.46	53.82
1977	-	1337	-	-	-	-	-	-	-
1978	190	670	68.54	16.52	19.44	33.02	44.31	61.50	67.99
1979	140	863	128.35	56.48	8.18	10.05	25.21	48.29	57.01
1980	185	810	134.63	62.21	12.14	6.76	22.47	46.40	55.43
1981	162								
1982	130								
1983	148								
1984	153								
1985									
no of data	27	25	23	23	23	23	23	23	23
MRAE			124.37	59.35	29.25	26.63	31.25	48.74	57.58

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Dela

Q1obs Observed peakflow at Catchment at Ellagawa

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error

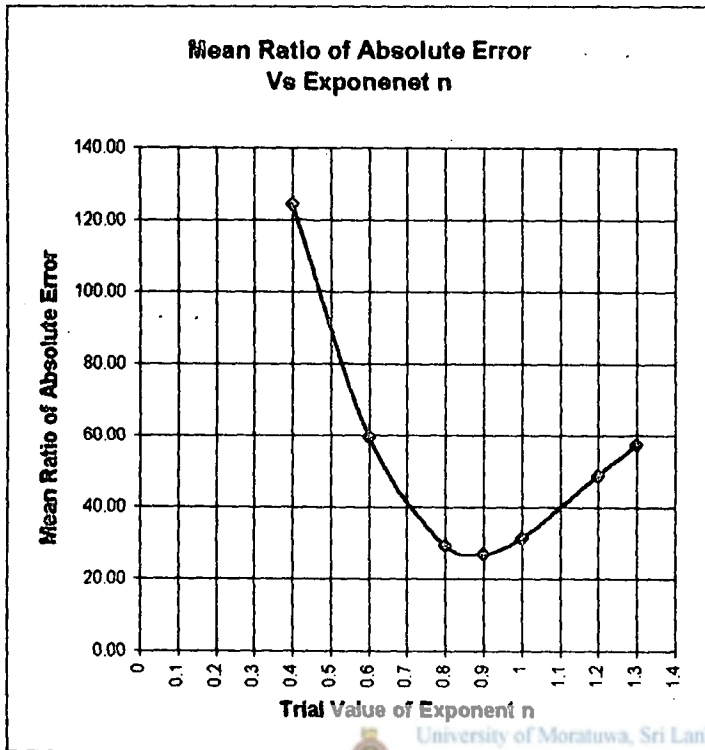


Figure 8.3.19
Mean Ratio of Absolute Error (MRAE) for Different n Values for Transposing Peakflow from Ellagawa to Dela

Table 8.3.20 Exponent (n) for Transposition of Peakflow at Millakanda to Malawala

A2 329 km² (Area of Waershed at Malawala)
 A1 769 km² (Area of Watershed at Millakanada)
 A2/A1 0.43

Trail Value of Exponent n			-0.6	-0.4	-0.3	-0.2	0.2	0.4	0.8
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941									
1942									
1943									
1944									
1945									
1946									
1947									
1948									
1949									
1950		382							
1951		439							
1952		348							
1953		538							
1954	646	413	6.40	10.21	17.52	24.24	46.05	54.48	67.59
1955	430	396	53.27	29.34	18.81	9.14	22.29	34.43	53.31
1956	552	357	7.64	9.17	16.56	23.36	45.43	53.95	67.21
1957	327	340	73.05	46.02	34.14	23.22	12.26	25.96	47.28
1958	609	363	0.80	16.29	23.10	29.36	49.70	57.56	69.78
1959	406	272	11.50	5.91	13.57	20.61	43.47	52.30	66.03
1960	380	244	12.80	4.81	12.56	19.69	42.81	51.74	65.64
1961	984	486	16.11	29.21	34.97	40.26	57.47	64.11	74.44
1962	892	411	23.31	35.29	40.56	45.40	61.12	67.19	76.64
1963	1087	532	17.02	29.98	35.68	40.91	57.93	64.50	74.72
1964	803	411	14.81	28.12	33.97	39.34	56.81	63.56	74.05
1965	1403	533	36.77	46.65	50.99	54.98	67.94	72.95	80.74
1966	427	464	80.85	52.61	40.19	28.78	8.31	22.63	44.91
1967	1066	654	2.11	13.84	20.85	27.28	48.23	56.32	68.89
1968	1288	564	27.12	38.50	43.51	48.11	63.05	68.82	77.80
1969	1062	297	53.46	60.72	63.92	66.86	76.40	80.09	85.82
1970	869	462	11.52	25.34	31.41	37.00	55.14	62.14	73.05
1971	607	469	3.28	18.38	25.02	31.13	50.98	58.62	70.53
1972	500	311	3.52	12.65	19.76	28.29	47.51	55.71	68.46
1973	521	453	44.71	22.11	12.17	3.04	26.63	38.09	55.92
1974	950	773	35.42	14.27	4.97	3.57	31.34	42.08	58.75
1975	1070	446	30.63	41.46	46.23	50.60	64.63	70.32	78.87
1976	253	447	184.05	148.13	127.93	109.38	49.09	25.80	10.42
1977		773							
1978	920								
1979									
1980									
1981									
1982									
1983									
1984									
1985									
no of data	24	28	23	23	23	23	23	23	23
MRAE			33.05	32.13	33.41	34.89	47.16	54.06	65.59

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Malawala

Q1obs Observed peakflow at Catchment at Millakanda

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error

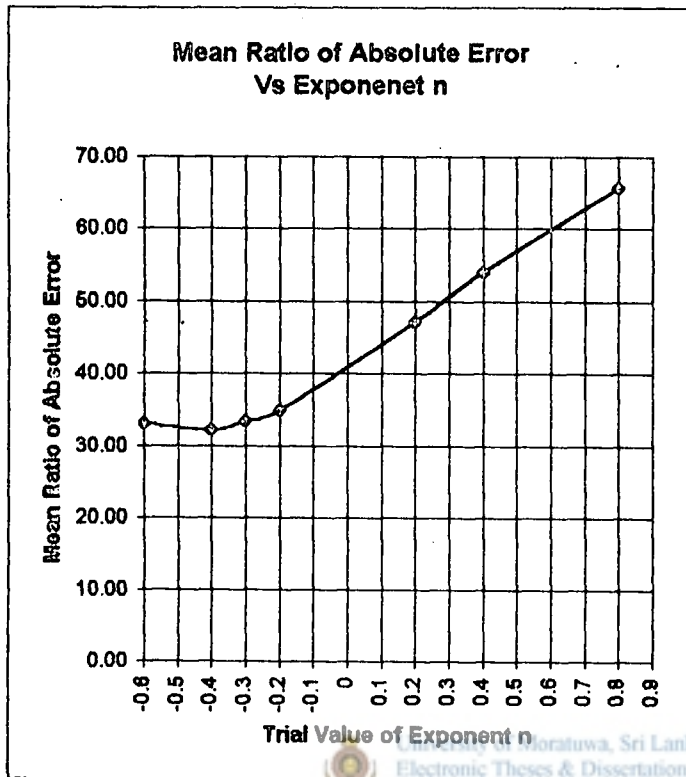


Figure 8.3.20
Mean Ratio of Absolute Error (MRAE) for Different n Values for Transposing Peakflow from Millakanda to Malawala

Table 8.3.21 Exponent (n) for Transposition of Peakflow at Millakanda to Nambapana

A2 629 km² (Area of Waershed at Nambapana)
 A1 769 km² (Area of Watershed at Millakanda)
 A2/A1 0.82

Trail Value of Exponent n			-0.6	-0.4	-0.3	-0.2	0.2	0.6	0.8
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941									
1942									
1943									
1944									
1945									
1946									
1947									
1948									
1949									
1950		362							
1951		439							
1952		348							
1953		538							
1954		413							
1955		398							
1956	453	357	11.09	14.60	16.29	17.96	24.30	30.14	32.90
1957	363	340	5.67	1.50	0.52	2.49	10.03	16.99	20.25
1958	569	383	30.47	33.21	34.54	35.84	40.80	45.37	47.52
1959	268	272	14.50	9.99	7.80	5.65	2.51	10.04	13.58
1960	282	244	5.73	8.44	11.25	13.01	19.73	25.93	28.85
1961	408	496	37.15	31.74	29.12	26.55	16.78	7.76	3.51
1962	462	411	0.36	3.59	5.51	7.39	14.54	21.14	24.25
1963	481	532	24.78	19.86	17.48	15.14	6.25	1.96	5.82
1964	399	411	16.21	11.63	9.41	7.23	1.05	8.69	12.29
1965	579	533	3.85	0.24	2.22	4.17	11.57	18.40	21.62
1966	316	464	65.65	59.13	55.98	52.86	41.05	30.16	25.03
1967	729	654	1.21	2.78	4.71	6.61	13.82	20.48	23.61
1968	736	564	13.55	16.96	18.61	20.23	26.39	32.07	34.75
1969	473	297	29.16	31.95	33.31	34.63	39.68	44.34	46.53
1970	633	462	17.69	20.91	22.48	24.02	29.89	35.30	37.85
1971	714	469	25.90	28.82	30.23	31.62	36.90	41.78	44.07
1972	375	311	6.44	10.12	11.91	13.67	20.33	26.49	29.38
1973	538	453	5.01	8.75	10.57	12.35	19.12	25.36	28.30
1974	609	773	43.19	37.55	34.82	32.13	21.93	12.51	8.06
1975	438	446	14.88	10.35	8.15	6.00	2.18	9.74	13.30
1976	274	447	84.04	76.79	73.28	69.83	56.71	44.61	38.91
1977		773							
1978	841								
1979									
1980									
1981									
1982									
1983									
1984									
1985									
no of data	22	28	21	21	21	21	21	21	21
MRAE			21.74	20.95	20.86	20.92	21.09	24.25	25.73

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Nambapana

Q1obs Observed peakflow at Catchment at Millakanda

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error

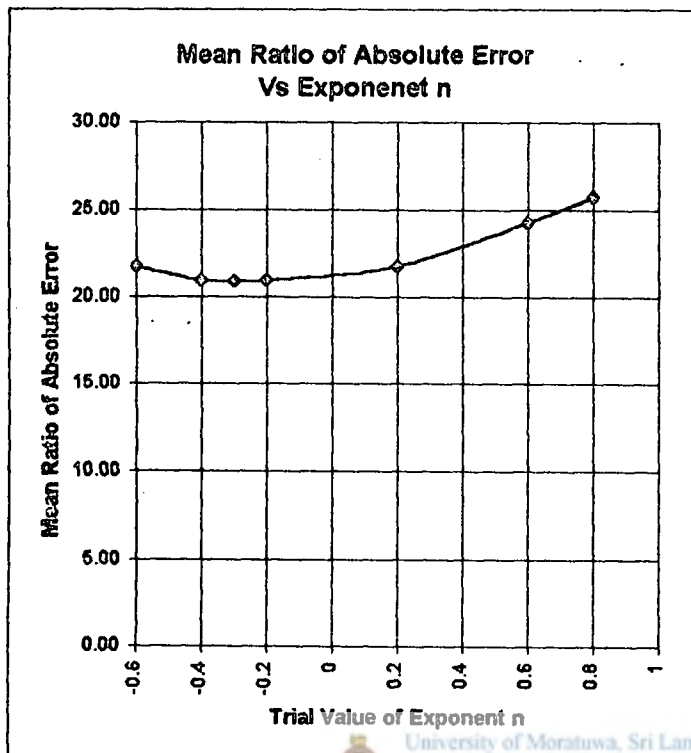


Figure 8.3.21
Mean Ratio of Absolute Error (MRAE) for Different n Values for Transposing Peakflow from Millakanda to Nambapana

Table 8.3.22 Exponent (n) for Transposition of Peakflow at Millakanda to Dela

A2 220 km² (Aarea of Waershed at Dela)
 A1 769 km² (Area of Watershed at Millakanda)
 A2/A1 0.29

Trail Value of Exponent n			0.4	0.6	0.8	1	1.1	1.2	1.3
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941									
1942									
1943									
1944									
1945									
1946									
1947									
1948									
1949									
1950		382							
1951		439							
1952		348							
1953		538							
1954		413							
1955		398							
1956	108	357	100.37	56.01	21.46	5.43	16.56	26.37	35.03
1957	135	340	52.67	18.88	7.48	27.95	36.42	43.90	50.50
1958	126	383	74.64	35.97	5.86	17.58	27.28	35.83	43.38
1959	140	272	17.77	8.31	28.61	44.42	50.86	56.73	61.82
1960	61	244	142.47	88.78	48.98	14.43	0.97	10.90	21.39
1961	135	486	122.71	73.40	35.00	5.11	7.25	18.16	27.79
1962	135	411	84.55	43.68	11.87	12.90	23.15	32.18	40.17
1963	123	532	162.18	104.13	58.93	23.74	9.18	3.66	14.99
1964	104	411	139.58	88.51	45.21	13.08	0.24	11.98	22.33
1965	127	533	154.40	98.07	54.21	20.07	5.94	6.52	17.52
1966	99	464	184.11	121.20	72.22	34.08	18.31	4.38	7.89
1967	144	654	175.30	114.34	66.88	29.83	14.65	1.16	10.74
1968	147	564	132.57	81.08	40.88	9.78	3.15	14.54	24.59
1969	133	297	35.36	5.39	17.95	36.11	43.63	50.26	58.11
1970	117	482	139.36	86.36	45.10	12.87	0.32	12.05	22.39
1971	118	469	140.93	87.58	46.05	13.71	0.33	11.47	21.88
1972	153	311	23.22	4.07	25.31	41.85	48.69	54.72	60.05
1973	121	453	128.94	76.69	37.57	7.10	5.49	16.61	26.42
1974	153	773	206.28	138.44	85.65	44.54	27.54	12.53	0.70
1975	-	446	-	-	-	-	-	-	-
1976	104	447	160.54	102.85	57.93	22.96	8.50	4.27	15.53
1977	-	773	-	-	-	-	-	-	-
1978	190	-	-	-	-	-	-	-	-
1979	140	-	-	-	-	-	-	-	-
1980	165	-	-	-	-	-	-	-	-
1981	162	-	-	-	-	-	-	-	-
1982	130	-	-	-	-	-	-	-	-
1983	148	-	-	-	-	-	-	-	-
1984	153	-	-	-	-	-	-	-	-
1985	-	-	-	-	-	-	-	-	-
no of data	27	28	20	20	20	20	20	20	20
MRAE			113.89	71.59	49.56	21.89	17.43	21.41	29.93

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Dela

Q1obs Observed peakflow at Catchment at Malawaia

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error

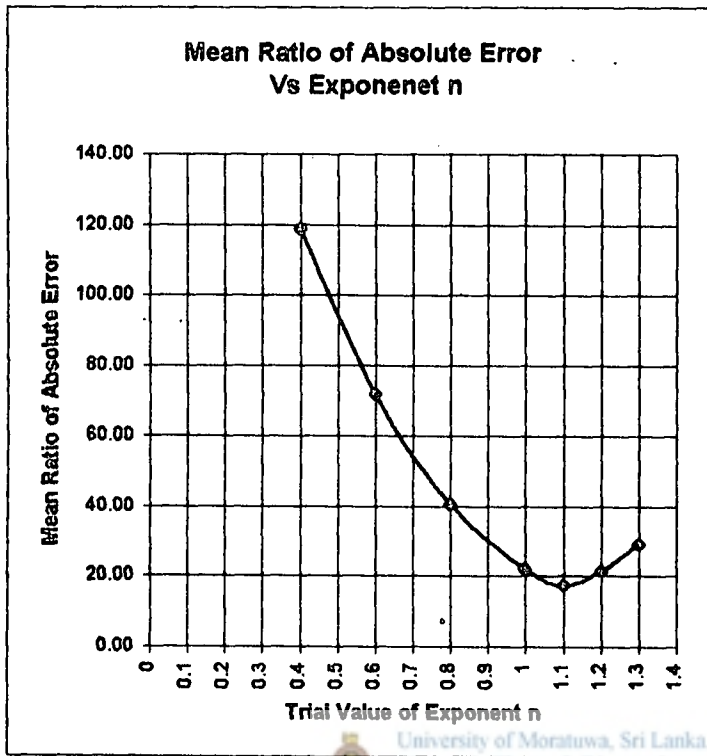


Figure 8.3.22
Mean Ratio of Absolute Error (MRAE) for Different n Values for Transposing Peakflow from Millakanda to Dela

Table 8.3.23 Exponent (n) for Transposition of Peakflow at Nambapana to Malawala

A2 329 km² (Area of Waershed at Malawala)
 A1 629 km² (Area of Watershed at Nambapana)
 A2/A1 0.52

Trail Value of Exponent n			-0.6	-0.4	-0.3	-0.2	0	0.4	0.9
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941									
1942									
1943									
1944									
1945									
1946									
1947									
1948									
1949									
1950									
1951									
1952									
1953									
1954	646								
1955	430								
1956	552	453	21.07	6.35	0.32	6.58	17.93	36.67	51.14
1957	327	363	63.77	43.86	34.83	26.37	11.01	14.34	33.90
1958	609	589	42.89	25.34	17.47	10.10	3.28	25.37	42.41
1959	406	268	2.62	14.46	19.82	24.86	33.99	49.08	60.70
1960	360	292	19.66	5.11	1.48	7.66	18.89	37.41	51.70
1961	984	408	38.83	46.27	49.64	52.80	58.54	68.00	75.31
1962	892	462	23.59	32.88	37.09	41.04	48.21	60.03	69.16
1963	1067	481	33.50	41.58	45.25	48.68	54.92	65.21	73.16
1964	803	399	26.70	35.61	39.65	43.43	50.31	61.66	70.41
1965	1403	579	39.12	46.52	49.87	53.02	58.73	68.16	75.43
1966	427	316	9.18	4.10	10.11	15.75	26.00	42.89	55.93
1967	1066	729	0.89	11.38	16.94	22.15	31.61	47.23	59.28
1968	1288	736	15.70	25.95	30.59	34.95	42.88	55.81	65.97
1969	1062	473	34.29	42.28	45.90	49.30	55.46	65.63	73.48
1970	669	633	7.46	5.60	11.53	17.08	27.16	43.79	56.63
1971	807	714	30.53	14.68	7.46	0.72	11.52	31.73	47.32
1972	500	375	10.65	2.81	8.90	14.62	25.00	42.13	55.34
1973	521	538	52.34	33.82	25.42	17.55	3.28	20.32	38.51
1974	950	609	5.43	16.92	22.14	27.02	35.89	50.53	61.83
1975	1070	438	39.61	46.95	50.28	53.40	59.07	68.41	75.63
1976	253	274	59.77	40.35	31.54	23.29	8.30	16.43	35.51
1977									
1978	920	841	34.86	18.47	11.03	4.06	8.59	26.46	45.57
1979									
1980									
1981									
1982									
1983									
1984									
1985									
no of data	24	22	22	22	22	22	22	22	22
MRAE			27.83	25.51	25.79	27.92	31.39	45.47	57.92

Note
 Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)
 Q2obs Observed peakflow at Catchment at Malawala
 Q1obs Observed peakflow at Catchment at Nambapana
 RAE Ratio of Absolute Error
 MRAE Mean Ratio of Absolute Error

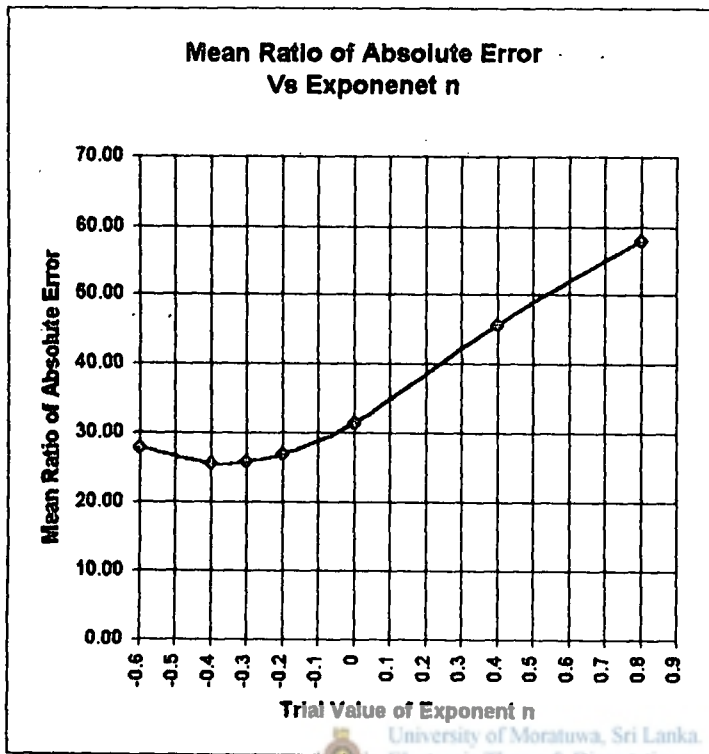


Figure 8.3.23
Mean Ratio of Absolute Error (MRAE) for Different n Values for Transposing Peakflow from Nambapana to Malawala



Table 8.3.24 Exponent (n) for Transposition of Peakflow at Nambpana to Dela

A2 220 km² (Area of Waershed at Dela)
 A1 629 km² (Area of Watershed at Nambpana)
 A2/A1 0.35

Trail Value of Exponent n			0.4	0.8	1.2	1.3	1.4	1.5	1.6
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941									
1942									
1943									
1944									
1945									
1946									
1947									
1948									
1949									
1950									
1951									
1952									
1953									
1954									
1955									
1956	108	453	175.54	81.01	18.91	7.05	3.63	13.24	21.89
1957	135	363	78.64	16.04	23.77	31.38	38.22	44.38	49.93
1958	126	589	207.08	101.73	32.52	19.30	7.41	3.31	12.95
1959	140	288	25.75	17.39	45.73	51.14	56.02	60.40	64.35
1960	81	282	214.46	106.57	35.70	22.17	9.99	0.98	10.88
1961	135	408	98.53	30.42	14.33	22.87	30.58	37.48	43.72
1962	135	462	124.81	47.68	2.99	12.66	21.37	29.21	36.27
1963	123	481	156.89	68.76	10.88	0.20	10.15	19.11	27.18
1964	104	399	152.03	65.56	8.78	2.09	11.85	20.64	28.55
1965	127	579	199.49	98.74	29.24	16.35	4.75	5.70	15.10
1966	99	316	109.68	37.74	9.51	18.54	26.66	33.97	40.58
1967	144	729	232.56	116.47	43.51	29.20	16.32	4.72	5.72
1968	147	736	228.90	116.08	41.93	27.78	15.04	3.57	6.78
1969	133	473	133.62	53.47	0.82	9.24	18.28	26.44	33.77
1970	117	633	255.41	133.47	53.37	38.08	24.31	11.91	0.75
1971	118	714	297.49	161.12	71.53	54.43	39.03	25.16	12.68
1972	153	375	61.01	5.77	30.52	37.45	43.69	49.30	54.36
1973	121	538	192.08	91.87	26.04	13.48	2.16	8.03	17.20
1974	153	609	161.48	71.77	12.84	1.58	8.55	17.67	25.68
1975	-	438	-	-	-	-	-	-	-
1976	104	274	73.07	13.69	25.31	32.76	39.47	45.50	50.94
1977	-	-	-	-	-	-	-	-	-
1978	180	841	180.77	91.01	25.48	12.97	1.70	8.44	17.57
1979	140								
1980	165								
1981	162								
1982	130								
1983	148								
1984	153								
1985									
no of data	27	22	21	21	21	21	21	21	21
MRAE			160.35	72.68	26.84	21.84	20.43	22.34	27.48

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

- Q2obs Observed peakflow at Catchment at Dela
- Q1obs Observed peakflow at Catchment at Nambpana
- RAE Ratio of Absolute Error
- MRAE Mean Ratio of Absolute Error

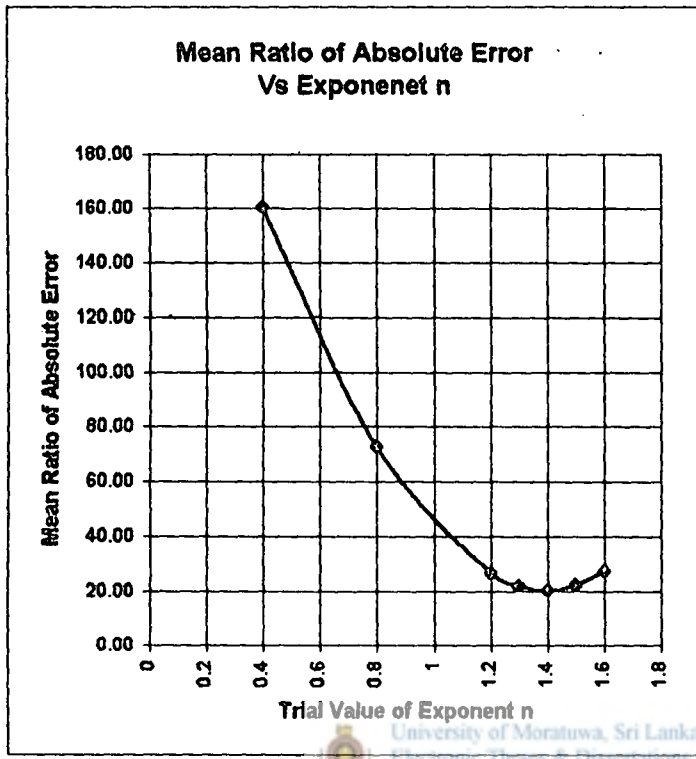


Figure 8.3.24
Mean Ratio of Absolute Error (MRAE) for Different n Values for Transposing Peakflow from Nambpana to Dela

Table 8.3.25 Exponent (n) for Transposition of Peakflow at Malawala to Dela

A2 220 km² (Aarea of Waershed at Dela)
 A1 329 km² (Area of Watershed at Nambapana)
 A2/A1 0.67

Trail Value of Exponent n			0.8	2	3	4	5	5.5	8
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941									
1942									
1943									
1944									
1945									
1946									
1947									
1948									
1949									
1950									
1951									
1952									
1953									
1954		646							
1955		430							
1956	108	552	270.42	128.54	52.83	2.19	31.66	44.12	54.30
1957	135	327	75.55	8.31	27.57	51.57	67.61	73.52	78.34
1958	126	609	250.29	116.12	44.52	3.36	35.36	47.16	56.79
1959	140	406	110.17	29.67	13.29	42.02	61.23	68.29	74.07
1960	61	380	327.71	163.89	76.46	18.00	21.09	35.48	47.24
1961	135	984	428.25	225.92	117.94	45.74	2.55	20.31	34.83
1962	135	892	378.86	195.45	97.57	32.11	11.66	27.76	40.93
1963	123	1087	528.70	287.89	159.38	73.45	15.98	5.18	22.44
1964	104	803	459.58	245.25	130.87	54.38	3.23	15.58	30.97
1965	127	1403	700.64	393.98	230.32	120.88	47.70	20.78	1.23
1966	99	427	212.59	92.86	28.97	13.76	42.33	52.84	61.44
1967	144	1086	436.51	231.02	121.35	48.01	1.02	19.06	33.82
1968	147	1288	535.01	291.79	161.99	75.19	17.15	4.20	21.66
1969	133	1062	478.70	257.05	138.76	59.65	6.76	12.70	28.61
1970	117	869	438.29	232.11	122.08	48.50	0.70	18.60	33.60
1971	118	807	395.65	205.81	104.49	36.74	8.58	25.23	38.68
1972	153	500	136.84	46.13	2.29	34.66	56.31	64.27	70.76
1973	121	521	212.08	82.53	28.75	13.91	42.43	52.92	61.50
1974	153	950	350.00	177.64	85.66	24.15	16.98	32.11	44.49
1975	-	1070	-	-	-	-	-	-	-
1976	104	253	76.31	8.78	27.26	51.36	67.47	73.40	78.25
1977	-	-	-	-	-	-	-	-	-
1978	180	920	250.93	116.51	44.78	3.19	35.26	47.08	56.71
1979	140								
1980	165								
1981	162								
1982	130								
1983	148								
1984	153								
1985									
no of data	27	24	21	21	21	21	21	21	21
MRAE			335.88	188.92	88.53	40.61	28.24	36.23	46.23

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Dela

Q1obs Observed peakflow at Catchment at Malawala

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error

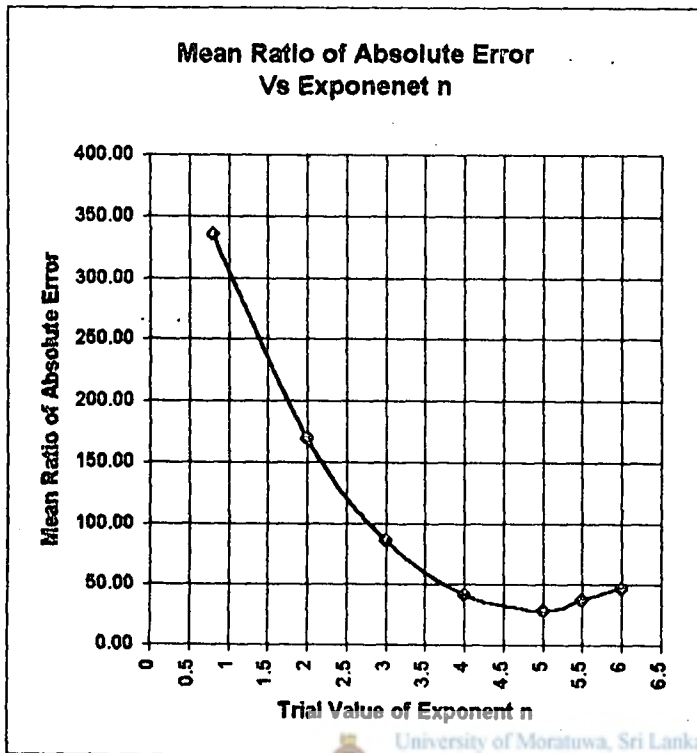


Figure 8.3.25
Mean Ratio of Absolute Error (MRAE) for Different n Values for Transposing Peakflow from Malawala to Dela

Table 8.3.26 Exponent (n) for Transposition of Peakflow at Putupaula to Glencourse

A2 1463 km² (Area of Glencourse Watershed)
 A1 2598 km² (Area of Putupaula Watershed)
 A2/A1 0.56

Trial Value of Exponent n			-0.2	-0.1	0	0.2	0.4	0.8	1
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941									
1942									
1943		2011							
1944		1430							
1945		1529							
1946		2549							
1947		1713							
1948	1770								
1949	1019	1184	30.33	23.08	16.19	3.59	7.65	26.81	34.57
1950	892	1436	80.58	70.50	60.99	43.52	27.95	1.69	9.34
1951	1857	1459	1.23	6.74	11.95	21.50	30.02	44.38	50.42
1952	1331	1352	13.94	7.58	1.58	9.44	19.27	35.84	42.80
1953	722	1314	104.14	92.75	81.99	62.25	44.64	14.96	2.49
1954	1303	1671	43.85	35.82	28.24	14.33	1.92	18.99	27.78
1955	1104	1467	49.05	40.73	32.88	18.46	5.81	18.06	25.17
1956	1246	1518	36.66	29.03	21.83	8.61	3.17	23.04	31.39
1957	1232	1218	10.80	4.71	1.14	11.86	21.43	37.55	44.33
1958	1700	793	47.88	50.80	53.35	58.41	62.93	70.53	73.73
1959	895	578	27.56	31.60	35.42	42.43	48.67	59.21	63.63
1960	738	708	7.90	1.88	3.80	14.24	23.55	39.24	45.83
1961	844	1048	39.28	31.51	24.17	10.70	1.31	21.57	30.08
1962	957	864	1.27	4.38	9.72	19.51	28.25	42.97	49.16
1963	1954	1028	40.99	44.28	47.39	53.10	58.19	66.77	70.37
1964	1730	947	38.60	42.02	45.26	51.20	58.49	65.42	69.17
1965		1226							
1966	3795								
1967	3075	1283	53.20	55.81	58.28	62.80	68.84	73.64	76.50
1968	1897	1047	38.09	41.55	44.81	50.80	56.13	65.14	68.92
1969	983	797	9.05	14.13	18.92	27.72	35.58	48.79	54.34
1970	2039	1029	43.39	46.55	49.53	55.01	59.89	68.12	71.59
1971	1400	978	21.64	26.01	30.14	37.72	44.48	55.87	60.66
1972	826	779	5.79	0.12	5.69	15.92	25.05	40.43	46.69
1973	3121	857	69.20	70.92	72.54	75.52	78.18	82.88	84.54
1974	2982	1055	60.32	62.53	64.62	68.46	71.89	77.65	80.08
1975	1323	864	26.75	30.83	34.69	41.78	48.10	58.75	63.22
1976	1380	807	34.40	38.07	41.52	47.87	53.52	63.08	67.07
1977	1681	1444	3.64	9.02	14.10	23.42	31.73	45.74	51.63
1978	4220	975	74.08	75.53	76.90	79.40	81.64	85.41	86.99
1979	573								
1980	2695	876	63.54	65.57	67.50	71.02	74.17	79.47	81.70
1981	1974	1155	34.37	38.03	41.49	47.84	53.50	63.04	67.05
1982	1060								
1983	4286								
1984	2096								
1985									
no of data	36	36	31	31	31	31	31	31	31
MRAE			35.85	35.22	35.36	37.05	39.41	46.15	52.63

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Glencourse

Q1obs Observed peakflow at Catchment at Putupaula

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error

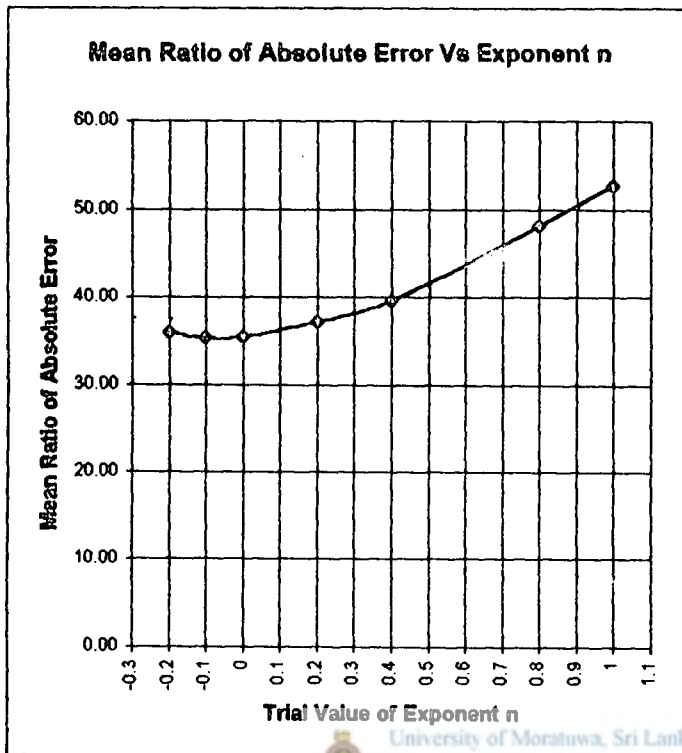


Figure 8.3.26
Mean Ratio of Absolute Error (MRAE) for Different n Values for Transposing Peakflow from Putupaula to Glencourse

Table 8.3.27 Exponent (n) for Transposition of Peakflow at Putupaula to Metiyadola

A2 606 km² (Area of Metiyadola Watershed)
 A1 2598 km² (Area of Putupaula Watershed)
 A2/A1 0.23

Trial Value of Exponent n			0	0.2	0.3	0.4	0.6	0.8	1
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941									
1942									
1943		2011							
1944		1430							
1945		1529							
1946		2549							
1947		1713							
1948	892	-	-	-	-	-	-	-	-
1949	787	1184	54.37	15.38	0.25	13.76	35.55	51.82	63.99
1950	743	1436	93.27	44.45	24.89	7.97	19.30	39.68	54.92
1951	983	1459	51.51	13.24	2.10	15.36	36.74	52.72	64.68
1952	935	1352	44.60	8.08	6.56	19.22	39.62	54.87	66.27
1953	391	1314	236.06	151.18	117.15	87.74	40.32	4.68	21.61
1954	912	1671	83.22	38.95	18.39	2.36	23.50	42.82	57.28
1955	793	1487	84.99	38.27	19.54	3.35	22.76	42.27	56.85
1956	750	1518	102.40	51.28	30.79	13.07	15.49	36.83	52.79
1957	785	1218	59.22	19.00	2.88	11.06	33.52	50.31	62.86
1958	871	793	8.96	31.95	41.17	49.14	61.98	71.59	78.78
1959	432	578	33.80	0.00	13.54	25.28	44.13	58.24	68.79
1960	532	708	33.08	0.53	14.01	25.65	44.43	58.47	68.86
1961	566	1048	85.16	38.39	19.65	3.44	22.69	42.22	56.81
1962	513	864	68.42	25.86	8.63	5.91	28.68	47.44	60.71
1963	1076	1028	4.46	28.59	38.27	46.63	60.11	70.18	77.71
1964	948	947	0.11	25.34	35.45	44.19	58.29	68.82	76.70
1965	986	1226	24.34	7.08	19.65	30.54	48.08	61.20	71.00
1966	664	-	-	-	-	-	-	-	-
1967	1060	1283	21.04	9.53	21.79	32.38	49.46	62.23	71.77
1968	1215	1047	13.83	35.59	44.32	51.86	64.02	73.11	79.90
1969	331	797	140.79	79.97	55.59	34.51	0.54	24.86	43.84
1970	821	1029	25.33	6.32	19.01	29.98	47.67	60.89	70.76
1971	722	978	35.46	1.24	12.47	24.33	43.44	57.73	68.40
1972	446	779	74.66	30.55	12.86	2.43	27.07	45.49	59.28
1973	1185	857	27.68	45.95	53.27	59.60	69.60	77.43	83.13
1974	980	1055	7.65	19.54	30.44	39.88	55.05	66.40	74.89
1975	544	864	58.82	18.71	2.63	11.27	33.68	50.43	62.95
1976	623	807	29.53	3.18	16.30	27.64	45.91	59.57	69.79
1977	510	1444	183.14	111.82	82.98	58.17	18.22	11.64	33.98
1978	2344	975	58.40	68.91	73.12	76.76	82.63	87.02	90.30
1979	416	-	-	-	-	-	-	-	-
1980	936	876	6.41	30.05	39.52	47.72	60.92	70.79	76.17
1981	654	1155	76.61	32.00	14.12	1.34	26.26	44.68	58.81
1982									
1983									
1984									
1985									
no of data	34	36	31	31	31	31	31	31	31
MRAE			58.9	33.2	28.9	29.1	40.7	53.1	64.7

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Metiyadola

Q1obs Observed peakflow at Catchment at Putupaula

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error

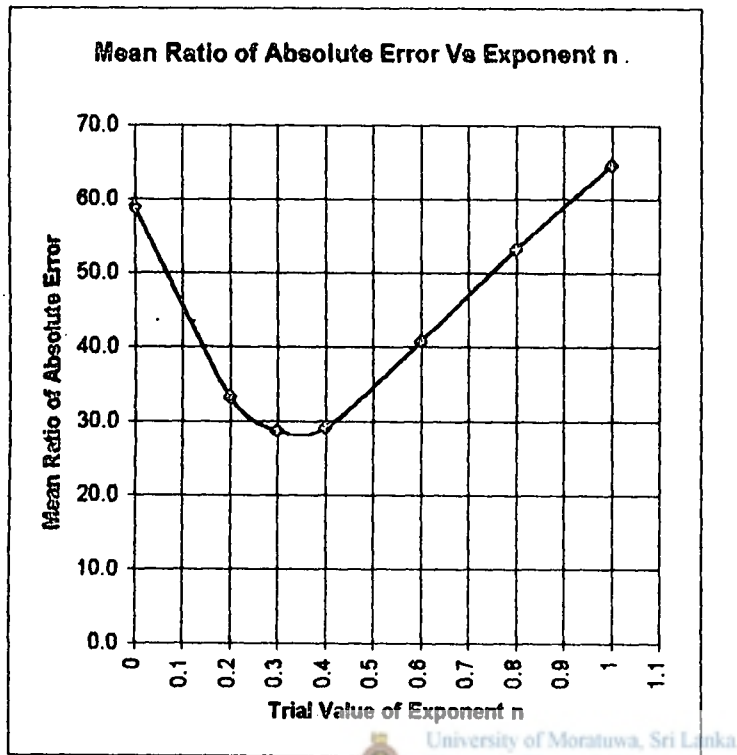


Figure 8.3.27
Mean Ratio of Absolute Error (MRAE) for Different n Values for Transposing Peakflow from Putupaula to Metiyadola

Table 8.3.28 Exponent (n) for Transposition of Peakflow at Putupaula to kitulgala

A2 388 km² (Area of Kitulgala Watershed)
 A1 2598 km² (Area of Putupaula Watershed)
 A2/A1 0.15

Trial Value of Exponent n			0.1	0.3	0.4	0.5	0.6	0.8	1
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941									
1942									
1943		2011							
1944		1430							
1945		1529							
1946		2549							
1947	527	1713	168.76	83.74	51.92	25.62	3.66	28.99	51.48
1948	535								
1949	756	1184	29.49	11.47	26.80	39.48	49.98	65.79	78.61
1950	705	1436	68.42	15.14	4.80	21.28	34.92	55.50	69.59
1951	1034	1459	16.67	20.24	34.05	45.47	54.91	69.18	78.93
1952	847	1352	31.98	9.77	25.39	38.31	49.00	65.13	78.18
1953	386	1314	181.47	92.43	59.11	31.55	8.77	25.64	49.16
1954	1497	1671	7.71	36.90	47.83	56.86	64.33	75.62	83.33
1955	1188	1467	2.10	30.20	42.28	52.28	60.54	73.02	81.56
1956	663	1518	89.31	29.42	7.01	11.52	26.84	49.96	65.81
1957	440	1218	128.88	56.48	29.38	6.98	11.55	39.53	58.66
1958	1526	793	57.03	70.63	75.71	79.92	83.40	88.65	92.24
1959	772	578	38.09	57.68	65.01	71.07	76.08	83.64	88.82
1960	413	708	41.74	3.10	19.88	33.75	45.22	62.55	74.40
1961	495	1048	75.06	19.68	1.05	18.18	32.35	53.75	68.38
1962	495	864	44.32	1.33	18.42	32.55	44.23	61.87	73.93
1963	973	1028	12.64	40.28	50.62	59.17	66.24	76.92	84.22
1964	1526	947	48.69	64.92	71.00	76.02	80.17	86.44	90.73
1965	903	1226	12.26	23.25	36.54	47.53	56.62	70.34	79.72
1966	488								
1967	909	1283	16.70	20.22	34.03	45.45	54.90	69.17	78.92
1968	359	1047	141.14	64.86	36.31	12.71	6.81	36.29	56.44
1969	297	797	121.88	51.69	25.42	3.70	14.25	41.38	59.92
1970	1200	1029	29.10	51.53	59.92	66.88	72.60	81.27	87.19
1971	712	978	13.57	22.35	35.80	46.82	56.11	69.99	78.49
1972	235	779	174.09	87.38	54.93	28.10	5.92	27.59	50.49
1973	1517	857	53.29	68.07	73.60	78.17	81.95	87.66	91.56
1974	1058	1055	17.55	43.63	53.39	61.48	68.14	78.22	85.11
1975	487	864	46.69	0.29	17.08	31.44	43.31	61.24	73.50
1976	796	807	16.17	42.69	52.62	60.82	67.61	77.85	84.86
1977	529	1444	125.70	54.30	27.58	5.49	12.78	40.37	59.23
1978	2259	975	64.31	75.60	79.83	83.32	86.21	90.57	93.55
1979	430								
1980	590	876	22.76	16.07	30.60	42.62	52.56	67.57	77.63
1981	415	1155	130.12	57.32	30.08	7.55	11.07	39.20	58.44
1982	328								
1983	1342								
1984	825								
1985									
no of data	38	36	32	32	32	32	32	32	32
MRAE			63.37	41.33	39.94	41.32	46.35	62.53	74.38

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Kitulgala

Q1obs Observed peakflow at Catchment at Putupaula

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error

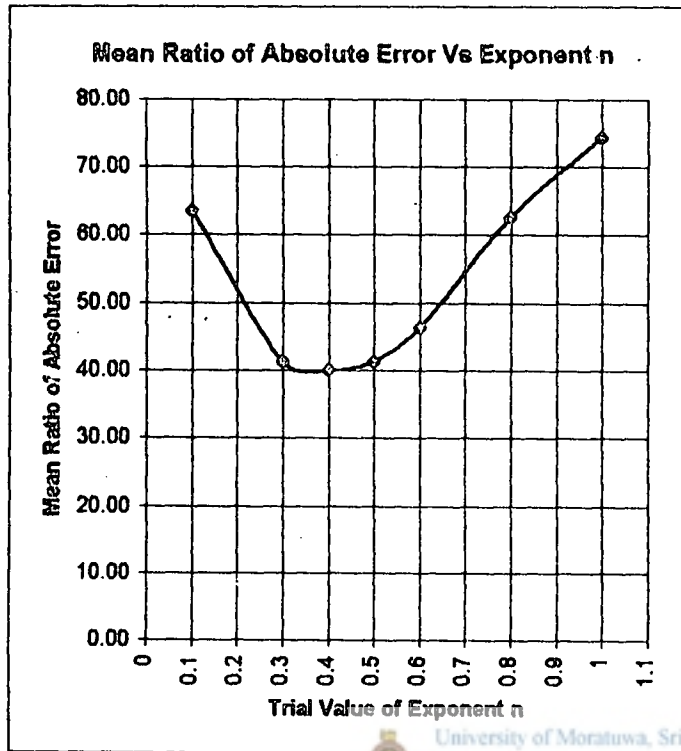


Figure 8.3.28
Mean Ratio of Absolute Error (MRAE) for Different n Values for Transposing Peakflow from Putupaula to kitulgala

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Table 8.3.29 Exponent (n) for Transposition of Peakflow at Putupaula to Imbulana

A2 329 km² (Area of Imbulana Watershed)
 A1 2598 km² (Area of Putupaula Watershed)
 A2/A1 0.13

Trial Value of Exponent n			0.6	0.7	0.8	0.9	1	1.1
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE
1940								
1941								
1942								
1943		2011						
1944		1430						
1945		1529						
1946		2549						
1947		1713						
1948	299							
1949	200	1184	71.34	39.35	13.34	7.82	25.03	39.03
1950	153	1436	171.64	120.93	79.68	46.14	18.68	3.33
1951	552	1459	23.50	37.78	49.40	58.85	68.53	72.78
1952	566	1352	30.87	43.77	54.27	62.81	69.75	75.40
1953	204	1314	86.42	51.62	23.31	0.29	18.43	33.68
1954	268	1671	80.46	48.77	19.37	2.92	21.04	35.78
1955	991	1487	57.16	65.15	71.86	76.95	81.25	84.75
1956	235	1518	86.96	52.05	23.67	0.58	18.20	33.47
1957	275	1218	28.19	4.26	15.21	31.04	43.91	54.38
1958	402	793	42.91	53.57	62.23	69.29	75.02	79.68
1959	555	578	69.86	75.49	80.06	83.78	86.81	89.27
1960	187	708	9.58	10.88	27.52	41.05	52.05	61.01
1961	361	1048	15.98	31.66	44.42	54.80	63.24	70.10
1962	272	864	8.07	25.23	39.19	50.54	59.77	67.28
1963	398	1028	24.87	38.89	50.30	59.58	67.13	73.26
1964	561	947	51.14	60.26	67.68	73.72	78.62	82.61
1965	312	1226	13.73	7.50	24.77	38.82	50.24	59.53
1966	297							
1967	328	1283	13.21	7.92	25.11	39.09	50.47	59.71
1968	300	1047	1.01	17.85	33.19	45.68	55.80	64.06
1969	148	797	55.86	26.76	3.10	16.15	31.80	44.54
1970	232	1029	28.37	4.40	15.09	30.94	43.83	54.32
1971	312	978	9.28	26.21	39.99	51.19	60.30	67.72
1972	208	779	9.45	10.99	27.60	41.12	52.11	61.05
1973	297	857	16.49	32.08	44.76	55.07	63.46	70.28
1974		1055						
1975		864						
1976		807						
1977		1444						
1978		875						
1979								
1980		876						
1981		1155						
1982								
1983								
1984								
1985								
no of data	26	36	24	24	24	24	24	24
MRAE			41.93	37.14	33.95	43.26	52.24	59.88

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Imbulana

Q1obs Observed peakflow at Catchment at Putupaula

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error

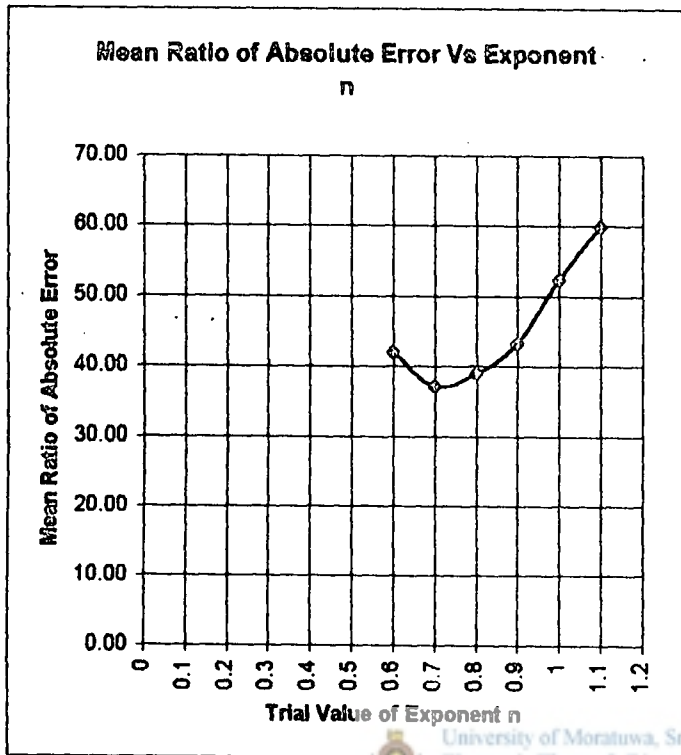


Figure 8.3.29
Mean Ratio of Absolute Error (MRAE) for Different n Values for Transposing Peakflow from Putupaula to Imbulana

Table 8.3.30 Exponent (n) for Transposition of Peakflow at Putupaula to Deraniyagala

A2 152 km² (Area of Deraniyagala Watershed)
 A1 2598 km² (Area of Putupaula Watershed)
 A2/A1 0.06

Trial Value of Exponent n			0.2	0.4	0.5	0.6	0.8	1
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE
1940								
1941								
1942								
1943		2011						
1944		1430						
1945		1529						
1946		2549						
1947		1713						
1948	249							
1949	113	1184	493.90	238.83	153.44	90.81	8.15	38.70
1950	183	1436	344.78	152.11	89.80	42.90	19.00	54.09
1951	765	1459	8.10	39.73	53.87	65.27	80.31	88.84
1952	687	1352	11.55	36.77	52.40	64.16	79.89	88.49
1953	224	1314	232.50	88.48	41.89	6.82	39.45	65.68
1954	340	1871	178.57	57.90	18.88	10.50	49.27	71.25
1955	446	1467	86.44	5.86	20.44	40.10	66.05	80.76
1956	439	1518	96.00	11.09	16.36	37.03	64.31	79.77
1957	286	1218	159.54	47.11	10.78	16.81	52.74	73.21
1958	385	793	23.15	30.20	47.45	60.44	77.57	87.29
1959	654	578	49.91	71.61	78.62	83.91	90.89	94.83
1960	239	708	67.91	4.83	28.35	46.05	69.42	82.67
1961	348	1048	70.70	3.25	27.16	45.16	68.92	82.38
1962	292	864	67.71	4.94	28.43	46.12	69.46	82.69
1963	289	1028	101.82	14.28	13.96	35.22	63.28	79.19
1964	320	947	67.74	4.92	28.42	46.11	69.45	82.69
1965	329	1226	111.22	19.72	9.86	32.14	61.54	78.20
1966								
1967	323	1283	125.15	27.62	3.92	27.67	59.00	76.76
1968	249	1047	138.34	35.09	1.71	23.43	56.80	75.40
1969	246	797	83.84	4.09	21.63	41.00	66.56	81.04
1970	231	1029	152.85	43.12	7.75	18.88	54.02	73.94
1971	280	978	97.98	12.22	15.51	36.39	63.95	79.58
1972	286	779	66.00	5.91	29.16	46.67	69.77	82.87
1973	306	857	58.75	10.02	32.26	49.00	71.09	83.61
1974	321	1055	86.29	5.59	20.50	40.15	66.08	80.77
1975	210	864	133.20	32.18	0.48	25.08	57.53	75.93
1976	329	807	39.03	21.19	40.67	55.33	74.68	85.65
1977		1444						
1978		975						
1979								
1980		876						
1981		1155						
1982								
1983								
1984								
1985								
no of data	28	36	27	27	27	27	27	27
MRAE			116.75	37.97	33.10	41.96	61.61	78.01

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Deraniyagala

Q1obs Observed peakflow at Catchment at Putupaula

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error

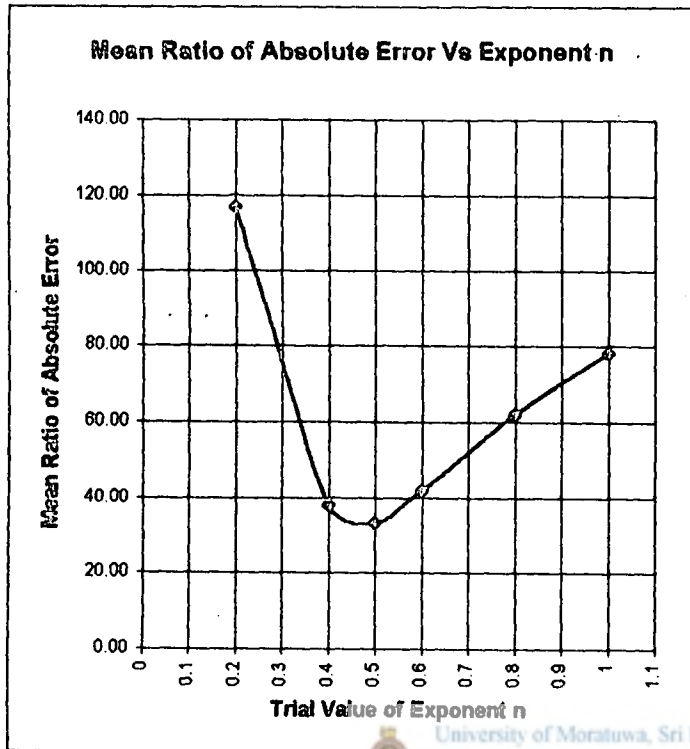


Figure 8.3.30
Mean Ratio of Absolute Error (MRAE) for Different n Values for Transposing Peakflow from Putupaula to Deraniyagala

Table 8.3.31 Exponent (n) for Transposition of Peakflow at Ellagawa to Milakanda

A2 606 km² (Area of Metiyadola Watershed)
 A1 1393 km² (Area of Ellagawa Watershed)
 A2/A1 0.44

Trial Value of Exponent n			-0.2	0	0.1	0.2	0.3	0.5
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE
1940								
1941								
1942								
1943								
1944								
1945								
1946								
1947								
1948	892							
1949	767							
1950	743							
1951	983							
1952	935							
1953	391							
1954	912							
1955	793							
1956	750	448	29.45	40.27	45.04	49.43	63.75	69.31
1957	765	333	48.59	56.47	59.95	63.15	73.58	77.63
1958	871	448	39.25	48.56	52.67	56.45	68.78	73.57
1959	432	340	7.04	21.30	27.58	33.37	52.24	59.56
1960	532	339	24.74	36.28	41.37	46.05	61.33	67.26
1961	566	464	3.17	18.02	24.57	30.59	50.25	57.88
1962	513	368	15.73	28.65	34.35	39.60	56.70	63.34
1963	1078	481	47.20	55.30	58.87	62.15	72.87	77.03
1964	949	384	52.16	59.49	62.73	65.71	75.42	79.19
1965	986	685	17.94	30.53	36.08	41.18	57.84	64.30
1966	664	662	17.76	0.30	8.26	15.59	39.49	48.77
1967	1080	756	15.76	28.66	34.38	39.62	56.72	63.35
1968	1215	598	41.87	50.78	54.71	58.33	70.13	74.71
1969	331	496	76.99	49.85	37.88	26.87	9.08	23.00
1970	821	931	33.94	13.40	-4.34	3.99	31.18	41.73
1971	722	862	41.02	19.39	9.66	1.08	27.54	38.65
1972	446	578	53.07	29.60	19.25	9.72	21.35	33.41
1973	1185	770	23.25	35.02	40.21	44.99	60.56	66.61
1974	980	1113	34.14	13.57	4.50	3.84	31.07	41.64
1975	544	679	47.42	24.82	14.85	5.68	24.25	35.67
1976	623	529	0.29	15.09	21.87	28.11	48.47	56.37
1977	510	1337	209.64	162.16	141.22	121.96	59.10	34.70
1978	2344	670	66.24	71.42	73.70	75.80	82.65	85.31
1979	416	663	68.24	59.38	46.65	34.93	3.28	18.11
1980	936	810	2.21	13.46	20.37	26.73	47.48	55.53
1981	654							
1982								
1983								
1984								
1985								
no of data	34	25	25	25	25	25	25	25
MRAE			41.48	39.27	39.01	39.40	49.20	56.27

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Metiyadola

Q1obs Observed peakflow at Catchment at

RAE Ratio of Absolute Error Ellagawa

MRAE Mean Ratio of Absolute Error



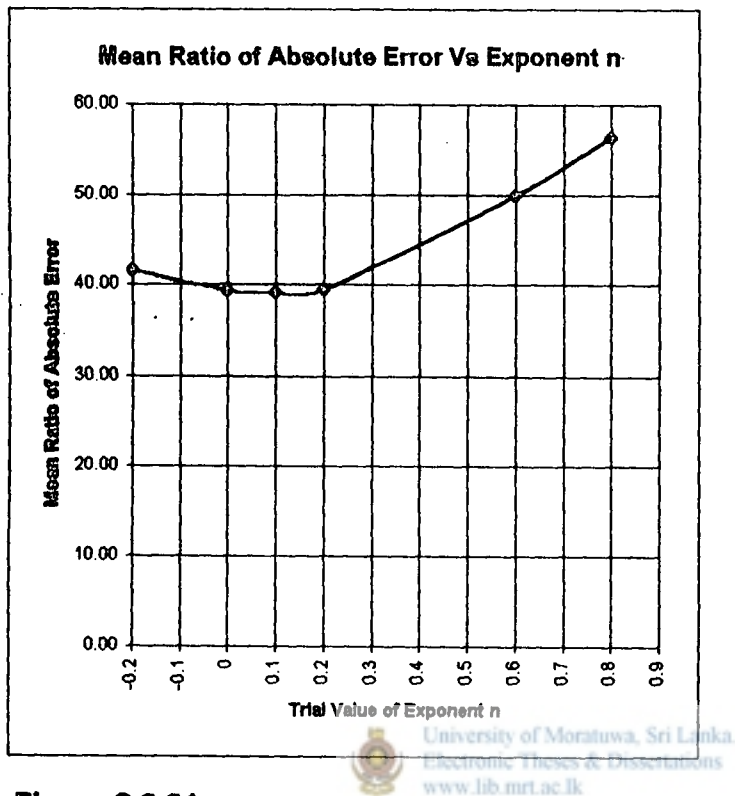


Figure 8.3.31
Mean Ratio of Absolute Error (MRAE) for Different n Values for Transposing Peakflow from Ellagawa to Milakanda

Table 8.3.31 Exponent (n) for Transposition of Peakflow at Ellagawa to Milakanda

A2 606 km² (Area of Metiyadola Watershed)
 A1 1393 km² (Area of Ellagawa Watershed)
 A2/A1 0.44

Trial Value of Exponent n			-0.2	0	0.1	0.2	0.6	0.8
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE
1940								
1941								
1942								
1943								
1944								
1945								
1946								
1947								
1948	892							
1949	767							
1950	743							
1951	963							
1952	935							
1953	391							
1954	912							
1955	793							
1956	750	448	29.45	40.27	45.04	49.43	63.75	69.31
1957	765	333	48.59	56.47	59.95	63.15	73.58	77.63
1958	871	448	39.25	48.56	52.87	56.45	68.78	73.57
1959	432	340	7.04	21.30	27.58	33.37	52.24	59.56
1960	532	339	24.74	36.28	41.37	46.05	61.33	67.26
1961	566	464	3.17	18.02	24.57	30.59	50.25	57.88
1962	513	366	15.73	28.65	34.35	39.60	56.70	63.34
1963	1078	481	47.20	55.30	58.67	62.15	72.87	77.03
1964	948	384	52.16	59.49	62.73	65.71	75.42	79.19
1965	986	685	17.94	30.53	36.08	41.18	57.84	64.00
1966	664	662	17.76	0.30	8.26	15.59	39.49	48.77
1967	1060	756	15.76	28.66	34.36	39.62	56.72	63.35
1968	1215	598	41.87	50.78	54.71	58.33	70.13	74.71
1969	331	496	76.99	49.85	37.88	26.87	9.06	23.00
1970	821	931	33.94	13.40	4.34	3.99	31.18	41.73
1971	722	862	41.02	19.39	9.66	1.08	27.54	36.65
1972	446	578	53.07	29.60	19.25	9.72	21.35	33.41
1973	1185	770	23.25	35.02	40.21	44.99	60.56	66.61
1974	980	1113	34.14	13.57	4.50	3.84	31.07	41.64
1975	544	679	47.42	24.82	14.85	5.68	24.25	35.87
1976	623	529	0.29	15.09	21.87	28.11	48.47	56.37
1977	510	1337	209.64	162.16	141.22	121.96	59.10	34.70
1978	2344	670	66.24	71.42	73.70	75.80	82.65	85.31
1979	416	663	88.24	59.38	46.85	34.93	3.28	18.11
1980	936	810	2.21	13.46	20.37	26.73	47.48	55.53
1981	654							
1982								
1983								
1984								
1985								
no of data	34	25	25	25	25	25	25	25
MRAE			41.48	39.27	39.01	39.40	49.00	56.27

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Metiyadola

Q1obs Observed peakflow at Catchment at

RAE Ratio of Absolute Error Ellagawa

MRAE Mean Ratio of Absolute Error

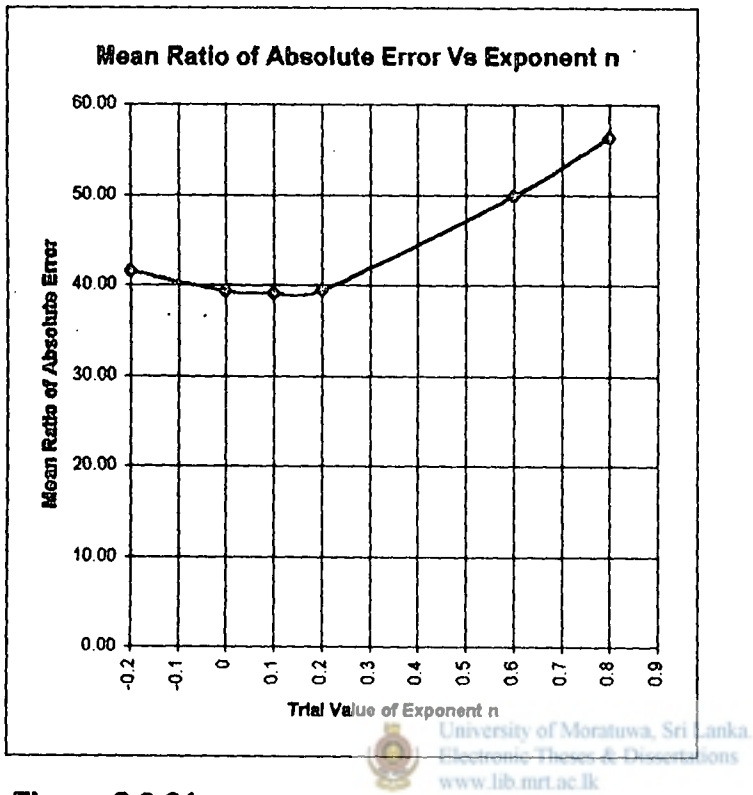


Figure 8.3.31
Mean Ratio of Absolute Error (MRAE) for Different n Values for Transposing Peakflow from Ellagawa to Milakanda

Table 8.3.32 Exponent (n) for Transposition of Peakflow at Ellagawa to Kitulgala

A2 388 km² (Area of Kitulgala Watershed)
 A1 1393 km² (Area of Ellagawa Watershed)
 A2/A1 0.28

Trial Value of Exponent n			0.1	0.2	0.3	0.4	0.6	0.8
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE
1940								
1941								
1942								
1943								
1944								
1945								
1946								
1947	527							
1948	535							
1949	756							
1950	705							
1951	1034							
1952	847							
1953	386							
1954	1497							
1955	1188							
1956	663	448	40.54	47.67	53.95	59.48	68.62	75.70
1957	440	333	33.40	41.39	48.42	54.61	64.85	72.78
1958	1526	448	74.16	77.26	79.99	82.39	86.37	89.44
1959	772	340	61.24	65.89	69.99	73.59	79.55	84.16
1960	413	339	27.77	36.43	44.08	50.77	61.88	70.48
1961	495	464	17.51	27.41	36.12	43.78	56.46	66.29
1962	495	366	34.93	42.74	49.61	55.66	65.66	73.41
1963	973	481	56.50	61.72	66.31	70.35	77.04	82.22
1964	1526	384	77.86	80.51	82.85	84.91	88.31	90.95
1965	903	685	33.24	41.25	48.30	54.51	64.77	72.72
1966	488	662	19.38	5.05	7.55	18.64	37.00	51.21
1967	909	756	26.81	35.59	43.32	50.12	61.37	70.09
1968	359	598	46.59	29.00	13.52	0.10	22.64	40.09
1969	297	496	46.98	29.33	13.81	0.16	22.44	39.93
1970	1200	931	31.73	39.92	47.13	53.47	63.97	72.10
1971	712	862	6.54	6.24	17.49	27.39	43.77	56.46
1972	235	578	116.45	90.47	67.62	47.51	14.23	11.54
1973	1517	770	55.33	60.69	65.41	69.56	76.43	81.74
1974	1058	1113	7.42	18.53	28.31	36.91	51.14	62.16
1975	487	679	22.70	7.97	4.98	16.38	35.25	49.85
1976	796	529	41.52	48.53	54.71	60.14	69.13	76.10
1977	529	1337	122.41	95.73	72.24	51.58	17.38	9.10
1978	2259	670	73.90	77.03	79.79	82.21	86.23	89.33
1979	430	663	35.69	19.40	5.08	7.53	28.39	44.54
1980	590	810	20.82	6.32	6.44	17.66	36.24	50.62
1981	415							
1982	328							
1983	1342							
1984	925							
1985								
no of data	38	25	25	25	25	25	25	25
MRAE			45.28	43.68	44.28	46.78	55.16	63.32

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Kitulgala

Q1obs Observed peakflow at Catchment at Ellagawa

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error

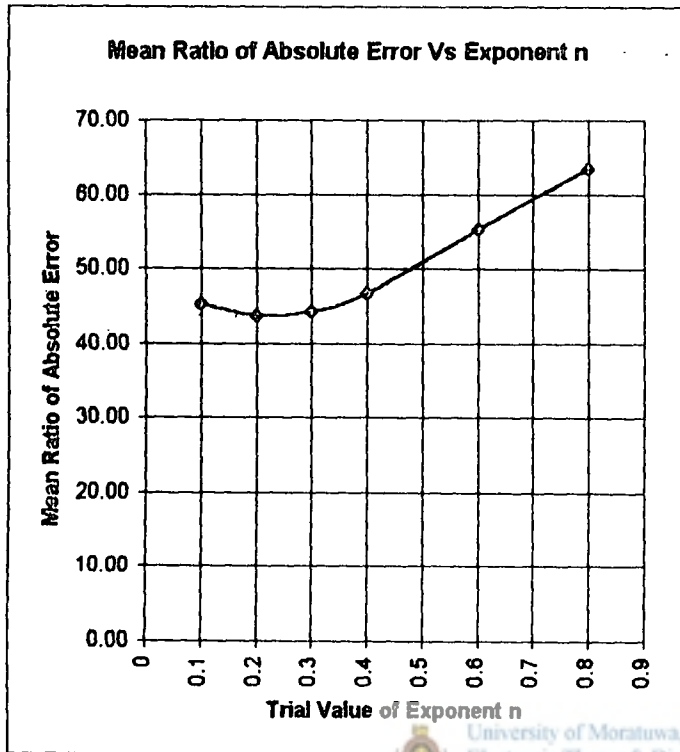


Figure 8.3.32
Mean Ratio of Absolute Error (MRAE) for Different n Values for Transposing Peakflow from Ellagawa to Kitulgala

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Table 8.3.33 Exponent (n) for Transposition of Peakflow at Ellagawa to Imbulana

A2 329 km² (Area of Imbulana Watershed)
 A1 1393 km² (Area of Ellagawa Watershed)
 A2/A1 0.24

Trial Value of Exponent n			0	0.4	0.5	0.6	0.7	0.8	1
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	
1940									
1941									
1942									
1943									
1944									
1945									
1946									
1947									
1948	299								
1949	200								
1950	153								
1951	552								
1952	566								
1953	204								
1954	268								
1955	991								
1956	235	448							
1957	275	333	21.09	32.02	41.15	49.06	55.91	61.83	71.40
1958	402	448	11.44	37.43	45.84	53.12	59.42	64.87	73.88
1959	555	340	38.74	65.61	70.23	74.23	77.69	80.69	85.53
1960	187	339	81.28	11.78	11.90	23.74	33.99	42.86	57.18
1961	361	464	28.53	27.84	37.54	45.93	53.20	59.49	69.64
1962	272	366	34.56	24.45	34.81	43.39	51.00	57.59	68.22
1963	396	481	21.46	31.81	40.97	48.90	55.77	61.71	71.31
1964	561	384	31.55	81.57	66.73	71.21	75.07	78.42	83.83
1965	312	685	119.55	23.26	6.70	7.84	20.05	30.80	48.15
1966	297	662	122.90	25.14	8.32	6.23	18.83	29.74	47.36
1967	328	756	130.49	29.40	12.01	3.04	16.07	27.35	45.56
1968	300	598	98.33	11.91	3.13	16.15	27.41	37.17	52.92
1969	148	496	235.14	88.16	62.87	40.98	22.04	5.64	20.85
1970	232	931	301.29	125.30	95.02	68.81	46.13	26.49	5.22
1971	312	862	176.28	55.11	34.27	16.22	0.61	12.91	34.75
1972	206	578	180.58	57.53	36.36	18.03	2.17	11.56	33.73
1973	297	770	159.26	45.56	26.00	9.06	5.59	18.28	38.77
1974		1113							
1975		679							
1976		529							
1977		1337							
1978		670							
1979		663							
1980		810							
1981									
1982									
1983									
1984									
1985									
no of data	26	24	17	17	17	17	17	17	17
MRAE			105.50	43.76	37.27	35.04	36.53	41.61	52.42

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Imbulana

Q1obs Observed peakflow at Catchment at Ellagawa

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error

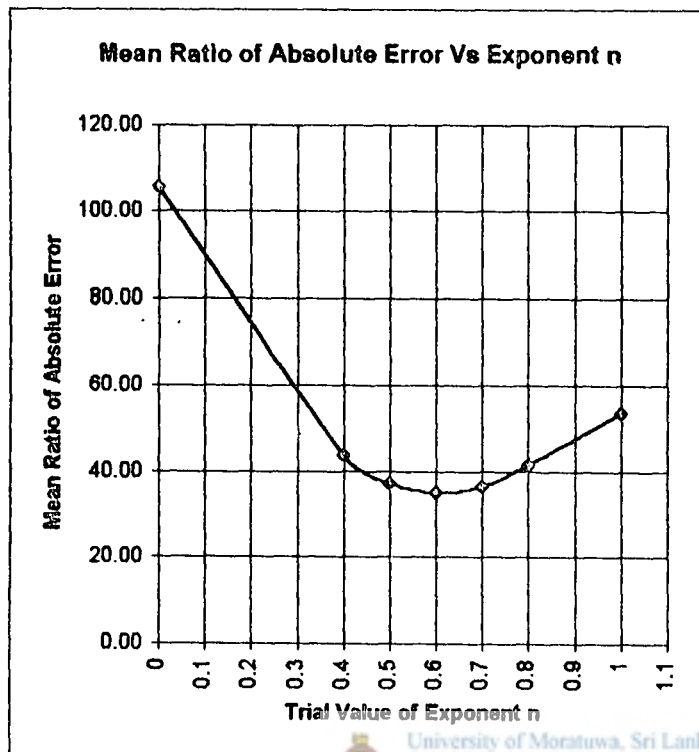


Figure 8.3.33
Mean Ratio of Absolute Error (MRAE) for Different n Values for Transposing Peakflow from Ellagawa to Imbulana

Table 8.3.34 Exponent (n) for Transposition of Peakflow at Ellagawa to Deraniyagala

A2 332 km² (Area of Deraniyagala Watershed)
 A1 1393 km² (Area of Ellagawa Watershed)
 A2/A1 0.24

Trial Value of Exponent n			0.2	0.5	0.8	0.7	0.8	1
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE
1940								
1941								
1942								
1943								
1944								
1945								
1946								
1947								
1948	249							
1949	113							
1950	183							
1951	765							
1952	687							
1953	224							
1954	340							
1955	446							
1956	439	448						
1957	266	333	6.03	38.88	47.05	54.12	60.25	70.16
1958	365	448	7.87	40.08	48.08	55.02	61.03	70.75
1959	654	340	60.98	74.62	78.01	80.95	83.49	87.61
1960	239	339	6.47	30.75	40.01	48.02	54.86	66.19
1961	348	484	0.09	34.91	43.60	51.14	57.67	68.22
1962	292	366	5.91	38.81	46.98	54.07	60.20	70.13
1963	289	481	24.94	18.75	28.60	39.01	47.16	60.33
1964	320	384	9.92	41.42	49.24	56.02	61.90	71.40
1965	329	685	56.29	1.65	11.93	23.70	33.89	50.38
1966		662						
1967	323	756	75.89	14.26	1.00	14.23	25.69	44.22
1968	249	598	80.28	17.25	1.58	11.99	23.75	42.76
1969	246	496	51.35	1.57	14.72	28.11	35.98	51.85
1970	231	931	202.53	96.76	70.47	47.70	27.96	3.94
1971	280	862	131.09	50.29	30.22	12.62	2.25	26.63
1972	266	578	83.11	6.08	8.09	20.37	31.01	48.21
1973	306	770	88.89	22.85	6.43	7.79	20.11	40.03
1974	321	1113	160.27	69.27	46.66	27.06	10.09	17.36
1975	210	679	142.71	57.85	36.76	18.49	2.66	22.94
1976	329	529	20.70	21.50	31.99	41.08	48.95	61.68
1977		1337						
1978		670						
1979		663						
1980		810						
1981								
1982								
1983								
1984								
1985								
no of data	28	25	19	19	19	19	19	19
MRAE			62.90	35.69	32.81	36.30	39.42	51.31

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Deraniyagala

Q1obs Observed peakflow at Catchment at Ellagawa

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error

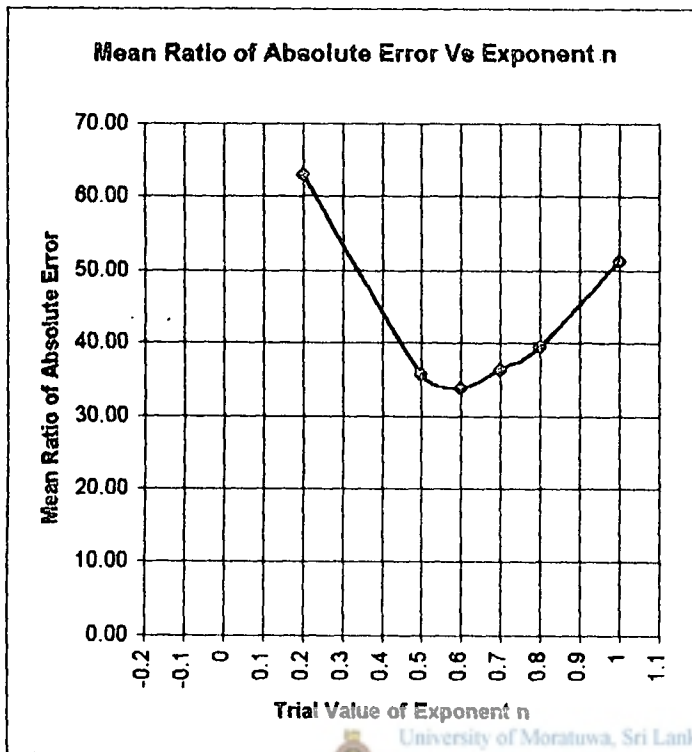


Figure 8.3.34
Mean Ratio of Absolute Error (MRAE) for Different n Values for Transposing Peakflow from Ellagawa to Deraniyagala

Table 8.3.35 Exponent (n) for Transposition of Peakflow at Millakanda to Metiyadola

A2 606 km² (Area of Metiyadola Watershed)
 A1 769 km² (Area of Millakanda Watershed)
 A2/A1 0.79

Trial Value of Exponent n			-2	-1.5	-1	-0.5	0	0.8	2.5
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	
1940									
1941									
1942									
1943									
1944									
1945									
1946									
1947									
1948	892								
1949	767								
1950	743	382	17.21	26.51	34.76	42.08	48.59	57.51	71.68
1951	963	439	26.59	34.83	42.15	48.65	54.41	62.32	74.87
1952	935	348	40.07	46.80	52.77	58.07	62.78	69.24	79.48
1953	391	538	121.57	96.69	74.61	55.00	37.60	13.72	24.15
1954	912	413	27.08	35.27	42.53	48.99	54.71	62.57	75.04
1955	793	396	19.59	28.62	36.63	43.75	50.06	58.73	72.47
1956	750	357	23.35	31.98	39.60	46.38	52.40	60.66	73.76
1957	765	340	28.43	36.47	43.60	49.93	55.56	63.27	75.50
1958	871	363	32.89	40.42	47.11	53.05	58.32	65.56	77.03
1959	432	272	11.39	10.00	20.10	29.07	37.04	47.86	65.29
1960	532	244	26.14	34.44	41.80	48.33	54.14	62.09	74.72
1961	566	496	41.11	25.27	11.20	1.28	12.37	27.57	51.68
1962	513	411	29.01	14.53	1.67	9.75	19.88	33.78	55.83
1963	1076	532	20.38	29.32	37.28	44.30	50.56	59.14	72.74
1964	948	411	30.19	38.03	44.98	51.16	56.65	64.17	76.10
1965	986	533	12.95	22.73	31.40	39.11	45.94	55.32	70.20
1966	864	464	12.53	0.11	11.32	21.28	30.12	42.25	61.48
1967	1080	654	0.65	11.80	21.71	30.50	38.30	49.01	65.99
1968	1215	584	25.25	33.64	41.09	47.71	53.58	61.83	74.41
1969	331	297	44.49	28.27	13.86	1.08	10.27	25.84	50.54
1970	821	462	9.38	19.58	28.59	36.61	43.73	53.49	68.98
1971	722	469	4.60	7.14	17.57	26.83	35.04	46.31	64.18
1972	446	311	12.29	0.32	11.51	21.45	30.27	42.37	61.58
1973	1185	453	38.44	45.35	51.49	56.94	61.77	68.41	78.93
1974	980	773	27.02	12.75	0.09	11.15	21.12	34.81	56.52
1975	544	446	32.02	17.20	4.04	7.64	18.01	32.24	54.80
1976	623	447	15.54	2.57	8.95	19.17	28.25	40.70	60.45
1977	510	773	144.07	116.67	92.34	70.74	51.57	25.27	16.44
1978	2344								
1979	416								
1980	936								
1981	654								
1982									
1983									
1984									
1985									
no of data	34	28	28	28	28	28	28	28	26
WRAE			30.67	30.26	32.31	36.43	41.89	49.50	64.46

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Metiyadola

Q1obs Observed peakflow at Catchment at Millakanda

RAE Ratio of Absolute Error

WRAE Mean Ratio of Absolute Error



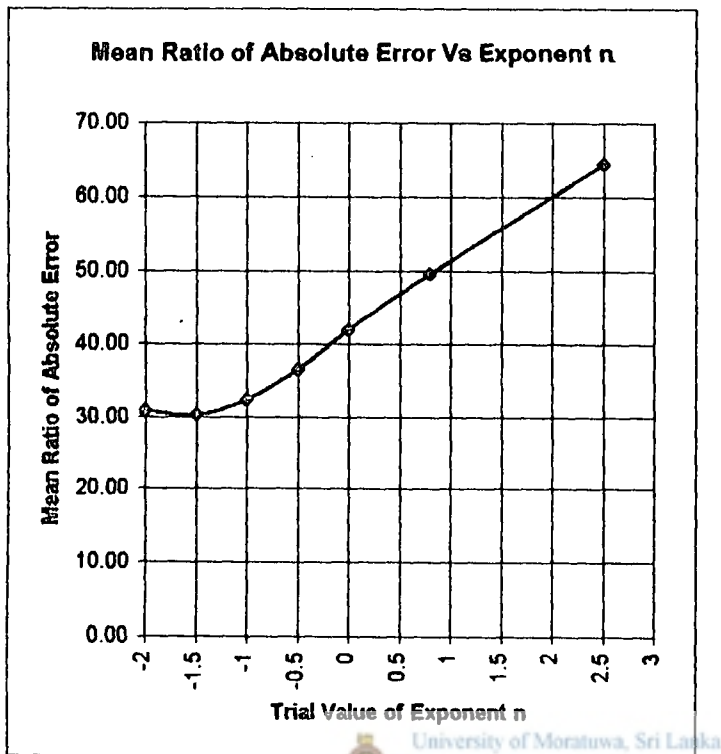


Figure 8.3.35
Mean Ratio of Absolute Error (MRAE) for Different n Values for Transposing Peakflow from Millakanda to Metiyadola

Table 8.3.36 Exponent (n) for Transposition of Peakflow at Millakanda to Kitulgala

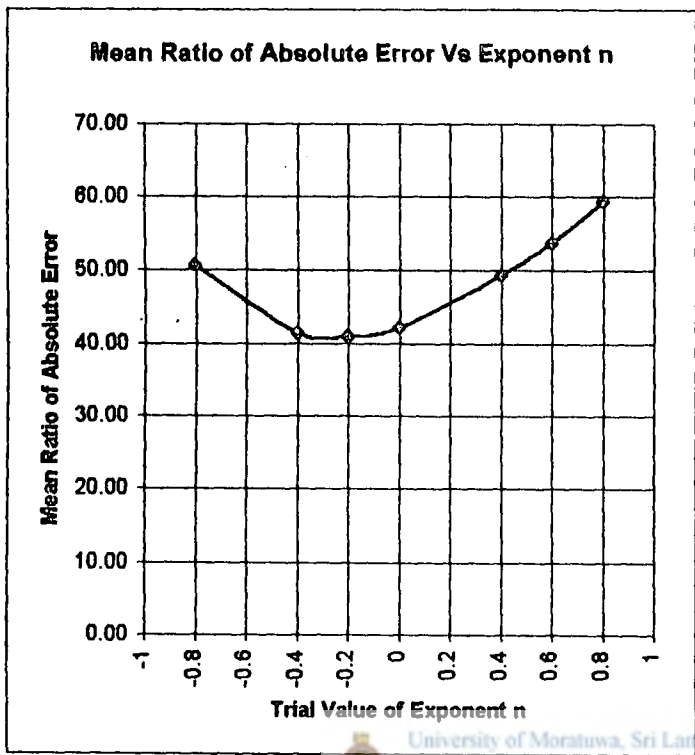
A2 388 km2 (Area of Kitulgala Watershed)
 A1 769 km2 (Area of Millakanda Watershed)
 A2/A1 0.50

Trial Value of Exponent n			-0.8	-0.4	-0.2	0	0.4	0.8	0.8
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941									
1942									
1943									
1944									
1945									
1946									
1947	527								
1948	535								
1949	758								
1950	705	382	6.34	28.76	37.87	45.82	58.79	64.08	68.65
1951	1034	439	26.81	44.18	51.32	57.54	67.71	71.84	75.44
1952	847	348	28.98	45.98	52.89	58.91	68.75	72.75	76.23
1953	386	538	140.92	83.25	58.81	39.38	6.01	7.54	19.37
1954	1487	413	52.31	63.73	68.37	72.41	79.02	81.70	84.04
1955	1188	398	42.38	56.18	61.78	66.87	74.65	77.89	80.72
1956	883	357	6.93	29.21	38.26	46.15	59.04	64.28	68.85
1957	440	340	33.57	1.59	11.40	22.73	41.23	48.74	55.30
1958	1526	363	58.88	68.73	72.72	76.21	81.91	84.22	86.24
1959	772	272	39.10	53.68	59.60	64.77	73.20	76.63	79.62
1960	413	244	2.12	22.33	32.28	40.92	55.08	60.81	65.82
1961	495	498	73.20	31.74	14.89	0.20	23.79	33.53	42.03
1962	495	411	43.52	9.16	4.80	16.97	36.85	44.92	51.96
1963	973	532	5.49	28.12	37.31	45.32	58.41	63.73	68.37
1964	1526	411	53.45	64.59	68.12	73.07	79.51	82.13	84.42
1965	903	533	2.03	22.40	32.32	40.97	55.10	60.85	65.85
1966	488	464	64.35	25.01	9.02	4.92	27.68	36.93	44.99
1967	909	654	24.38	5.41	17.50	26.05	45.28	52.27	58.38
1968	359	564	171.58	106.55	80.14	57.10	19.49	4.21	9.11
1969	297	297	72.85	31.47	14.66	0.00	23.94	33.66	42.15
1970	1200	462	33.45	49.38	55.86	61.50	70.72	74.46	77.73
1971	712	489	13.88	13.40	24.47	34.13	49.90	56.30	61.89
1972	235	311	128.75	73.99	51.74	32.34	0.66	12.21	23.44
1973	1517	453	48.38	60.74	65.76	70.14	77.29	80.19	82.72
1974	1058	773	26.29	3.94	16.23	26.94	44.43	51.53	57.73
1975	487	446	58.30	20.40	5.01	8.42	30.34	39.25	47.02
1976	796	447	2.93	26.17	35.61	43.84	57.29	62.75	67.51
1977	529	773	152.58	92.12	67.55	46.12	11.14	3.07	15.46
1978	2259								
1979	430								
1980	590								
1981	415								
1982	328								
1983	1342								
1984	825								
1985									
no of data	38	28	28	28	28	28	28	28	28
MRAE			50.48	41.51	41.01	42.20	49.18	53.66	59.32

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

- Q2obs Observed peakflow at Catchment at Kitulgala
- Q1obs Observed peakflow at Catchment at Millakanda
- RAE Ratio of Absolute Error
- MRAE Mean Ratio of Absolute Error



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Figure 8.3.36
Mean Ratio of Absolute Error (MRAE) for Different n Values for Transposing Peakflow from Millakanda to Kitulgala

Table 8.3.37 Exponent (n) for Transposition of Peakflow at Millakanda to Imbulana

A2 329 km2 (Area of Imbulana Watershed)
 A1 769 km2 (Area of Millakanda Watershed)
 A2/A1 0.43

Trial Value of Exponent n			0	0.2	0.4	0.5	0.6	0.9	1
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941									
1942									
1943									
1944									
1945									
1946									
1947									
1948	299								
1949	200								
1950	153	382	149.67	110.68	77.78	63.31	50.01	26.59	6.82
1951	552	439	20.47	32.89	43.37	47.98	52.22	59.68	65.98
1952	566	348	38.52	48.12	56.22	59.78	63.08	68.83	73.70
1953	204	538	163.73	122.54	87.78	72.50	58.46	33.71	12.83
1954	268	413	54.10	30.04	9.73	0.80	7.41	21.87	34.07
1955	991	396	60.04	66.28	71.55	73.86	75.99	79.74	82.90
1956	235	357	51.91	28.19	8.17	0.63	8.72	22.98	35.01
1957	275	340	23.64	4.33	11.97	19.13	25.71	37.32	47.10
1958	402	383	9.70	23.80	35.70	40.94	45.74	54.22	61.37
1959	555	272	50.99	58.64	65.10	67.94	70.55	75.15	79.03
1960	187	244	30.48	10.10	7.09	14.65	21.60	33.84	44.18
1961	361	496	37.40	15.94	2.17	10.13	17.45	30.34	41.22
1962	272	411	51.10	27.50	7.59	1.17	9.21	23.39	35.35
1963	396	532	34.34	13.36	4.34	12.13	19.28	31.89	42.52
1964	561	411	26.74	38.18	47.83	52.08	55.98	62.86	68.68
1965	312	533	70.83	44.15	21.64	11.74	2.64	13.39	28.91
1966	297	464	56.23	31.83	11.24	2.19	6.13	20.79	33.16
1967	328	654	99.39	68.25	41.97	30.42	19.80	1.09	14.70
1968	300	564	88.00	58.64	33.86	22.97	12.96	4.68	19.57
1969	148	297	100.68	69.34	42.89	31.26	20.57	1.74	14.15
1970	232	462	99.14	68.04	41.80	30.25	19.65	0.96	14.80
1971	312	469	50.32	26.84	7.04	1.68	9.68	23.79	35.69
1972	206	311	50.97	27.39	7.50	1.25	9.29	23.46	35.41
1973	297	453	52.53	28.71	8.60	0.24	8.36	22.67	34.75
1974		773							
1975		446							
1976		447							
1977		773							
1978									
1979									
1980									
1981									
1982									
1983									
1984									
1985									
no of data	26	27	24	24	24	24	24	24	24
MRAE			61.29	43.91	31.37	27.88	28.77	32.29	39.66

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Imbulana

Q1obs Observed peakflow at Catchment at Millakanda

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error

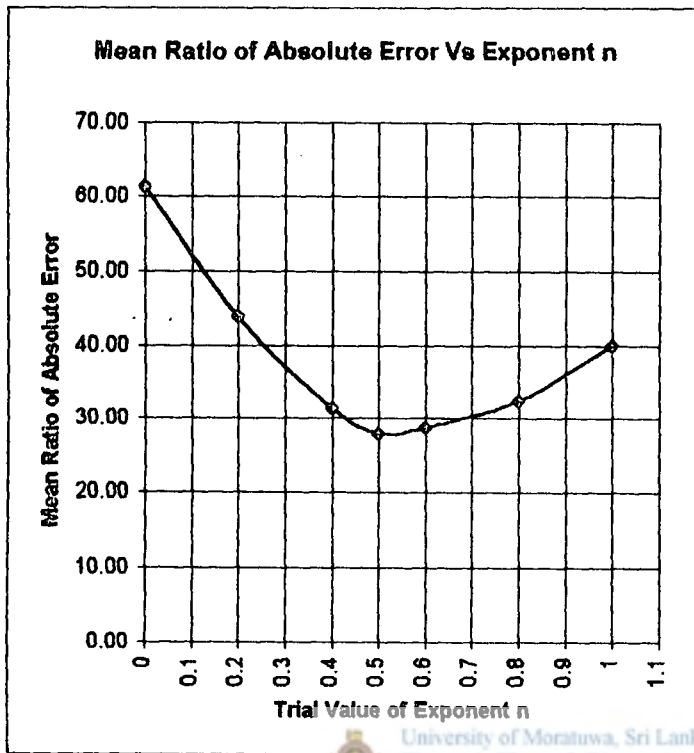


Figure 8.3.37
Mean Ratio of Absolute Error (MRAE) for Different n Values for Transposing Peakflow from Millakanda to Imbulana

Table 8.3.38 Exponent (n) for Transposition of Peakflow at Millakanda to Deraniyagala

A2 152 km² (Area of Deraniyagala Watershed)
 A1 769 km² (Area of Millakanda Watershed)
 A2/A1 0.20

Trial Value of Exponent n			0	0.2	0.3	0.4	0.6	0.8	f
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941									
1942									
1943									
1944									
1945									
1946									
1947									
1948	249								
1949	113								
1950	183	382	108.74	50.94	28.35	9.14	21.08	42.94	58.74
1951	765	439	42.61	58.51	64.72	70.00	78.31	84.31	88.66
1952	687	348	49.34	63.37	68.85	73.52	80.85	86.15	89.99
1953	224	538	140.18	73.67	47.68	25.57	9.20	34.34	52.53
1954	340	413	21.47	12.17	25.31	36.49	54.08	66.79	75.99
1955	446	396	11.21	35.80	45.41	53.58	66.43	75.73	82.45
1956	439	357	18.68	41.20	50.00	57.48	69.28	77.77	83.93
1957	266	340	27.82	7.58	21.41	33.17	51.68	65.06	74.74
1958	365	363	0.55	28.09	39.85	48.00	62.40	72.81	80.34
1959	654	272	58.41	68.93	74.43	78.26	84.28	88.63	91.78
1960	239	244	2.09	26.18	37.23	46.62	61.40	72.09	79.82
1961	348	486	42.53	3.06	12.36	25.48	46.12	61.04	71.83
1962	292	411	40.75	1.78	13.46	26.41	46.79	61.52	72.18
1963	289	532	84.08	33.11	13.19	3.75	30.41	49.68	63.61
1964	320	411	28.44	7.13	21.03	32.85	51.44	64.89	74.61
1965	329	533	62.01	17.14	0.39	15.30	38.75	55.71	67.98
1966		464							
1967	323	654	102.48	46.41	24.49	5.86	23.45	44.65	59.98
1968	249	564	126.51	63.78	39.27	18.43	14.37	38.08	55.23
1969	246	297	20.73	12.70	25.77	36.88	54.36	67.00	76.14
1970	231	462	100.00	44.62	22.97	4.57	24.39	45.33	60.47
1971	280	469	67.50	21.12	2.99	12.42	36.68	54.21	66.89
1972	266	311	16.92	15.46	28.11	38.87	55.60	68.04	76.89
1973	306	453	48.04	7.04	8.98	22.60	44.03	59.53	70.74
1974	321	773	140.81	74.12	48.06	25.90	8.96	34.17	52.40
1975	210	446	112.38	53.57	30.58	11.04	19.71	41.94	58.02
1976	329	447	35.87	1.76	16.46	28.96	48.64	62.86	73.14
1977		773							
1978									
1979									
1980									
1981									
1982									
1983									
1984									
1985									
no of data	28	28	26	26	26	26	26	26	26
MRAE			58.08	33.47	31.17	32.35	45.49	60.59	71.50

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Deraniyagala

Q1obs Observed peakflow at Catchment at Millakanda

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error

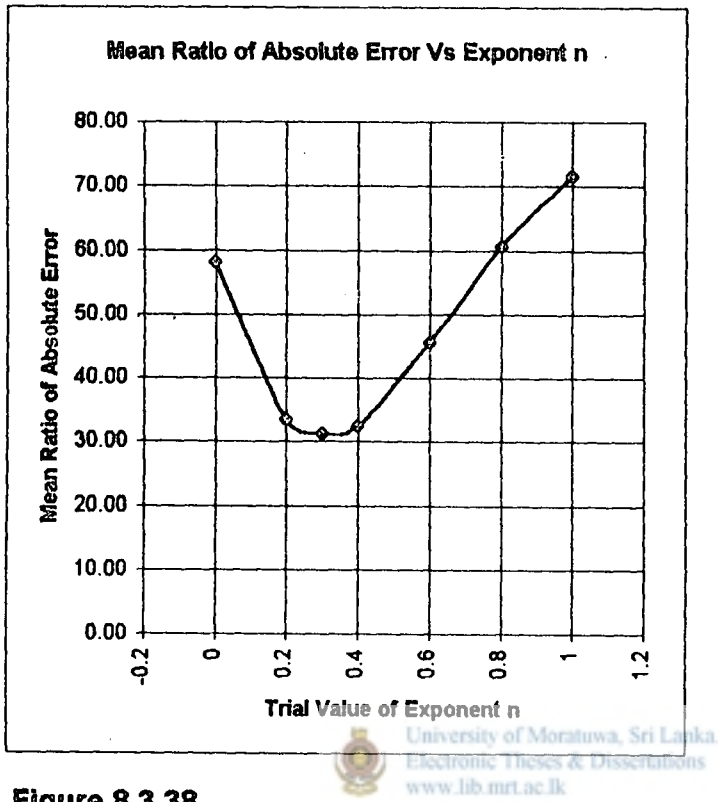


Figure 8.3.38
Mean Ratio of Absolute Error (MRAE) for Different n Values for Transposing Peakflow from Millakanda to Deraniyagala

Table 8.3.39 Exponent (n) for Transposition of Peakflow at Nambapana to Metiyadola

A2 606 km2 (Area of Metiyadola Watershed)
A1 629 km2 (Area of Nambapana Watershed)
A2/A1 0.96

Trial Value of Exponent n			-12	-10	-8	-2	0	0.4	0.8
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941									
1942									
1943									
1944									
1945									
1946									
1947									
1948	892								
1949	767								
1950	743								
1951	963								
1952	935								
1953	391								
1954	912								
1955	793								
1956	750	453	5.56	12.34	18.63	34.93	39.60	40.49	41.37
1957	765	363	25.80	31.13	36.08	48.88	52.55	53.25	53.94
1958	871	589	5.74	1.85	8.90	27.15	32.38	33.38	34.36
1959	432	268	3.00	9.96	16.43	33.16	37.96	38.88	39.78
1960	532	292	14.18	20.34	26.06	40.87	45.11	45.92	46.72
1961	566	408	12.71	4.62	2.89	22.34	27.92	28.98	30.03
1962	513	462	40.82	30.71	21.32	2.98	9.94	11.27	12.59
1963	1076	481	30.10	35.12	39.78	51.84	55.30	55.96	56.61
1964	948	399	34.19	38.91	43.30	54.66	57.91	58.53	59.15
1965	986	579	8.18	14.77	20.89	36.74	41.28	42.15	43.00
1966	864	316	25.59	30.93	35.89	48.73	52.41	53.11	53.81
1967	1060	729	7.54	0.18	7.35	25.91	31.23	32.24	33.25
1968	1215	736	5.26	12.08	18.39	34.74	39.42	40.32	41.20
1969	331	473	123.44	107.40	92.51	53.95	42.90	40.79	38.70
1970	821	633	20.58	11.90	-3.87	16.94	22.90	24.04	25.18
1971	722	714	54.63	43.53	33.22	6.54	1.11	2.57	4.01
1972	446	375	31.47	22.03	13.27	9.42	15.92	17.16	18.39
1973	1185	536	29.01	34.11	38.84	51.09	54.60	55.27	55.93
1974	980	609	2.83	9.81	16.28	33.05	37.86	38.78	39.69
1975	544	438	25.90	16.86	8.47	13.26	19.49	20.68	21.85
1976	623	274	31.23	36.17	40.75	52.62	56.02	56.87	57.31
1977	510	-	-	-	-	-	-	-	-
1978	2344	841	43.90	47.93	51.66	61.35	64.12	64.65	65.17
1979	416								
1980	936								
1981	854								
1982									
1983									
1984									
1985									
no of data	34	22	22	22	22	22	22	22	22
MRAE			28.44	23.03	27.04	34.60	38.09	38.87	39.34

Note
 Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)
 Q2obs Observed peakflow at Catchment at Metiyadola
 Q1obs Observed peakflow at Catchment at Nambapana
 RAE Ratio of Absolute Error
 MRAE Mean Ratio of Absolute Error

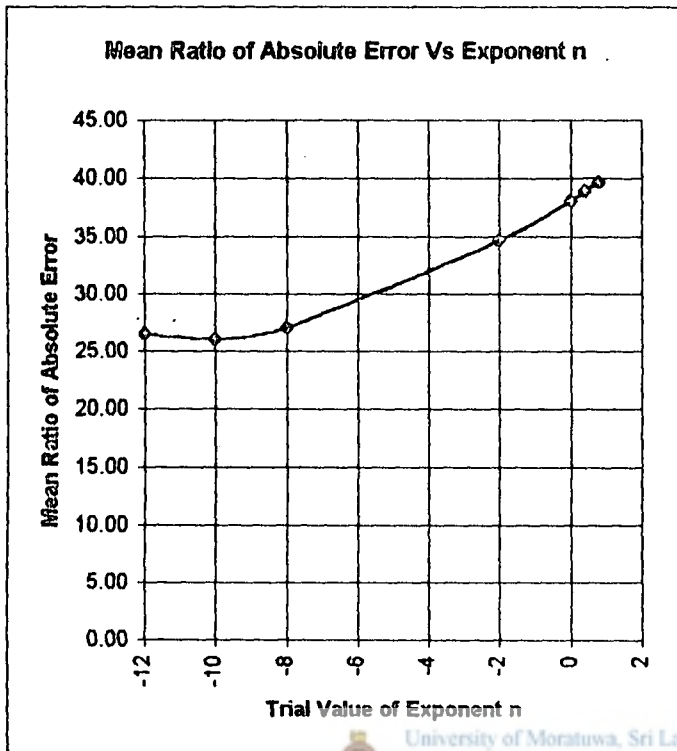


Figure 8.3.39
Mean Ratio of Absolute Error (MRAE) for Different n Values for Transposing Peakflow from Nambapana to Metiyadola

Table 8.3.40 Exponent (n) for Transposition of Peakflow at Nambapana to Kitulgala

A2 388 km² (Area of Kitulgala Watershed)
 A1 629 km² (Area of Nambapana Watershed)
 A2/A1 0.62

Trial Value of Exponent n			-0.6	-0.4	-0.2	0	0.4	0.6	1
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941									
1942									
1943									
1944									
1945									
1946									
1947	527								
1948	535								
1949	756								
1950	705								
1951	1034								
1952	847								
1953	386								
1954	1497								
1955	1188								
1956	663	453	8.70	17.11	24.74	31.67	43.68	53.58	57.85
1957	440	363	10.24	0.09	9.13	17.50	32.00	43.95	49.11
1958	1526	589	49.42	53.17	57.49	61.40	68.18	73.78	76.19
1959	772	268	53.61	57.88	61.76	65.28	71.39	76.41	78.59
1960	413	292	5.52	14.23	22.13	29.30	41.72	51.98	56.39
1961	495	408	10.14	0.00	9.21	17.58	32.08	44.00	49.16
1962	495	462	24.72	13.23	2.60	6.67	23.07	36.59	42.43
1963	973	481	33.94	40.03	45.55	50.57	59.25	66.41	69.51
1964	1526	399	65.06	68.28	71.20	73.85	78.45	82.24	83.87
1965	903	579	14.32	22.21	29.38	35.88	47.15	56.44	60.45
1966	488	316	13.47	21.44	26.68	35.25	46.62	56.00	60.06
1967	909	729	7.17	2.70	11.67	19.80	33.89	45.51	50.53
1968	359	736	173.95	148.72	125.81	105.01	68.99	39.29	26.46
1969	297	473	112.81	93.21	75.42	59.26	31.27	8.21	1.76
1970	1200	633	29.51	38.00	41.80	47.25	56.52	64.16	67.46
1971	712	714	34.00	21.66	10.45	0.28	17.34	31.87	38.14
1972	235	375	113.23	93.59	75.76	59.57	31.53	8.42	1.57
1973	1517	538	52.61	56.97	60.94	64.54	70.77	75.90	78.12
1974	1058	609	23.08	30.17	36.60	42.44	52.55	60.89	64.49
1975	487	438	20.18	9.11	0.94	10.06	25.67	39.89	44.52
1976	796	274	54.00	58.24	62.09	65.58	71.63	76.61	78.77
1977	529								
1978	2259	841	50.25	54.83	58.99	62.77	69.31	74.71	77.04
1979	430								
1980	590								
1981	415								
1982	328								
1983	1342								
1984	925								
1985									
no of data	38	22	22	22	22	22	22	22	22
MRAE			43.59	41.50	41.94	43.71	48.78	52.99	55.11

Note
 Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)
 Q2obs Observed peakflow at Catchment at Kitulgala
 Q1obs Observed peakflow at Catchment at Nambapana
 RAE Ratio of Absolute Error
 MRAE Mean Ratio of Absolute Error

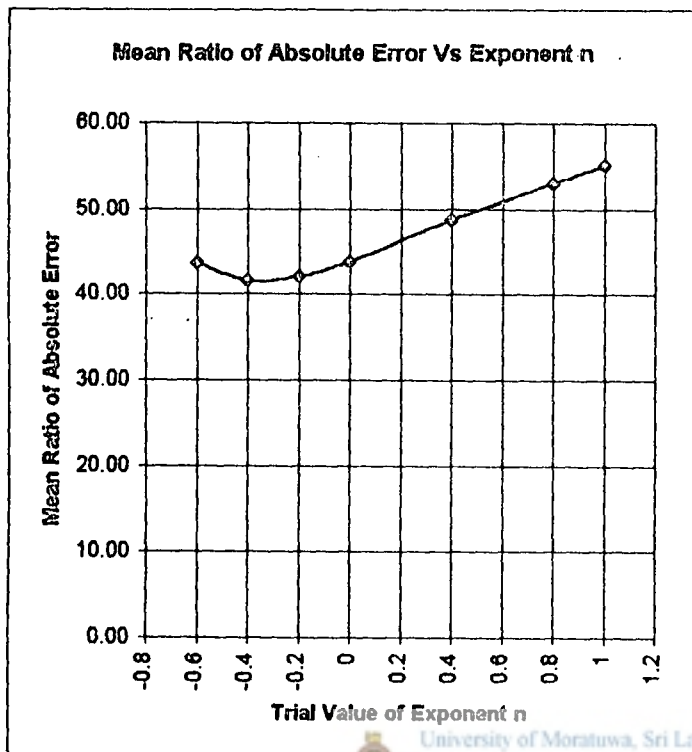


Figure 8.3.40
Mean Ratio of Absolute Error (MRAE) for Different n Values for Transposing Peakflow from Nambapana to Kitulgala

Table 8.3.41 Exponent (n) for Transposition of Peakflow at Nambapana to Imbulana

A2 329 km² (Area of Imbulana Watershed)
 A1 629 km² (Area of Nambapana Watershed)
 A2/A1 0.52

Trial Value of Exponent n			0.4	0.6	0.7	0.8	0.9	1	1.1
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941									
1942									
1943									
1944									
1945									
1946									
1947									
1948	299								
1949	200								
1950	153								
1951	552								
1952	566								
1953	204								
1954	268								
1955	991								
1956	235	453	48.75	30.66	22.47	14.78	7.58	0.83	5.50
1957	275	363	1.88	10.53	16.14	21.40	26.33	30.96	35.29
1958	402	589	13.06	0.68	6.92	12.76	18.23	23.36	28.17
1959	555	268	62.74	67.27	69.32	71.25	73.05	74.74	76.33
1960	187	292	20.49	5.84	0.80	7.02	12.98	18.33	23.45
1961	361	408	12.79	23.39	28.20	32.70	36.93	40.88	44.59
1962	272	462	31.07	15.13	7.91	1.14	5.21	11.16	16.73
1963	396	481	6.27	17.67	22.83	27.68	32.21	36.47	40.45
1964	561	399	45.12	51.79	54.82	57.65	60.31	62.80	65.13
1965	312	579	43.20	25.79	17.90	10.50	3.57	2.93	9.02
1966	297	316	17.90	27.88	32.41	36.65	40.62	44.35	47.84
1967	328	729	71.50	50.65	41.20	32.34	24.04	16.25	6.96
1968	300	736	89.31	66.30	55.86	46.08	36.91	28.32	20.27
1969	148	473	146.61	116.63	103.04	90.30	78.36	67.16	56.67
1970	232	633	110.54	84.95	73.34	62.46	52.27	42.71	33.76
1971	312	714	76.59	55.12	45.39	36.26	27.71	19.70	12.19
1972	206	375	40.47	23.39	15.65	8.39	1.59	4.78	10.76
1973	297	538	39.78	22.79	15.08	7.86	1.09	5.25	11.20
1974		609							
1975		438							
1976		274							
1977									
1978		841							
1979									
1980									
1981									
1982									
1983									
1984									
1985									
no of data	26	21	18	18	18	18	18	18	18
MRAE			48.78	38.68	34.96	32.07	29.94	29.50	30.35

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Imbulana

Q1obs Observed peakflow at Catchment at Nambapana

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error

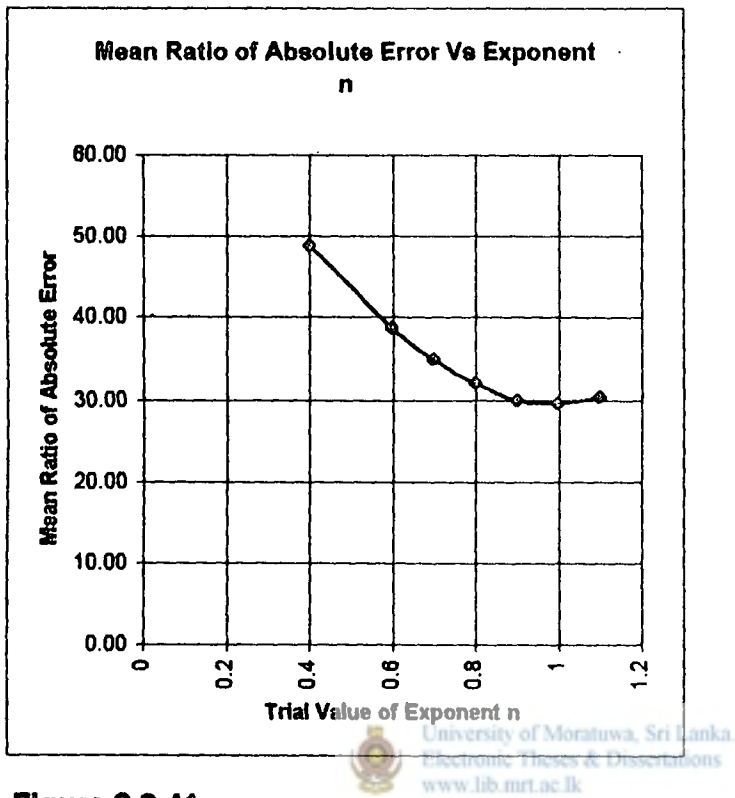


Figure 8.3.41
Mean Ratio of Absolute Error (MRAE) for Different n Values for Transposing Peakflow from Nambapana to Imbulana

Table 8.3.42 Exponent (n) for Transposition of Peakflow at Nambapana to Deraniyagala

A2 152 km² (Area of Deraniyagala Watershed)
 A1 629 km² (Area of Nambapana Watershed)
 A2/A1 0.24

Trial Value of Exponent n			0.2	0.3	0.4	0.5	0.6	0.8	1
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941									
1942									
1943									
1944									
1945									
1946									
1947									
1948	249								
1949	113								
1950	183								
1951	765								
1952	687								
1953	224								
1954	340								
1955	446								
1956	439	453	22.33	32.61	41.53	49.27	55.99	66.87	75.06
1957	266	363	2.72	10.88	22.68	32.92	41.80	56.19	67.02
1958	365	589	21.47	5.39	8.57	20.67	31.18	48.19	61.00
1959	654	268	69.15	73.24	76.78	79.88	82.52	86.84	90.10
1960	239	292	8.03	20.21	30.78	39.94	47.89	60.78	70.48
1961	348	408	11.75	23.43	33.57	42.37	50.00	62.36	71.67
1962	292	462	19.10	3.33	10.35	22.22	32.52	49.21	61.77
1963	289	481	25.28	8.69	5.70	18.18	29.02	46.57	59.78
1964	320	399	6.14	18.57	29.35	38.71	46.82	59.97	69.87
1965	329	579	32.47	14.93	0.29	13.49	24.94	43.50	57.47
1966		316							
1967	323	729	69.89	47.40	27.88	10.85	3.74	27.54	45.46
1968	249	736	122.49	93.04	67.48	45.30	26.06	5.11	29.57
1969	246	473	44.73	25.57	8.94	5.48	17.99	38.27	53.54
1970	231	633	106.27	78.96	55.26	34.71	16.87	12.03	33.79
1971	280	714	91.95	66.53	44.48	25.35	8.78	18.14	38.38
1972	266	375	6.12	7.93	20.12	30.70	39.87	54.74	65.93
1973	306	538	32.34	14.82	0.38	13.57	25.01	43.56	57.51
1974	321	609	42.81	23.90	7.50	6.74	19.09	39.09	54.15
1975	210	438	57.00	36.21	18.18	2.53	11.04	33.04	49.60
1976	329	274	37.31	45.61	52.81	59.06	64.48	73.26	79.87
1977									
1978		841							
1979									
1980									
1981									
1982									
1983									
1984									
1985									
no of data	28	21	20	20	20	20	20	20	20
MRAE			41.47	32.56	28.13	29.60	33.78	46.26	59.55

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Deraniyagala

Q1obs Observed peakflow at Catchment at Nambapana

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error

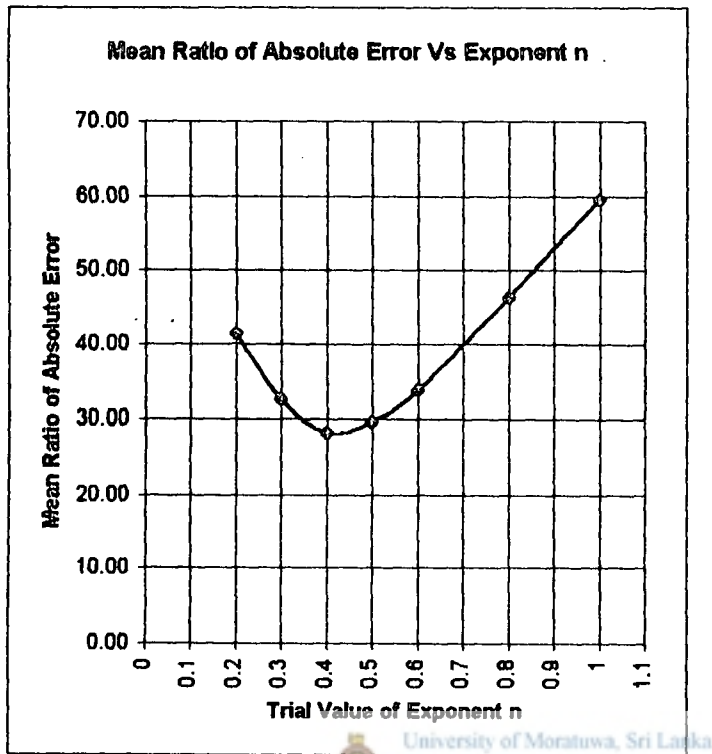


Figure 8.3.42
Mean Ratio of Absolute Error (MRAE) for Different n Values for Transposing Peakflow from Nambapana to Deraniyagala

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Table 8.3.43 Exponent (n) for Transposition of Peakflow at Malawala to Imbulana

A2 329 km2 (Area of Imbulana Watershed)
 A1 329 km2 (Area of Malawala Watershed)
 A2/A1 1.00

Trial Value of Exponent n			0.2	0.3	0.4	0.5	0.6	0.8	1
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941									
1942									
1943									
1944									
1945									
1946									
1947									
1948	299								
1949	200								
1950	153								
1951	552								
1952	566								
1953	204								
1954	268	646	141.04	141.04	141.04	141.04	141.04	141.04	141.04
1955	991	430	56.61	56.61	56.61	56.61	56.61	56.61	56.61
1956	235	552	134.89	134.89	134.89	134.89	134.89	134.89	134.89
1957	275	327	18.91	18.91	18.91	18.91	18.91	18.91	18.91
1958	402	609	51.49	51.49	51.49	51.49	51.49	51.49	51.49
1959	555	408	26.85	26.85	26.85	26.85	26.85	26.85	26.85
1960	187	360	92.51	92.51	92.51	92.51	92.51	92.51	92.51
1961	381	984	172.58	172.58	172.58	172.58	172.58	172.58	172.58
1962	272	892	227.94	227.94	227.94	227.94	227.94	227.94	227.94
1963	396	1087	169.44	169.44	169.44	169.44	169.44	169.44	169.44
1964	561	803	43.14	43.14	43.14	43.14	43.14	43.14	43.14
1965	312	1403	349.68	349.68	349.68	349.68	349.68	349.68	349.68
1966	297	427	43.77	43.77	43.77	43.77	43.77	43.77	43.77
1967	328	1066	225.00	225.00	225.00	225.00	225.00	225.00	225.00
1968	300	1288	329.33	329.33	329.33	329.33	329.33	329.33	329.33
1969	148	1082	617.57	617.57	617.57	617.57	617.57	617.57	617.57
1970	232	869	274.57	274.57	274.57	274.57	274.57	274.57	274.57
1971	312	807	158.65	158.65	158.65	158.65	158.65	158.65	158.65
1972	206	500	142.72	142.72	142.72	142.72	142.72	142.72	142.72
1973	297	521	75.42	75.42	75.42	75.42	75.42	75.42	75.42
1974		950							
1975		1070							
1976		253							
1977									
1978		920							
1979									
1980									
1981									
1982									
1983									
1984									
1985									
no of data	26	24	20	20	20	20	20	20	20
MRAE			167.61	167.61	167.61	167.61	167.61	167.61	167.61

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Imbulana

Q1obs Observed peakflow at Catchment at Malawala

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error

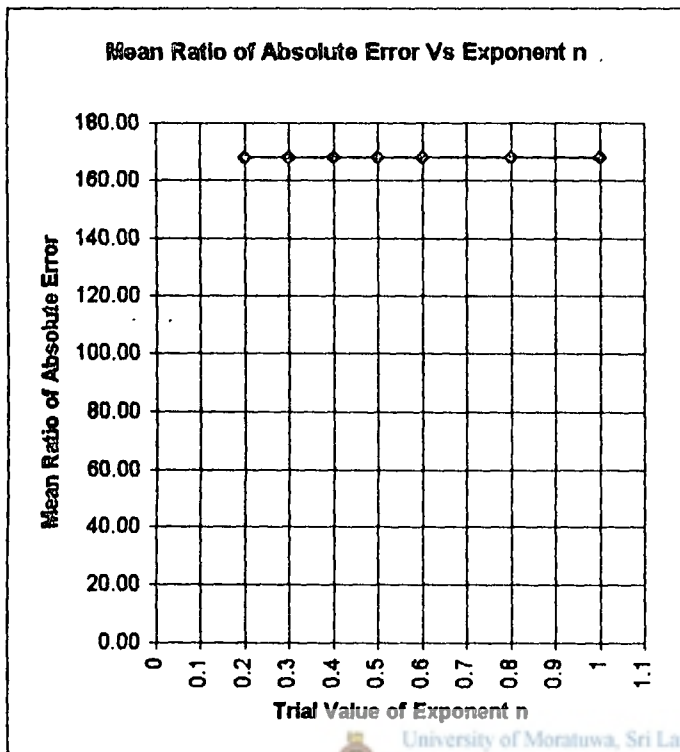


Figure 8.3.43
Mean Ratio of Absolute Error (MRAE) for Different n Values for Transposing Peakflow from Malawala to Imbulana

Table 8.3.44 Exponent (n) for Transposition of Peakflow at Malawala to Deraniyagala

A2 152 km² (Area of Deraniyagala Watershed)
 A1 329 km² (Area of Malawala Watershed)
 A2/A1 0.46

Trial Value of Exponent n			0.8	1	1.2	1.4	1.6	1.8	2
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941									
1942									
1943									
1944									
1945									
1946									
1947									
1948	249								
1949	113								
1950	183								
1951	765								
1952	687								
1953	224								
1954	340	648	2.44	12.22	24.78	35.54	44.77	52.67	59.44
1955	446	430	48.02	55.46	61.83	67.29	71.97	75.98	79.42
1956	439	552	32.21	41.91	50.22	57.34	63.45	68.68	73.16
1957	266	327	33.72	43.20	51.33	58.30	64.26	69.38	73.76
1958	365	609	10.04	22.91	33.95	43.40	51.50	58.44	64.36
1959	654	406	66.53	71.32	75.42	78.94	81.95	84.54	86.75
1960	239	360	18.79	30.41	40.37	48.90	56.21	62.48	67.85
1961	348	984	52.45	30.64	11.94	4.08	17.80	29.57	39.65
1962	292	892	64.70	41.13	20.94	3.93	11.20	23.91	34.80
1963	289	1067	99.06	70.57	46.17	25.25	7.33	6.03	21.19
1964	320	803	35.30	15.93	0.66	14.87	27.05	37.49	46.44
1965	329	1403	129.92	97.02	68.83	44.67	23.96	6.23	8.98
1966		427							
1967	323	1066	77.94	52.48	30.66	11.98	4.06	17.79	29.56
1968	249	1288	178.89	138.98	104.78	75.48	50.37	28.85	10.41
1969	246	1062	132.76	99.45	70.91	46.45	25.49	7.54	7.85
1970	231	869	102.83	73.80	48.93	27.62	9.36	6.29	19.70
1971	280	807	55.39	33.16	14.10	2.23	16.22	28.21	38.48
1972	266	500	1.35	13.16	25.58	36.23	45.36	53.18	59.88
1973	306	521	8.20	21.34	32.59	42.24	50.51	57.59	63.68
1974	321	950	59.56	36.73	17.16	0.40	13.97	26.28	36.83
1975	210	1070	174.72	135.40	101.72	72.85	48.12	26.92	8.76
1976	329	253	58.54	64.47	69.56	73.91	77.65	80.84	83.59
1977									
1978		920							
1979									
1980									
1981									
1982									
1983									
1984									
1985									
no of data	28	23	22	22	22	22	22	22	22
MRAE			65.61	54.62	45.58	39.62	39.21	41.40	46.11

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Deraniyagala

Q1obs Observed peakflow at Catchment at Malawala

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error

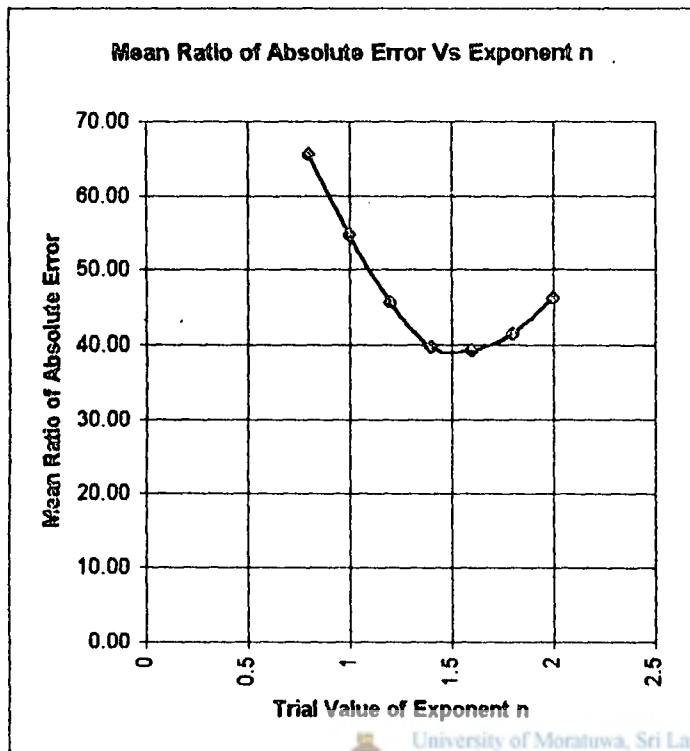


Figure 8.3.44
Mean Ratio of Absolute Error (MRAE) for Different n Values for Transposing Peakflow from Malawala to Deraniyagala

Table 8.3.45 Exponent (n) for Transposition of Peakflow at Dela to Deraniyagala

A2 152 km² (Area of Deraniyagala Watershed)
A1 220 km² (Area of Dela Watershed)
A2/A1 0.69

Trial Value of Exponent n			-2.8	-2.4	-2.2	-2	0	0.4	0.8
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941									
1942									
1943									
1944									
1945									
1946									
1947									
1948	249								
1949	113								
1950	183								
1951	785								
1952	687								
1953	224								
1954	340								
1955	446								
1956	439	108	35.66	40.25	44.51	48.46	75.40	78.78	81.70
1957	266	135	32.73	23.27	14.48	6.32	49.25	56.23	62.24
1958	365	126	9.72	16.16	22.13	27.69	65.48	70.23	74.32
1959	654	140	44.02	48.01	51.71	55.18	78.59	81.54	84.07
1960	239	61	33.25	38.01	42.43	46.53	74.48	77.99	81.01
1961	348	135	1.45	5.78	12.50	18.73	61.21	66.54	71.14
1962	292	135	20.91	12.29	4.29	3.15	53.77	60.12	65.61
1963	289	123	11.30	3.37	4.00	10.84	57.44	63.29	68.34
1964	320	104	15.01	21.08	26.69	31.92	67.50	71.97	75.82
1965	329	127	0.95	6.24	12.93	19.13	61.40	66.71	71.28
1966		99							
1967	323	144	16.59	8.28	0.56	6.61	55.42	61.55	66.83
1968	248	147	54.39	43.39	33.17	23.67	40.96	49.08	56.08
1969	248	133	41.39	31.31	21.95	13.26	45.93	53.37	59.78
1970	231	117	32.46	23.02	14.25	6.10	49.35	56.31	62.32
1971	260	118	10.21	2.38	4.94	11.72	57.86	63.65	68.65
1972	266	153	50.42	39.70	29.74	20.49	42.48	50.39	57.21
1973	308	121	3.41	3.96	10.81	17.16	60.46	65.89	70.58
1974	321	153	24.65	15.76	7.51	0.15	52.34	58.89	64.54
1975	210								
1976	329	104	17.33	23.22	28.70	33.76	68.39	72.73	76.48
1977									
1978		190							
1979		140							
1980		165							
1981		162							
1982		130							
1983		148							
1984		153							
1985									
no of data	28	27	19	19	19	19	19	19	19
MRAE			23.98	21.34	20.38	21.10	58.83	64.49	69.37

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Deraniyagala

Q1obs Observed peakflow at Catchment at Dela

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error

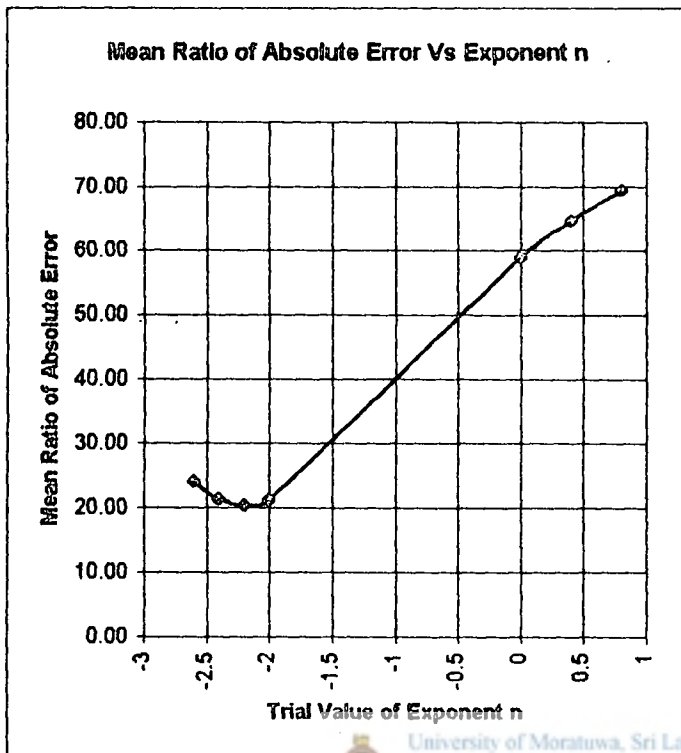


Figure 8.3.45
Mean Ratio of Absolute Error (MRAE) for Different n Values for Transposing Peakflow from Dela to Deraniyagala

Table 8.3.46 Exponent (n) for Transposition of Peakflow at Glencourse to Ellagawa

A2 1393 km² (Area of Ellagawa Watershed)
 A1 1463 km² (Area of Glencourse Watershed)
 A2/A1 0.95

Trial Value of Exponent n			0.2	10	20	25	26	27	30
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941									
1942									
1943									
1944									
1945									
1946									
1947									
1948		1770							
1949		1019							
1950		892							
1951		1657							
1952		1331							
1953		722							
1954		1303							
1955		1104							
1956	448	1246	167.43	70.34	4.32	18.36	22.27	25.98	36.11
1957	333	1232	255.74	126.59	38.77	8.60	3.41	1.54	15.01
1958	448	1700	264.87	132.40	42.33	11.39	6.06	0.98	12.83
1959	340	895	153.11	61.22	1.26	22.73	26.43	29.95	39.53
1960	339	736	108.78	32.97	18.56	38.27	39.32	42.22	50.13
1961	464	844	74.90	11.40	31.77	46.61	49.16	51.59	58.21
1962	366	957	151.42	60.14	1.92	23.25	26.92	30.42	39.93
1963	481	1954	290.61	148.80	52.38	19.25	13.54	8.11	6.68
1964	384	1730	333.19	175.92	68.99	32.25	25.92	19.89	3.49
1965	685	-	-	-	-	-	-	-	-
1966	662	3795	451.21	251.09	115.03	68.28	60.23	52.56	31.69
1967	756	3075	291.10	149.11	52.57	19.40	13.68	8.24	6.56
1968	588	1897	205.02	94.28	18.99	6.88	11.34	15.58	27.13
1969	496	983	90.58	21.38	25.66	41.82	44.61	47.26	54.47
1970	931	2039	110.59	34.13	17.85	35.71	38.79	41.72	49.69
1971	862	1400	56.17	0.53	39.08	52.33	54.61	56.78	62.69
1972	578	828	37.41	12.48	48.40	58.05	60.06	61.97	67.17
1973	770	3121	289.73	148.24	52.03	18.98	13.29	7.87	6.89
1974	1113	2982	157.62	64.08	0.50	21.35	25.12	28.70	38.45
1975	679	1323	87.35	19.33	26.92	42.80	45.54	48.15	55.24
1976	529	1380	150.84	59.77	2.15	23.42	27.09	30.59	40.07
1977	1337	1681	20.89	23.00	52.84	63.09	64.86	66.54	71.12
1978	670	4220	505.62	285.75	136.25	84.89	76.04	67.62	44.69
1979	663	573	16.90	47.07	67.58	74.63	75.84	77.00	60.15
1980	810	2695	219.82	103.77	24.60	2.33	7.01	11.46	23.57
1981		1974							
1982		1060							
1983		4286							
1984		2096							
1985									
no of data	25	36	34	35	35	35	35	35	35
MRAE			192.09	69.97	26.83	23.79	23.75	23.79	26.33

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Ellagawa

Q1obs Observed peakflow at Catchment at Glencourse

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error

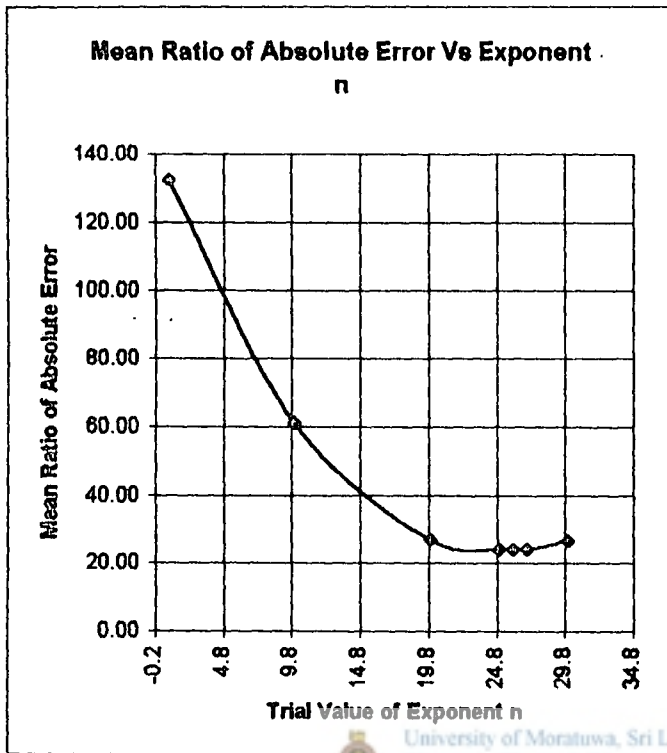


Figure 8.3.46
Mean Ratio of Absolute Error (MRAE) of Different n Values for Transposing Peakflow from Glencourse to Ellagawa

Table 8.3.47 Exponent (n) for Transposition of Peakflow at Glencourse to Millakanda

A2 769 km² (Area of Millakanda Watershed)
 A1 1463 km² (Area of Glencourse Watershed)
 A2/A1 0.53

Trial Value of Exponent n			0.6	0.8	1.8	2	2.2	2.4	2.8
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941									
1942									
1943									
1944									
1945									
1946									
1947									
1948		1770							
1949		1019							
1950	382	892	58.75	39.58	26.63	35.48	43.27	50.12	56.14
1951	438	1657	156.61	125.63	18.60	4.28	8.30	19.37	28.10
1952	348	1331	160.02	128.64	20.18	5.67	7.08	18.30	28.18
1953	538	722	8.76	19.78	57.83	62.92	67.40	71.33	74.79
1954	413	1303	114.49	88.60	0.87	12.83	23.35	32.60	40.74
1955	396	1104	89.53	66.66	12.40	22.97	32.27	40.45	47.63
1956	357	1248	137.28	108.64	9.67	3.57	15.21	25.44	34.44
1957	340	1232	146.34	116.61	13.86	0.11	11.97	22.60	31.94
1958	363	1700	218.38	179.95	47.15	29.39	13.77	0.04	12.03
1959	272	895	123.70	96.70	3.38	9.09	20.08	29.71	38.19
1960	244	736	105.07	80.32	5.22	18.66	26.72	35.58	43.34
1961	486	844	15.68	11.72	48.53	52.99	58.66	63.65	68.04
1962	411	957	58.30	39.18	26.84	35.67	43.43	50.26	58.26
1963	532	1954	149.70	119.56	15.41	1.48	10.77	21.54	31.01
1964	411	1730	186.16	151.62	32.26	16.30	2.26	10.08	20.94
1965	533								
1966	484	3785	456.04	388.92	156.99	125.97	98.70	74.72	53.63
1967	654	3075	219.65	181.07	47.74	29.91	14.23	0.44	11.68
1968	584	1897	128.66	101.06	5.69	7.07	18.29	28.15	36.82
1969	297	983	125.01	97.85	4.00	8.55	19.59	29.30	37.83
1970	482	2039	200.04	163.83	38.68	21.94	7.22	5.72	17.10
1971	469	1400	102.94	78.44	6.20	17.53	27.48	36.23	43.83
1972	311	826	80.56	58.77	16.55	26.62	35.48	43.26	50.11
1973	453	3121	368.39	311.85	116.48	90.35	67.38	47.17	29.41
1974	773	2982	162.26	130.61	21.21	6.58	6.28	17.59	27.54
1975	446	1323	101.67	77.33	6.79	18.04	27.93	36.63	44.28
1976	447	1380	109.88	84.55	2.99	14.70	25.00	34.05	42.01
1977	773	1881	47.84	30.00	31.67	39.92	47.17	53.55	59.15
1978		4220							
1979		573							
1980		2695							
1981		1974							
1982		1060							
1983		4286							
1984		2096							
1985									
no of data	28	36	28	28	28	28	28	28	28
MRAE			136.85	109.55	28.28	25.59	27.83	32.07	38.08

Note

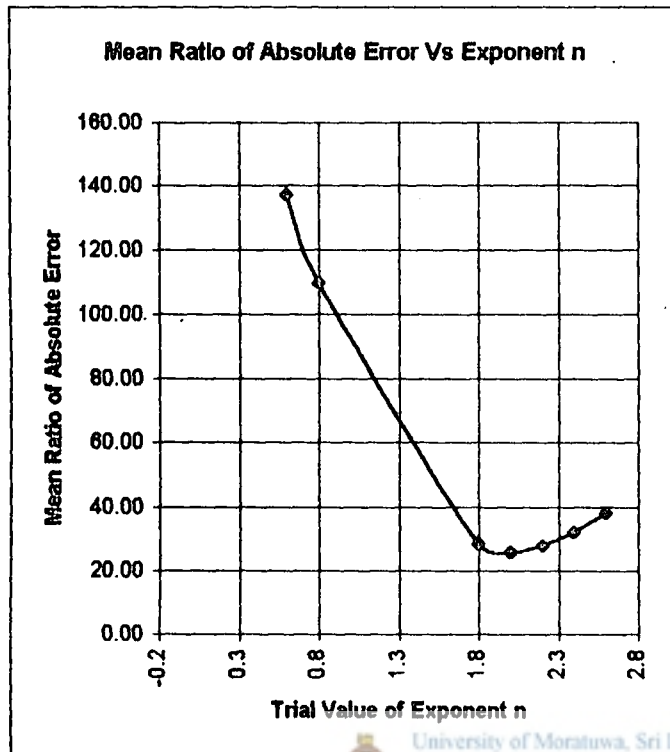
Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Millakanda

Q1obs Observed peakflow at Catchment at Glencourse

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error



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Figure 8.3.47
Mean Ratio of Absolute Error (MRAE) of Different n Values for Transposing Peakflow from Glencourse to Millakanda



Table 8.3.48 Exponent (n) for Transposition of Peakflow at Glencourse to Nambapana

A2 629 km² (Area of Nambapana Watershed)
 A1 1463 km² (Area of Glencourse Watershed)
 A2/A1 0.43

Trial Value of Exponent n			0.6	0.8	1	1.4	1.6	1.8	2
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941									
1942									
1943									
1944									
1945									
1946									
1947									
1948		1770							
1949		1019							
1950		892							
1951		1657							
1952		1331							
1953		722							
1954		1303							
1955		1104							
1956	453	1246	65.75	40.01	18.26	15.63	28.74	39.81	49.16
1957	363	1232	104.53	72.75	45.92	4.11	12.07	25.73	37.26
1958	589	1700	73.93	48.91	24.09	11.47	25.22	36.84	46.65
1959	268	895	101.25	69.99	43.58	2.44	13.48	26.92	38.27
1960	292	738	51.89	28.30	8.37	22.88	34.70	44.84	53.41
1961	408	844	24.66	5.29	11.06	36.55	46.40	54.73	61.76
1962	482	957	24.83	5.44	10.94	36.46	46.33	54.67	61.71
1963	481	1954	144.81	108.78	74.66	24.81	5.25	11.10	24.91
1964	399	1730	161.29	120.70	86.41	33.00	12.34	5.11	19.85
1965	579	-	-	-	-	-	-	-	-
1966	316	3795	623.72	511.29	416.33	268.38	211.15	162.82	121.99
1967	729	3075	154.19	114.71	81.35	29.39	9.29	7.69	22.03
1968	736	1897	55.32	31.19	10.81	20.94	33.22	43.59	52.36
1969	473	983	25.24	5.78	10.65	36.25	46.16	54.52	61.56
1970	633	2039	94.11	63.96	38.49	1.19	16.54	29.51	40.46
1971	714	1400	18.16	0.19	15.70	39.86	49.20	57.09	63.76
1972	375	826	32.74	12.12	5.30	32.44	42.93	51.80	59.28
1973	538	3121	249.59	195.28	149.41	77.94	50.30	26.95	7.23
1974	609	2982	195.08	149.24	110.52	50.20	26.86	7.16	9.49
1975	438	1323	82.02	53.75	29.88	7.35	21.74	33.90	44.17
1976	274	1380	203.51	156.36	116.54	54.49	30.49	10.22	6.90
1977	-	1681	-	-	-	-	-	-	-
1978	841	4220	202.39	155.41	115.74	53.92	30.01	9.81	7.25
1979		573							
1980		2695							
1981		1974							
1982		1060							
1983		4286							
1984		2096							
1985									
no of data	22	36	21	21	21	21	21	21	21
MRAE			128.05	92.64	67.81	40.92	37.73	37.85	42.96

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Nambapana

Q1obs Observed peakflow at Catchment at Glencourse

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error

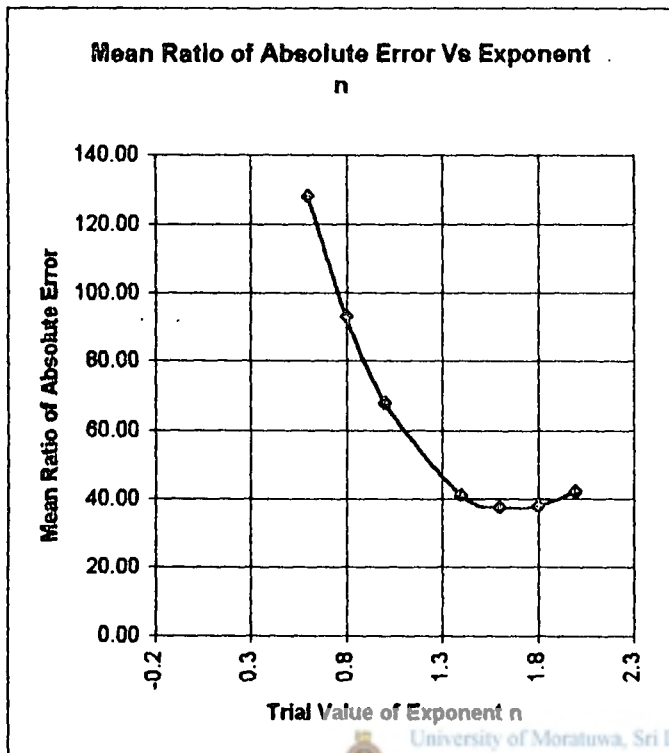


Figure 8.3.48
Mean Ratio of Absolute Error (MRAE) of Different n Values for Transposing Peakflow from Glencourse to Nambapana

Table 8.3.49 Exponent (n) for Transposition of Peakflow at Glencourse to Malawala

A2 329 km² (Area of Malawala Watershed)
 A1 1463 km² (Area of Glencourse Watershed)
 A2/A1 0.22

Trial Value of Exponent n			0	0.2	0.4	0.6	0.7	0.8	1
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941									
1942									
1943									
1944									
1945									
1946									
1947									
1948		1770							
1949		1019							
1950		892							
1951		1857							
1952		1331							
1953		722							
1954	646	1303	101.70	49.66	11.04	17.61	29.03	38.87	54.64
1955	430	1104	156.74	90.50	41.35	4.87	9.66	22.19	42.26
1956	552	1246	125.72	67.48	24.27	7.80	20.58	31.59	49.24
1957	327	1232	276.76	179.55	107.42	53.90	32.57	14.19	15.27
1958	609	1700	179.15	107.12	53.89	14.03	1.78	15.40	37.23
1959	406	895	120.44	63.56	21.36	9.95	22.44	33.19	50.43
1960	360	736	104.44	51.69	12.55	16.49	28.06	36.04	54.02
1961	984	844	14.23	36.36	52.78	64.93	68.82	74.00	80.71
1962	892	957	7.29	20.40	40.94	56.18	62.25	67.48	75.87
1963	1067	1954	83.13	35.88	0.82	25.19	35.56	44.50	58.82
1964	803	1730	115.44	59.85	18.61	12.00	24.20	34.70	51.55
1965	1403	-	-	-	-	-	-	-	-
1966	427	3795	788.76	559.44	389.29	263.04	212.72	169.37	99.66
1967	1066	3075	188.46	114.03	58.81	17.93	1.50	12.57	35.13
1968	1288	1897	47.28	9.28	18.92	39.84	48.18	55.36	66.88
1969	1062	983	7.44	31.32	49.04	62.19	67.43	71.95	79.18
1970	869	2039	134.64	74.10	29.17	4.16	17.44	28.89	47.23
1971	807	1400	73.48	28.72	4.49	29.14	38.98	47.42	60.99
1972	500	826	65.20	22.57	9.05	32.52	41.87	49.93	62.85
1973	521	3121	499.04	344.47	229.79	144.70	110.78	81.56	34.71
1974	950	2982	213.89	132.90	72.81	28.22	10.45	4.86	29.41
1975	1070	1323	23.64	8.26	31.93	49.49	56.49	62.53	72.19
1976	253	1380	445.45	304.71	200.29	122.81	91.92	65.32	22.66
1977	-	1681	-	-	-	-	-	-	-
1978	920	4220	358.70	240.34	152.53	87.37	61.40	39.02	3.15
1979		573							
1980		2695							
1981		1974							
1982		1080							
1983		4286							
1984		2066							
1985									
no of data	23	36	23	23	23	23	23	23	23
MRAE			179.61	114.44	70.91	50.62	47.61	47.95	51.49

Note

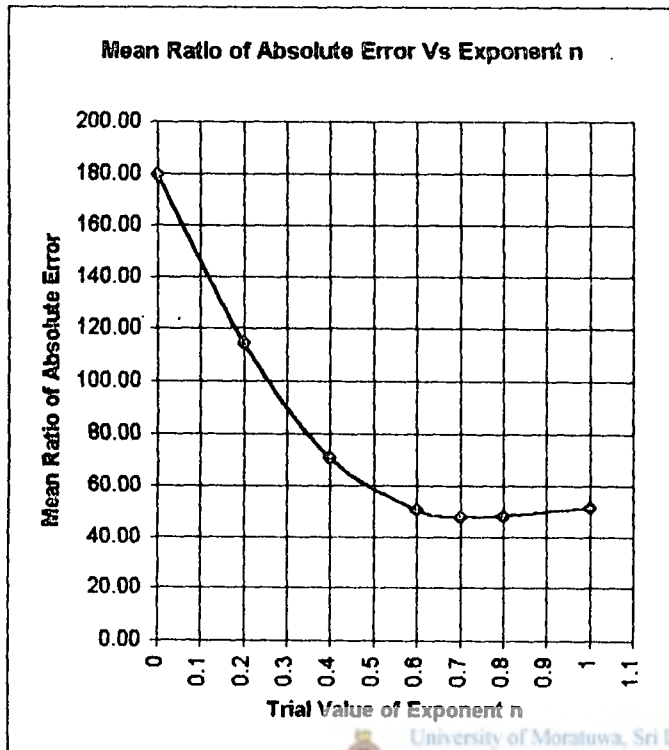
Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Malawala

Q1obs Observed peakflow at Catchment at Glencourse

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error



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Figure 8.3.49
Mean Ratio of Absolute Error (MRAE) of Different n Values for Transposing Peakflow from Glencourse to Malawala

Table 8.3.50 Exponent (n) for Transposition of Peakflow at Metiyadola to Malawala

A2 329 km² (Area of Malawala Watershed)
 A1 606 km² (Area of Metiyadola Watershed)
 A2/A1 0.54

Trial Value of Exponent n			1	0.8	0.6	0.4	0.2	0	-0.2
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941									
1942									
1943									
1944									
1945									
1946									
1947									
1948		892							
1949		767							
1950		743							
1951		963							
1952		935							
1953		391							
1954	646	912	23.35	13.40	2.14	10.57	24.94	41.18	59.52
1955	430	793	0.12	13.13	27.83	44.44	63.21	84.42	108.38
1956	552	750	26.24	16.65	5.62	6.42	20.24	35.87	53.52
1957	327	785	27.01	43.51	62.16	83.23	107.04	133.94	164.34
1958	609	871	22.35	12.26	0.86	12.02	26.57	43.02	61.61
1959	406	432	42.23	34.73	26.24	16.66	5.63	6.40	20.23
1960	360	532	19.77	9.35	2.43	15.74	30.78	47.78	66.98
1961	984	566	68.77	64.71	60.13	54.95	49.09	42.48	35.01
1962	892	513	68.78	64.72	60.14	54.96	49.10	42.49	35.02
1963	1067	1076	45.25	38.14	30.10	21.02	10.75	0.84	13.95
1964	803	948	35.91	27.58	18.17	7.53	4.48	18.08	33.40
1965	1403	986	61.85	56.89	51.29	44.96	37.80	29.72	20.59
1966	427	664	15.58	4.61	7.79	21.80	37.62	55.50	75.71
1967	1066	1060	46.02	39.00	31.07	22.12	12.00	0.56	12.36
1968	1288	1215	48.79	42.13	34.61	26.12	16.52	5.67	6.59
1969	1062	331	63.08	80.88	78.40	75.59	72.42	68.83	64.78
1970	869	821	48.71	42.04	34.51	26.00	16.39	5.52	6.75
1971	807	722	51.43	45.12	37.98	29.93	20.82	10.53	1.09
1972	500	446	51.57	45.28	38.17	30.14	21.06	10.80	0.79
1973	521	1185	23.48	39.53	57.66	78.14	101.29	127.45	157.00
1974	950	980	44.00	36.72	28.49	19.20	8.70	3.16	16.56
1975	1070	544	72.40	68.81	64.76	60.18	55.01	49.16	42.55
1976	253	623	33.69	51.06	70.69	92.87	117.93	146.25	178.24
1977		510							
1978	920	2344	38.32	56.30	76.61	99.55	125.48	154.78	187.89
1979		416							
1980		936							
1981		654							
1982									
1983									
1984									
1985									
no of data	23	36	23	23	23	23	23	23	23
MRAE			43.42	41.15	39.48	41.48	45.00	50.83	61.36

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Malawala

Q1obs Observed peakflow at Catchment at Metiyadola

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error



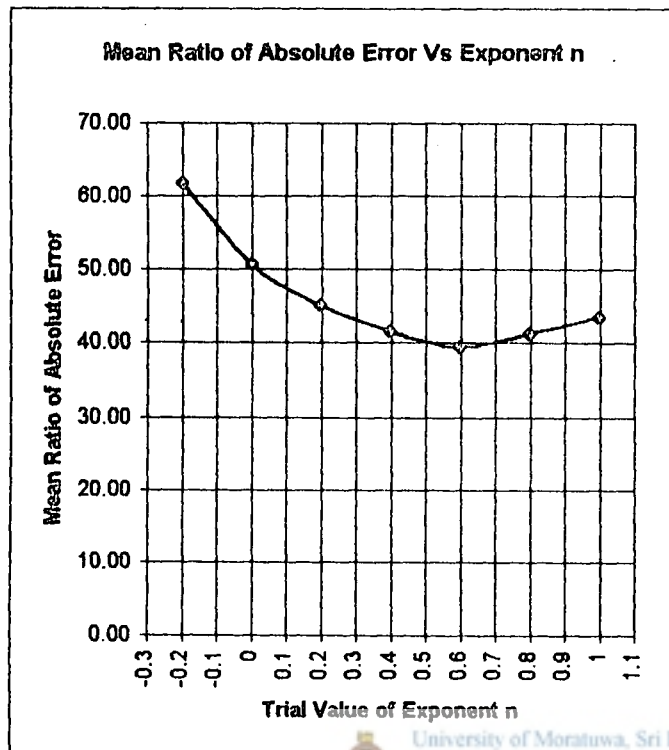


Figure 8.3.50
Mean Ratio of Absolute Error (MRAE) of Different n Values for Transposing Peakflow from Metiyadola to Malawala

Table 8.3.51 Exponent (n) for Transposition of Peakflow at Kitulgala to Malawala

A2 329 km² (Area of Malawala Watershed)
 A1 388 km² (Area of Kitulgala Watershed)
 A2/A1 0.85

Trial Value of Exponent n			0.7	0.8	2	3.8	4	4.2	4.4
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941									
1942									
1943									
1944									
1945									
1946									
1947		527							
1948		535							
1949		756							
1950		705							
1951		1034							
1952		847							
1953		386							
1954	646	1497	106.46	103.09	66.62	23.81	19.80	15.91	12.15
1955	430	1188	146.15	142.12	98.64	47.62	42.83	38.19	33.71
1956	552	663	7.01	5.26	13.64	35.83	37.91	39.92	41.87
1957	327	440	19.88	17.92	3.25	28.11	30.44	32.70	34.88
1958	609	1526	123.25	119.60	80.16	33.88	29.54	25.33	21.27
1959	406	772	69.41	66.64	36.72	1.60	1.70	4.89	7.98
1960	380	413	2.21	10.54	17.51	38.70	40.69	42.62	44.48
1961	984	495	55.18	55.91	63.83	73.12	73.99	74.84	75.65
1962	892	495	50.56	51.37	60.10	70.35	71.31	72.24	73.14
1963	1087	973	18.75	20.08	34.43	51.28	52.86	54.39	55.87
1964	803	1526	69.31	66.54	36.64	1.54	1.76	4.95	8.03
1965	1403	903	42.66	43.59	53.72	65.61	66.73	67.81	68.85
1966	427	488	1.82	0.16	17.83	38.94	40.92	42.84	44.69
1967	1068	909	24.03	25.27	38.69	54.44	55.92	57.35	58.73
1968	1288	359	75.17	75.57	79.96	85.11	85.59	86.08	86.51
1969	1062	297	75.08	75.49	79.89	85.08	85.54	86.01	86.47
1970	869	1200	23.03	21.02	0.71	26.22	28.61	30.93	33.17
1971	807	712	21.39	22.68	36.56	52.86	54.39	55.87	57.30
1972	500	235	58.13	58.81	66.21	74.89	75.70	76.49	77.25
1973	521	1517	159.42	155.18	109.35	55.57	50.52	45.64	40.91
1974	950	1058	0.78	2.40	19.93	40.50	42.43	44.30	46.10
1975	1070	487	59.45	60.11	67.28	75.68	76.47	77.23	77.97
1976	253	798	180.32	175.73	126.21	68.10	62.65	57.37	52.26
1977		529							
1978	920	2259	118.77	115.19	76.55	31.19	26.94	22.82	18.63
1979		430							
1980		590							
1981		415							
1982		328							
1983		1342							
1984		925							
1985									
no of data	24	38	24	24	24	24	24	24	24
MRAE			62.84	61.68	53.52	48.33	48.13	48.20	48.25

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Malawala

Q1obs Observed peakflow at Catchment at Kitulgala

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error

Table 8.3.52 Exponent (n) for Transposition of Peakflow at Imbulana to Malawala

A2 329 km2 (Area of Malawala Watershed)
 A1 329 km2 (Area of Imbulana Watershed)
 A2/A1 1.00

Trial Value of Exponent n			0.5	0.6	0.7	0.8	0.9	1	1.1
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941									
1942									
1943									
1944									
1945									
1946									
1947									
1948		299							
1949		200							
1950		153							
1951		552							
1952		566							
1953		204							
1954	646	268	58.51	58.51	58.51	58.51	58.51	58.51	58.51
1955	430	991	130.47	130.47	130.47	130.47	130.47	130.47	130.47
1956	552	235	57.43	57.43	57.43	57.43	57.43	57.43	57.43
1957	327	275	15.90	15.90	15.90	15.90	15.90	15.90	15.90
1958	609	402	33.99	33.99	33.99	33.99	33.99	33.99	33.99
1959	406	555	36.70	36.70	36.70	36.70	36.70	36.70	36.70
1960	360	187	48.06	48.06	48.06	48.06	48.06	48.06	48.06
1961	984	361	63.31	63.31	63.31	63.31	63.31	63.31	63.31
1962	892	272	69.51	69.51	69.51	69.51	69.51	69.51	69.51
1963	1067	396	62.89	62.89	62.89	62.89	62.89	62.89	62.89
1964	803	561	30.14	30.14	30.14	30.14	30.14	30.14	30.14
1965	1403	312	77.76	77.76	77.76	77.76	77.76	77.76	77.76
1966	427	297	30.44	30.44	30.44	30.44	30.44	30.44	30.44
1967	1066	328	69.23	69.23	69.23	69.23	69.23	69.23	69.23
1968	1288	300	76.71	76.71	76.71	76.71	76.71	76.71	76.71
1969	1062	148	86.06	86.06	86.06	86.06	86.06	86.06	86.06
1970	869	232	73.30	73.30	73.30	73.30	73.30	73.30	73.30
1971	807	312	61.34	61.34	61.34	61.34	61.34	61.34	61.34
1972	500	206	58.80	58.80	58.80	58.80	58.80	58.80	58.80
1973	521	297	42.99	42.99	42.99	42.99	42.99	42.99	42.99
1974	950								
1975	1070								
1976	253								
1977									
1978	920								
1979									
1980									
1981									
1982									
1983									
1984									
1985									
no of data	24	28	20	20	20	20	20	20	20
MRAE			59.18	59.18	59.18	59.18	59.18	59.18	59.18

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Malawala

Q1obs Observed peakflow at Catchment at Imbulana

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error

Table 8.3.53 Exponent (n) for Transposition of Peakflow at Glencourse to Dela

A2 220 km² (Area of Dela Watershed)
 A1 1463 km² (Area of Glencourse Watershed)
 A2/A1 0.15

Trial Value of Exponent n			0.6	0.8	1	1.2	1.4	1.6	1.8
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941									
1942									
1943									
1944									
1945									
1946									
1947									
1948		1770							
1949		1019							
1950		892							
1951		1857							
1952		1331							
1953		722							
1954		1303							
1955		1104							
1956	108	1246	270.17	153.42	73.49	18.77	18.69	44.34	61.89
1957	135	1232	192.81	100.46	37.23	6.05	35.68	55.97	69.86
1958	126	1700	332.90	196.36	102.89	38.90	4.91	34.90	55.43
1959	140	895	105.12	40.42	3.87	34.19	54.94	69.16	78.88
1960	61	736	287.13	165.03	81.44	24.21	14.97	41.79	60.15
1961	135	844	100.59	37.33	5.99	35.64	55.94	69.84	79.35
1962	135	957	127.45	55.71	6.60	27.02	50.04	65.80	76.58
1963	123	1954	409.71	248.95	138.89	63.54	11.98	23.35	47.53
1964	104	1730	433.73	265.39	150.14	71.25	17.24	19.74	45.05
1965	127	-	-	-	-	-	-	-	-
1966	99	3795	1129.94	742.01	476.44	294.63	170.16	64.95	26.62
1967	144	3075	585.16	369.06	221.12	118.83	50.50	3.03	29.47
1968	147	1897	314.05	183.46	94.06	32.95	9.05	37.74	57.37
1969	133	983	137.14	62.35	11.14	23.91	47.91	64.34	75.59
1970	117	2039	459.16	282.80	162.07	78.41	22.82	15.92	42.44
1971	118	1400	280.67	160.61	78.41	22.14	16.38	42.76	60.81
1972	153	826	73.22	18.59	18.82	44.42	61.95	73.95	82.17
1973	121	3121	727.59	466.57	287.87	165.54	81.79	24.45	14.60
1974	153	2982	525.35	328.11	193.09	100.65	37.36	5.96	35.62
1975	-	1323	-	-	-	-	-	-	-
1976	104	1380	325.75	191.47	99.54	36.60	6.48	35.98	56.17
1977	-	1681	-	-	-	-	-	-	-
1978	190	4220	612.63	387.87	233.99	128.65	56.53	7.16	26.64
1979	140	573	31.32	10.10	38.45	57.87	71.15	80.25	86.48
1980	165	2695	424.08	258.77	145.61	68.15	15.11	21.19	46.05
1981	162	1974	290.97	167.65	83.24	25.44	14.12	41.21	59.75
1982	130	1060	161.62	79.10	22.61	16.06	42.53	60.66	73.07
1983	148	4286	829.17	536.11	335.48	198.13	104.10	39.73	4.34
1984	153	2096	339.55	200.91	106.01	41.03	3.45	33.90	54.75
1985									
no of data	27	36	26	26	26	26	26	26	26
MRAE			365.65	219.56	123.40	68.26	41.38	42.23	54.11

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Dela

Q1obs Observed peakflow at Catchment at Glencourse

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error

Table 8.3.54 Exponent (n) for Transposition of Peakflow at Metiyadola to Dela

A2 220 km2 (Area of Dela Watershed)
 A1 606 km2 (Area of Metiyadola Watershed)
 A2/A1 0.36

Trial Value of Exponent n			0.6	0.8	1	1.8	2	2.2	2.6
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941									
1942									
1943									
1944									
1945									
1946									
1947									
1948		882							
1949		767							
1950		743							
1951		983							
1952		935							
1953		381							
1954		912							
1955		793							
1956	108	750	278.10	208.74	152.11	12.09	8.48	25.26	50.17
1957	135	765	208.53	151.93	105.72	8.54	25.32	39.02	59.34
1958	126	871	278.37	207.33	150.98	11.57	8.89	25.81	50.40
1959	140	432	68.01	37.19	12.02	50.20	59.33	66.79	77.98
1960	61	532	374.84	287.74	216.82	40.78	14.94	6.14	37.42
1961	135	566	128.27	86.40	52.21	32.33	44.74	54.88	69.91
1962	135	513	106.90	68.94	37.95	38.67	49.92	59.10	72.73
1963	123	1076	376.30	288.93	217.58	41.19	15.29	5.85	37.23
1964	104	948	396.30	305.26	230.82	47.12	20.14	1.90	34.59
1965	127	986	322.71	245.17	181.85	25.31	2.32	16.45	44.29
1966	99	864	285.18	198.19	143.49	8.25	11.60	27.82	51.87
1967	144	1060	300.79	227.27	167.24	18.81	2.98	20.78	47.18
1968	147	1215	350.02	267.47	200.08	33.40	8.93	11.05	40.69
1968	133	331	35.50	10.65	9.65	59.83	67.20	73.22	82.14
1970	117	821	282.08	211.97	154.75	13.26	7.52	24.48	49.65
1971	118	722	233.14	172.03	122.13	1.24	19.36	34.15	58.09
1972	153	446	58.71	29.60	5.83	52.85	61.58	68.63	79.09
1973	121	1185	433.22	335.40	255.54	58.07	29.07	5.40	28.72
1974	153	980	248.74	184.77	132.53	3.38	15.58	31.07	54.04
1975	-	544	-	-	-	-	-	-	-
1976	104	623	226.16	166.33	117.47	3.31	21.05	35.53	57.01
1977	-	510	-	-	-	-	-	-	-
1978	190	2344	571.70	448.48	347.87	99.12	62.59	32.77	11.47
1979	140	416	61.78	32.11	7.87	52.04	60.84	69.02	78.63
1980	165	836	208.86	152.20	105.94	8.44	25.24	36.95	58.29
1981	162	654	119.80	79.48	46.56	34.84	46.79	56.55	71.03
1982	130								
1983	148								
1984	153								
1985									
no of data	27	34	24	24	24	24	24	24	24
MRAE			247.17	183.48	132.29	31.45	28.74	34.56	54.25

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Dela

Q1obs Observed peakflow at Catchment at Metiyadola

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error

Table 8.3.55 Exponent (n) for Transposition of Peakflow at Kitulgala to Dela

A2 220 km² (Area of Dela Watershed)
 A1 388 km² (Area of Kitulgala Watershed)
 A2/A1 0.57

Trial Value of Exponent n			0.8	0.8	1	3	3.5	4	4.5
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941									
1942									
1943									
1944									
1945									
1946									
1947		527							
1948		535							
1949		756							
1950		705							
1951		1034							
1952		847							
1953		386							
1954		1497							
1955		1188							
1956	108	663	336.76	289.91	248.08	11.91	15.73	38.55	52.22
1957	135	440	131.89	107.01	84.80	40.59	55.26	66.31	74.63
1958	126	1526	781.67	669.23	586.71	120.78	66.25	25.18	5.74
1959	140	772	292.32	250.24	212.67	0.52	24.31	43.00	57.08
1960	61	413	381.70	330.02	283.89	23.42	7.06	30.02	47.30
1961	135	495	160.87	132.89	107.90	33.16	49.67	62.10	71.46
1962	135	495	160.87	132.89	107.90	33.16	49.67	62.10	71.46
1963	123	973	462.81	402.44	348.54	44.21	8.59	18.23	38.43
1964	104	1526	943.94	831.95	731.98	187.48	101.41	51.66	14.20
1965	127	903	405.87	351.60	303.16	29.62	2.40	26.51	44.66
1966	99	488	250.70	213.08	179.50	10.14	32.34	49.05	61.63
1967	144	909	348.11	300.94	257.93	15.07	13.35	34.75	50.87
1968	147	359	73.75	55.11	38.47	55.48	66.48	74.76	80.99
1969	133	297	58.88	41.83	26.62	59.29	69.35	76.92	82.82
1970	117	1200	629.71	551.43	481.55	88.97	40.79	6.01	20.17
1971	118	712	329.29	283.24	242.13	9.99	17.17	37.63	53.04
1972	153	235	9.28	2.45	12.91	72.00	78.92	84.12	88.05
1973	121	1517	791.98	696.29	610.87	128.55	72.10	29.59	2.42
1974	153	1058	391.98	339.20	292.09	26.06	5.08	28.52	46.18
1975	-	487	-	-	-	-	-	-	-
1976	104	796	444.55	386.13	333.98	39.53	5.06	20.89	40.43
1977	-	528	-	-	-	-	-	-	-
1978	190	2259	745.90	655.15	574.15	116.74	63.20	22.89	7.46
1979	140	430	118.52	95.08	74.15	44.01	57.84	68.25	76.09
1980	165	590	154.40	127.11	102.75	34.82	50.92	63.04	72.17
1981	162	415	82.26	62.71	45.25	53.30	64.84	73.52	80.06
1982	130	328	79.51	60.25	43.06	54.01	65.37	73.92	80.36
1983	148	1342	545.13	475.92	414.14	65.30	24.47	6.28	29.43
1984	153	925	330.14	283.99	242.80	10.21	17.01	37.51	52.94
1985									
no of data	27	38	27	27	27	27	27	27	27
MRAE			349.03	301.04	258.81	51.34	41.85	44.79	51.93

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

- Q2obs Observed peakflow at Catchment at Dela
- Q1obs Observed peakflow at Catchment at Kitulgala
- RAE Ratio of Absolute Error
- MRAE Mean Ratio of Absolute Error



Table 8.3.56 Exponent (n) for Transposition of Peakflow at Imbulana to Dela

A2 220 km2 (Area of Dela Watershed)
 A1 329 km2 (Area of Imbulana Watershed)
 A2/A1 0.67

Trial Value of Exponent n			0.8	2	2.1	2.3	2.4	2.5	2.8
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941									
1942									
1943									
1944									
1945									
1946									
1947									
1948		299							
1949		200							
1950		153							
1951		552							
1952		566							
1953		204							
1954		268							
1955		991							
1956	108	235	57.70	2.70	6.54	13.77	17.17	20.44	29.49
1957	135	275	47.83	8.91	12.51	19.27	22.48	25.52	33.99
1958	126	402	131.23	42.66	37.04	26.44	21.45	16.68	3.39
1959	140	555	187.31	77.28	70.27	57.10	50.91	44.95	28.47
1960	61	187	122.17	37.08	31.67	21.49	16.70	12.09	0.65
1961	135	361	93.80	19.57	14.85	5.97	1.79	2.22	13.34
1962	135	272	46.02	9.91	13.46	20.15	23.30	26.33	34.71
1963	123	396	133.33	43.96	38.28	27.59	22.56	17.72	4.33
1964	104	561	290.94	141.20	131.69	113.77	105.34	97.24	74.81
1965	127	312	78.05	9.85	5.52	2.64	6.48	10.17	20.39
1966	99	297	117.42	34.15	28.85	18.89	14.20	9.70	2.78
1967	144	328	65.08	1.85	2.17	9.73	13.29	16.71	28.18
1968	147	300	47.91	8.74	12.34	19.12	22.31	25.38	33.86
1969	133	148	19.35	50.24	52.20	55.90	57.84	59.31	63.94
1970	117	232	43.71	11.33	14.83	21.42	24.52	27.49	35.74
1971	118	312	91.63	18.23	13.57	4.78	0.65	3.32	14.31
1972	153	208	2.42	39.80	42.17	46.64	48.75	50.77	56.37
1973	121	297	77.89	9.76	5.43	2.73	6.56	10.25	20.46
1974	153								
1975	-								
1976	104								
1977	-								
1978	180								
1979	140								
1980	165								
1981	162								
1982	130								
1983	148								
1984	153								
1985									
no of data	27	26	18	18	18	18	18	18	18
MRAE			91.37	31.51	29.63	27.08	26.45	26.49	27.32

Note
 Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)
 Q2obs Observed peakflow at Catchment at Dela
 Q1obs Observed peakflow at Catchment at Imbulana
 RAE Ratio of Absolute Error
 MRAE Mean Ratio of Absolute Error

Table 8.3.57 Exponent (n) for Transposition of Peakflow at Glencourse to Agaliya

A2 696 km² (Area of Agaliya Watershed)
 A1 1463 km² (Area of Glencourse Watershed)
 A2/A1 0.48

Trial Value of Exponent n			0.8	0.9	1	2	2.6	2.8	3
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941	502								
1942	390								
1943	971								
1944	436								
1945	420								
1946	591								
1947	425								
1948	295	1770	284.21	231.16	185.44	35.79	13.04	25.05	35.40
1949	210	1019	210.72	167.82	130.64	9.62	29.69	39.39	47.75
1950	326	692	75.21	51.02	30.17	38.07	60.35	65.82	70.54
1951	227	1657	367.43	302.89	247.27	65.21	5.79	8.82	21.41
1952	218	1331	290.97	236.99	190.46	38.18	11.51	23.73	34.26
1953	323	722	43.14	23.37	6.34	49.41	67.60	72.08	75.93
1954	404	1303	106.53	78.01	53.44	27.01	53.26	59.71	65.27
1955	-	1104	-	-	-	-	-	-	-
1956	-	1246	-	-	-	-	-	-	-
1957	269	1232	193.28	152.78	117.88	3.65	33.62	42.79	50.69
1958	263	1700	284.68	231.55	185.78	35.95	12.94	24.96	35.32
1959	-	895	-	-	-	-	-	-	-
1960	224	736	110.40	81.35	56.31	25.64	52.38	58.98	64.62
1961	-	844	-	-	-	-	-	-	-
1962	-	957	-	-	-	-	-	-	-
1963	325	1954	285.00	231.84	186.03	36.07	12.87	24.90	35.27
1964	266	1730	316.47	258.97	209.41	47.20	5.74	18.76	29.97
1965	329	-	-	-	-	-	-	-	-
1966	306	3795	694.16	584.51	490.00	180.69	79.74	54.92	33.53
1967	395	3075	398.50	329.67	270.35	76.19	12.82	2.75	16.18
1968	363	1897	234.64	188.44	148.61	18.27	24.26	34.72	43.73
1969	346	983	81.93	56.81	35.16	35.70	58.93	64.51	69.41
1970	255	2039	412.03	341.34	280.40	80.97	15.88	0.12	13.91
1971	268	1400	234.51	188.33	148.52	18.23	24.28	34.74	43.75
1972	215	826	146.01	112.05	82.77	13.05	44.32	52.01	53.63
1973	350	3121	471.01	382.17	324.22	101.82	29.23	11.39	3.99
1974	319	2982	488.80	415.95	344.72	111.57	35.48	16.77	0.85
1975	516	1323	64.18	41.51	21.88	41.97	62.84	67.97	72.39
1976	397	1380	122.59	91.86	65.37	21.33	49.62	56.58	62.57
1977	404	1681	166.44	129.66	97.95	5.83	39.70	48.02	55.20
1978	350	4220	672.08	565.48	473.80	172.68	74.74	50.61	29.82
1979	224	573	63.80	41.19	21.69	42.11	62.93	68.05	72.46
1980	337	2695	-	-	-	-	-	-	-
1981	-	1974	-	-	-	-	-	-	-
1982	303	1060	124.02	93.09	66.43	20.82	49.30	56.30	62.33
1983	327	4286	739.31	623.43	523.55	196.64	89.66	63.73	41.12
1984	278	2096	382.80	316.14	258.68	70.64	9.27	5.92	18.62
1985									
no of data	37	36	30	30	30	31	34	35	36
MRAE			269.18	218.65	175.11	52.23	33.00	32.07	35.14

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Agaliya

Q1obs Observed peakflow at Catchment at Glencourse

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error

Table 8.3.58 Exponent (n) for Transposition of Peakflow at Putupaula to Agaliya

A2 696 km² (Area of Agaliya Watershed)
 A1 1194 km² (Area of Putupaula Watershed)
 A2/A1 0.58

Trial Value of Exponent n			0.6	0.8	2	2.2	2.4	2.6	2.8
year	Q2obs	Q1obs	A.E.	A.E.	A.E.	A.E.	A.E.	A.E.	A.E.
1940									
1941	502								
1942	390								
1943	971	2011	49.82	34.49	29.63	36.83	43.29	49.09	54.30
1944	436	1430	137.25	112.98	11.44	0.04	10.19	19.38	27.63
1945	420	1529	163.34	136.40	23.70	11.04	0.32	10.52	19.67
1946	591	2549	211.99	180.07	46.55	31.56	18.10	6.01	4.84
1947	425	1713	191.56	161.73	36.96	22.94	10.36	0.93	11.07
1948	295	-	-	-	-	-	-	-	-
1949	210	1184	307.85	266.11	91.58	71.97	54.38	38.58	24.40
1950	326	1436	218.64	186.04	49.67	34.36	20.81	8.27	2.91
1951	227	1459	364.94	317.36	118.39	98.05	75.99	57.98	41.82
1952	218	1352	348.62	302.72	110.73	89.17	69.81	52.44	36.84
1953	323	1314	194.28	164.17	38.23	24.09	11.39	0.01	10.24
1954	404	1671	199.20	168.56	40.54	26.16	13.25	1.66	8.74
1955	-	1467	-	-	-	-	-	-	-
1956	-	1518	-	-	-	-	-	-	-
1957	269	1218	227.54	194.02	53.85	38.11	23.98	11.29	0.09
1958	283	793	102.70	81.96	4.79	14.53	23.27	31.13	38.17
1959	-	578	-	-	-	-	-	-	-
1960	224	708	128.64	105.24	7.40	3.59	13.46	22.31	30.26
1961	-	1048	-	-	-	-	-	-	-
1962	-	884	-	-	-	-	-	-	-
1963	325	1028	128.81	105.40	7.48	3.52	13.39	22.25	30.21
1964	286	947	157.53	131.18	20.97	8.59	2.52	12.49	21.45
1965	329	1226	169.56	141.98	26.62	13.66	2.03	8.41	17.78
1966	306	-	-	-	-	-	-	-	-
1967	395	1283	134.96	110.92	10.37	0.93	11.06	20.16	28.33
1968	363	1047	108.64	87.29	1.99	12.02	21.02	29.11	36.36
1969	346	797	66.63	49.58	21.73	29.74	36.93	43.38	49.18
1970	255	1029	191.90	162.03	37.12	23.09	10.49	0.81	10.96
1971	268	978	163.98	136.97	24.00	11.31	0.08	10.30	19.49
1972	215	779	162.10	135.28	23.11	10.52	0.79	10.94	20.05
1973	350	857	77.12	59.00	16.80	25.31	32.98	39.82	45.97
1974	319	1055	139.24	114.76	12.38	0.88	9.44	18.71	27.03
1975	516	864	21.12	8.73	43.11	48.93	54.15	58.84	63.05
1976	387	807	47.04	32.00	30.93	38.00	44.34	50.04	55.15
1977	404	1444	158.55	132.10	21.45	9.02	2.13	12.15	21.14
1978	350	975	101.51	80.89	5.34	15.03	23.72	31.53	36.53
1979	224	-	-	-	-	-	-	-	-
1980	337	876	88.03	68.79	11.67	20.71	28.83	36.11	42.65
1981	-	1155	-	-	-	-	-	-	-
1982	303	-	-	-	-	-	-	-	-
1983	327	-	-	-	-	-	-	-	-
1984	278	-	-	-	-	-	-	-	-
1985	-	-	-	-	-	-	-	-	-
no of data	37	36	31	31	31	31	31	31	31
MRAE			153.65	128.02	31.57	24.39	22.01	23.05	27.04

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Agaliya

Q1obs Observed peakflow at Catchment at Putupaula

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error

Table 8.3.59 Exponent (n) for Transposition of Peakflow at Ellagawa to Agaliya

A2 696 km² (Area of Agaliya Watershed)
 A1 1393 km² (Area of Ellagawa Watershed)
 A2/A1 0.50

Trial Value of Exponent n			0.4	0.8	1.1	1.2	1.3	1.4
year	Q2obs	Q1obs	A.E.	A.E.	A.E.	A.E.	A.E.	A.E.
1940								
1941	502							
1942	390							
1943	971							
1944	438							
1945	420							
1946	591							
1947	425							
1948	295							
1949	210							
1950	328							
1951	227							
1952	218							
1953	323							
1954	404							
1955	-							
1956	-	448						
1957	269	333	6.21	28.94	42.29	46.16	49.77	53.14
1958	283	448	19.94	9.13	28.21	31.15	35.77	40.07
1959	-	340						
1960	224	339	14.66	13.13	29.45	34.18	38.59	42.71
1961	-	464						
1962	-	366						
1963	325	481	12.13	15.05	31.01	35.63	39.95	43.97
1964	266	384	9.37	17.13	32.71	37.22	41.43	45.35
1965	329	685	57.75	19.51	2.94	9.45	15.52	21.18
1966	306	662	63.91	24.18	0.85	5.91	12.22	18.10
1967	395	756	45.01	9.66	10.78	16.76	22.34	27.55
1968	383	598	24.81	5.44	23.21	28.36	33.16	37.64
1969	346	496	8.61	17.71	33.18	37.66	41.84	45.73
1970	255	931	176.61	109.57	70.19	58.78	48.14	38.21
1971	268	862	143.69	84.63	49.93	39.89	30.51	21.76
1972	215	578	103.68	54.32	25.32	16.92	9.08	1.77
1973	350	770	66.68	26.28	2.55	4.32	10.74	16.72
1974	319	1113	164.34	100.28	62.64	51.74	41.57	32.08
1975	516	879	0.30	24.47	38.68	42.77	46.61	50.19
1976	397	529	0.96	23.51	37.89	42.05	45.93	49.56
1977	404	1337	150.73	89.97	54.27	43.93	34.28	25.28
1978	350	670	45.03	9.88	10.77	16.75	22.33	27.54
1979	224	663	124.25	69.90	37.97	28.72	20.09	12.04
1980	337	810	82.10	37.97	12.04	4.53	2.46	9.01
1981								
1982	303							
1983	327							
1984	278							
1985								
no of data	37	24	21	21	21	21	21	21
MRAE			62.39	37.66	30.23	30.14	30.59	31.41

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Agaliya

Q1obs Observed peakflow at Catchment at Ellagawa

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error

Table 8.3.60 Exponent (n) for Transposition of Peakflow at Millakanda to Agaliya

A2 696 km² (Area of Agaliya Watershed)
 A1 769 km² (Area of Millakanda Watershed)
 A2/A1 0.91

Trial Value of Exponent n			0.8	2	4	4.5	5	5.5	6
year	Q2obs	Q1obs	A.E.	A.E.	A.E.	A.E.	A.E.	A.E.	A.E.
1940									
1941	502								
1942	390								
1943	871								
1944	438								
1945	420								
1946	581								
1947	425								
1948	295								
1949	210								
1950	326	382	8.19	4.01	21.37	25.20	28.84	32.30	35.59
1951	227	439	78.58	58.42	29.77	23.48	17.45	11.74	8.30
1952	218	348	47.39	30.78	7.12	1.91	3.05	7.77	12.28
1953	323	538	53.79	38.44	11.77	6.33	1.16	3.76	8.45
1954	404	413	5.61	16.28	31.40	34.74	37.92	40.94	43.81
1955	-	396	-	-	-	-	-	-	-
1956	-	357	-	-	-	-	-	-	-
1957	269	340	16.70	3.54	15.19	19.31	23.24	26.97	30.53
1958	283	363	16.43	5.07	13.03	18.12	22.10	25.89	29.50
1959	-	272	-	-	-	-	-	-	-
1960	224	244	0.57	10.77	26.91	30.46	33.85	37.06	40.13
1961	-	486	-	-	-	-	-	-	-
1962	-	411	-	-	-	-	-	-	-
1963	325	532	51.14	34.09	9.84	4.50	0.59	5.42	10.02
1964	268	411	42.66	26.57	3.68	1.36	6.16	10.73	15.07
1965	329	533	49.58	32.71	8.71	3.42	1.61	6.40	10.95
1966	306	464	40.00	24.21	1.75	3.20	7.91	12.39	16.65
1967	395	654	52.87	35.83	11.10	5.69	0.55	4.34	8.99
1968	383	564	43.48	27.27	4.26	0.82	5.64	10.23	14.60
1969	346	287	20.74	29.69	42.40	45.20	47.87	50.41	52.82
1970	255	482	67.28	48.41	21.57	15.66	10.03	4.68	0.41
1971	268	469	61.58	43.35	17.43	11.71	6.28	1.11	3.81
1972	215	311	33.56	18.49	2.94	7.66	12.15	16.42	20.49
1973	350	453	19.50	6.02	13.15	17.38	21.40	25.22	28.66
1974	319	773	123.74	98.50	62.60	54.69	47.16	40.01	33.19
1975	516	446	20.19	29.20	42.00	44.82	47.51	50.06	52.49
1976	397	447	3.96	7.77	24.45	28.12	31.62	34.95	38.11
1977	404	773	76.66	56.73	28.39	22.14	16.20	10.55	5.17
1978	350								
1979	224								
1980	337								
1981									
1982	303								
1983	327								
1984	278								
1985									
no of data	37	27	23	23	23	23	23	23	23
MRAE			40.70	29.74	19.64	18.52	13.74	20.44	22.53

Note
 Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)
 Q2obs Observed peakflow at Catchment at Agaliya
 Q1obs Observed peakflow at Catchment at Millakanda
 RAE Ratio of Absolute Error
 MRAE Mean Ratio of Absolute Error

Table 8.3.61 Exponent (n) for Transposition of Peakflow at Agaliya to Metiyadola

A2 606 km² (Area of Metiyadola Watershed)
 A1 696 km² (Area of Agaliya Watershed)
 A2/A1 0.87

Trial Value of Exponent n			-6.8	-6.2	-6	-5.8	-5.6	0.8	1
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941		502							
1942		390							
1943		971							
1944		436							
1945		420							
1946		591							
1947		425							
1948	892	295	17.52	21.98	24.09	26.17	28.18	70.40	71.20
1949	767	210	31.71	35.39	37.16	38.88	40.54	75.49	76.16
1950	743	326	9.43	3.53	0.70	2.05	4.72	60.72	61.60
1951	983	227	41.21	44.38	45.90	47.39	48.81	78.90	79.48
1952	935	218	41.85	44.98	46.49	47.95	49.37	79.13	79.70
1953	391	323	108.03	94.93	89.60	84.42	79.39	26.05	28.07
1954	912	404	10.48	4.53	1.67	1.10	3.81	60.35	61.43
1955	793	-	-	-	-	-	-	-	-
1956	750	-	-	-	-	-	-	-	-
1957	765	269	12.30	17.03	19.29	21.50	23.64	68.52	69.38
1958	871	283	19.97	23.33	25.43	27.48	29.44	70.92	71.71
1959	432	-	-	-	-	-	-	-	-
1960	532	224	5.01	0.65	3.36	6.00	8.57	62.31	63.34
1961	568	-	-	-	-	-	-	-	-
1962	513	-	-	-	-	-	-	-	-
1963	1078	325	24.67	28.73	30.67	32.57	34.41	72.96	73.70
1964	948	268	30.02	33.79	35.80	37.38	39.07	74.88	75.57
1965	988	329	16.78	21.27	23.42	25.51	27.54	70.13	70.95
1966	864	308	14.94	8.74	5.77	2.88	0.07	59.75	59.87
1967	1060	395	7.08	12.07	14.47	16.81	19.08	66.64	67.55
1968	1215	363	25.49	29.50	31.43	33.30	35.12	73.26	73.99
1969	331	346	160.71	146.68	139.92	133.37	126.99	6.43	8.99
1970	821	255	22.54	26.71	28.71	30.66	32.55	72.20	72.96
1971	722	268	7.42	12.41	14.80	17.13	19.39	66.77	67.69
1972	446	215	20.23	13.75	10.64	7.62	4.68	56.85	58.03
1973	1185	350	26.34	30.31	32.21	34.08	35.86	73.56	74.28
1974	980	319	18.92	23.19	25.29	27.33	29.31	70.86	71.68
1975	544	516	136.57	123.82	117.71	111.76	105.98	15.09	17.41
1976	623	397	58.93	50.37	46.28	42.28	38.38	42.96	44.52
1977	510	404	97.57	86.92	81.82	76.85	72.02	29.09	31.03
1978	2344	350	62.76	64.77	65.73	66.66	67.58	88.63	87.00
1979	418	224	34.29	27.08	23.59	20.21	16.93	51.80	53.12
1980	936	337	10.20	15.04	17.36	19.82	21.82	67.77	69.65
1981	654	-	-	-	-	-	-	-	-
1982		303							
1983		327							
1984		278							
1985									
no of data	34	37	28	28	28	28	28	28	28
MRAE			38.21	37.35	37.11	37.10	37.23	61.05	62.12

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Metiyadola

Q1obs Observed peakflow at Catchment at Agaliya

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error

Table 8.3.62 Exponent (n) for Transposition of Peakflow at Agaliya to Kitulgala

A2 388 km² (Area of Kitulgala Watershed)
 A1 696 km² (Area of Agaliya Watershed)
 A2/A1 0.56

Trial Value of Exponent n			-1.2	-1	-0.8	-0.6	-0.4	0.4	0.8
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941		502							
1942		390							
1943		971							
1944		438							
1945		420							
1946		591							
1947	527	425	62.60	44.86	28.71	14.51	1.88	36.16	49.47
1948	535	295	11.17	1.09	12.00	21.70	30.34	56.35	85.45
1949	756	210	43.99	50.17	55.87	60.56	64.91	78.01	82.59
1950	705	328	6.77	17.05	26.20	34.34	41.58	63.40	71.03
1951	1034	227	55.74	60.62	64.98	68.83	72.27	82.82	86.24
1952	847	218	48.11	53.83	58.92	63.45	67.48	79.63	83.87
1953	388	323	68.71	50.10	33.55	18.82	5.71	33.76	47.57
1954	1487	404	45.59	51.59	56.93	61.68	65.91	78.64	83.09
1955	1188	-	-	-	-	-	-	-	-
1956	663	-	-	-	-	-	-	-	-
1957	440	289	23.28	9.67	2.43	13.19	22.77	51.61	61.69
1958	1526	283	62.61	66.73	70.40	73.67	76.57	85.32	89.38
1959	772	-	-	-	-	-	-	-	-
1960	413	224	9.35	2.71	13.44	22.98	31.48	57.07	66.02
1961	495	-	-	-	-	-	-	-	-
1962	495	-	-	-	-	-	-	-	-
1963	873	325	32.66	40.08	46.89	52.57	57.80	73.56	79.07
1964	1526	266	64.86	68.73	72.18	75.25	77.98	86.20	89.08
1965	903	328	26.54	34.64	41.85	48.27	53.97	71.16	77.17
1966	488	306	26.43	12.48	0.07	10.96	20.78	50.36	60.71
1967	909	395	12.39	22.05	30.65	38.30	45.10	65.60	72.77
1968	359	363	103.87	81.38	61.37	43.57	27.74	19.96	36.64
1969	297	346	134.88	108.98	85.93	65.42	47.17	7.78	27.00
1970	1200	255	57.16	61.88	66.09	69.83	73.15	83.19	86.69
1971	712	288	24.11	32.48	39.93	46.55	52.45	70.20	76.42
1972	235	215	84.46	64.11	46.01	29.91	15.58	27.58	42.67
1973	1517	350	53.48	58.61	63.18	67.24	70.85	81.74	85.54
1974	1058	319	39.21	45.91	51.88	57.19	61.91	76.13	81.11
1975	467	518	113.83	90.06	69.10	50.45	33.85	16.13	33.61
1976	798	397	0.56	10.53	20.40	29.18	36.99	60.52	68.75
1977	529	404	53.98	36.99	21.98	8.44	3.52	39.55	52.15
1978	2259	350	68.76	72.21	75.27	78.00	80.43	87.74	90.29
1979	430	224	5.03	6.55	16.86	26.03	34.19	53.78	67.36
1980	590	337	15.16	2.46	8.84	18.90	27.64	54.79	64.21
1981	415	-	-	-	-	-	-	-	-
1982	328	303	86.25	65.71	47.43	31.17	16.70	26.88	42.12
1983	1342	327	50.87	56.29	61.11	65.40	69.22	80.71	84.73
1984	925	278	39.41	46.09	52.03	57.33	62.03	76.21	81.17
1985									
no of data	38	37	32	32	32	32	32	32	32
MRAE			47.86	44.58	43.81	44.49	45.32	59.92	66.27

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Kitulgala

Q1obs Observed peakflow at Catchment at Agaliya

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error

Table 8.3.63 Exponent (n) for Transposition of Peakflow at Agaliya to Imbulana

A2 329 km² (Area of Imbulana Watershed)
A1 696 km² (Area of Agaliya Watershed)
A2/A1 0.47

Trial Value of Exponent n			0	0.1	0.2	0.3	0.4	0.6	0.8
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941		502							
1942		390							
1943		971							
1944		436							
1945		420							
1946		591							
1947		425							
1948	299	295	1.34	8.48	15.07	21.20	26.89	37.06	45.82
1949	200	210	5.00	2.59	9.61	16.14	22.19	33.02	42.34
1950	153	326	113.07	97.69	83.42	70.18	57.89	35.92	17.00
1951	552	227	58.88	61.85	64.80	67.16	69.53	73.77	77.42
1952	596	218	61.48	64.28	66.84	69.24	71.46	75.43	78.85
1953	204	323	58.33	46.90	36.30	26.46	17.33	1.00	13.08
1954	268	404	50.75	39.86	29.77	20.40	11.71	3.64	17.22
1955	991	-	-	-	-	-	-	-	-
1956	235	-	-	-	-	-	-	-	-
1957	275	269	2.18	9.24	15.80	21.87	27.51	37.60	46.29
1958	402	283	29.60	34.69	39.40	43.77	47.83	55.09	61.34
1959	555	-	-	-	-	-	-	-	-
1960	187	224	19.79	11.14	3.12	4.33	11.24	23.59	34.22
1961	361	-	-	-	-	-	-	-	-
1962	272	-	-	-	-	-	-	-	-
1963	398	325	17.93	23.85	29.35	34.45	39.19	47.65	54.93
1964	561	268	52.58	56.01	59.18	62.13	64.88	69.75	73.98
1965	312	329	5.45	2.16	9.23	15.78	21.86	32.73	42.10
1966	297	306	3.03	4.41	11.31	17.71	23.65	34.28	43.42
1967	328	395	20.43	11.73	3.67	3.82	10.76	23.18	33.87
1968	300	363	21.00	12.26	4.16	3.36	10.34	22.81	33.58
1969	148	348	133.78	116.91	101.25	86.72	73.24	49.13	28.38
1970	232	255	9.91	1.99	5.38	12.21	18.55	29.89	39.64
1971	312	268	14.10	20.30	26.06	31.39	36.35	45.21	52.83
1972	206	215	4.37	3.17	10.16	16.64	22.66	33.42	42.69
1973	297	350	17.85	9.34	1.44	5.88	12.67	24.83	35.29
1974		319							
1975		516							
1976		397							
1977		404							
1978		350							
1979		224							
1980		337							
1981									
1982		303							
1983		327							
1984		278							
1985									
no of data	26	37	21	21	21	21	21	21	21
MRAE			33.37	30.42	29.77	30.99	33.22	37.56	43.54

Note
 Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)
 Q2obs Observed peakflow at Catchment at Imbulana
 Q1obs Observed peakflow at Catchment at Agaliya
 RAE Ratio of Absolute Error
 MRAE Mean Ratio of Absolute Error



Table 8.3.64 Exponent (n) for Transposition of Peakflow at Agaliya to Deraniyagala

A2 152 km² (Area of Deraniyagala Watershed)
 A1 696 km² (Area of Agaliya Watershed)
 A2/A1 0.22

Trial Value of Exponent n			-0.1	0	0.1	0.2	0.4	0.6	0.8
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941		502							
1942		390							
1943		971							
1944		436							
1945		420							
1946		591							
1947		425							
1948	249	295	37.94	18.47	1.75	12.61	35.54	52.45	64.92
1949	113	210	116.39	85.84	59.81	37.08	1.12	25.41	44.86
1950	183	328	107.42	78.14	53.00	31.41	3.07	28.50	47.26
1951	765	227	65.45	70.33	74.51	78.11	83.85	88.09	91.21
1952	687	218	63.05	68.27	72.75	76.59	82.73	87.28	90.61
1953	224	323	67.89	44.20	23.84	6.37	21.54	42.12	57.31
1954	340	404	38.35	18.82	2.05	12.35	35.35	52.31	64.62
1955	448	-	-	-	-	-	-	-	-
1956	439	-	-	-	-	-	-	-	-
1957	266	269	17.75	1.13	13.15	25.40	44.97	59.41	70.06
1958	365	283	9.72	22.47	33.41	42.81	57.81	68.88	77.04
1959	654	-	-	-	-	-	-	-	-
1960	239	224	9.13	6.28	18.50	30.87	49.00	62.38	72.25
1961	348	-	-	-	-	-	-	-	-
1962	292	-	-	-	-	-	-	-	-
1963	289	325	30.94	12.46	3.42	17.05	38.81	54.88	66.71
1964	320	266	3.21	16.88	28.61	38.68	54.77	68.64	75.39
1965	329	329	18.43	0.00	14.11	28.24	45.59	59.88	70.39
1966	-	306	-	-	-	-	-	-	-
1967	323	395	42.39	22.29	5.03	9.79	33.46	50.92	63.79
1968	249	363	69.74	45.78	25.21	7.54	20.68	41.49	56.84
1969	248	346	63.76	40.85	20.80	3.75	23.47	43.55	58.36
1970	231	255	28.53	10.39	5.19	18.57	39.93	55.69	67.32
1971	280	288	11.44	4.29	17.79	29.40	47.92	61.58	71.68
1972	268	215	5.89	19.17	30.58	40.38	56.02	67.56	76.07
1973	306	350	33.18	14.38	1.76	15.63	37.76	54.09	66.14
1974	321	319	15.71	0.62	14.65	26.70	45.93	60.11	70.59
1975	210	516	186.09	145.71	111.03	81.25	33.70	1.38	27.25
1976	329	397	40.50	20.67	3.64	10.99	34.34	51.57	64.27
1977		404							
1978		350							
1979		224							
1980		337							
1981									
1982		303							
1983		327							
1984		278							
1985									
no of data	28	37	23	23	23	23	23	23	23
MRAE			47.00	33.38	27.63	20.55	40.32	53.74	65.83

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Deraniyagala

Q1obs Observed peakflow at Catchment at Agaliya

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error

Table 8.3.66 Exponent (n) for Transposition of Peakflow at Agaliya to Nambapana

A2 629 km² (Area of Nambapana Watershed)
A1 696 km² (Area of Agaliya Watershed)
A2/A1 0.90

Trial Value of Exponent n			-6	-5	-4	-3	0	0.4	0.8
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941		502							
1942		390							
1943		971							
1944		436							
1945		420							
1946		591							
1947		425							
1948		295							
1949		210							
1950		326							
1951		227							
1952		218							
1953		323							
1954		404							
1955		-							
1956	453	-							
1957	363	269	36.02	22.92	11.09	0.40	25.90	28.84	31.66
1958	589	283	11.81	20.30	27.97	34.91	51.95	53.86	55.69
1959	268	-							
1960	292	224	40.80	27.25	15.00	3.93	23.29	28.33	29.25
1961	408	-							
1962	462	-							
1963	481	325	24.02	12.08	1.29	8.46	32.43	35.11	37.69
1964	399	266	22.37	10.59	0.06	9.68	33.33	35.98	38.52
1965	579	329	4.30	5.74	14.82	23.02	43.19	45.43	47.60
1966	316	306	77.74	60.63	45.17	31.19	3.16	7.01	10.70
1967	729	395	0.55	10.12	18.77	26.59	45.62	47.97	50.03
1968	736	363	9.47	18.19	26.06	33.18	50.68	52.64	54.52
1969	473	348	34.27	21.34	9.68	0.80	26.85	29.75	32.54
1970	633	255	26.06	33.18	39.61	45.42	59.72	61.31	62.65
1971	714	268	31.10	37.74	43.73	49.15	62.46	63.95	65.38
1972	375	215	5.23	4.90	14.05	22.32	42.67	44.94	47.13
1973	536	350	19.41	7.91	2.47	11.86	34.94	37.53	40.00
1974	609	319	3.86	13.11	21.48	29.03	47.62	49.70	51.69
1975	436	515	116.24	95.42	76.61	59.61	17.81	13.13	6.84
1976	274	397	165.94	140.34	117.21	96.30	44.89	39.14	33.62
1977	-	404							
1978	641	350	23.61	30.97	37.61	43.62	58.38	60.03	61.62
1979		224							
1980		337							
1981									
1982		303							
1983		327							
1984		278							
1985									
no of data	22	37	18	18	18	18	18	18	18
MRAE			36.27	31.82	29.04	29.42	39.17	40.70	42.17

Note
 Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)
 Q2obs Observed peakflow at Catchment at Nambapana
 Q1obs Observed peakflow at Catchment at Agaliya
 RAE Ratio of Absolute Error
 MRAE Mean Ratio of Absolute Error

Table 8.3.66 Exponent (n) for Transposition of Peakflow at Agaliya to Malawala

A2 329 km² (Area of Malawala Watershed)
 A1 696 km² (Area of Agaliya Watershed)
 A2/A1 0.47

Trial Value of Exponent n			-1	-0.8	-0.6	-0.4	0	0.2	1
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941		502							
1942		380							
1943		971							
1944		436							
1945		420							
1946		591							
1947		425							
1948		295							
1949		210							
1950		328							
1951		227							
1952		218							
1953		323							
1954	646	404	32.30	13.89	1.96	15.61	37.46	65.66	70.44
1955	430	-	-	-	-	-	-	-	-
1956	552	-	-	-	-	-	-	-	-
1957	327	269	74.03	49.81	28.96	11.01	17.74	54.83	61.11
1958	609	293	1.69	15.37	27.15	37.29	53.53	74.48	78.03
1959	406	-	-	-	-	-	-	-	-
1960	360	224	31.63	13.31	2.46	16.03	37.79	65.83	70.59
1961	984	-	-	-	-	-	-	-	-
1962	892	-	-	-	-	-	-	-	-
1963	1087	325	35.56	44.53	52.25	58.90	69.54	83.27	85.60
1964	803	266	29.92	39.88	48.07	55.30	66.87	81.81	84.34
1965	1403	329	50.39	57.30	63.24	68.36	76.55	87.12	89.92
1966	427	306	51.60	30.50	12.34	3.29	28.34	60.65	66.12
1967	1066	395	21.61	32.52	41.91	50.00	62.95	79.65	82.48
1968	1288	363	40.38	48.88	55.82	61.97	71.82	84.52	86.68
1969	1062	346	31.08	40.67	48.93	56.03	67.42	82.11	84.60
1970	869	255	37.92	46.56	54.00	60.40	70.66	83.89	86.13
1971	807	268	29.75	39.52	47.94	55.18	66.79	81.76	84.30
1972	500	215	9.03	21.69	32.59	41.97	57.00	76.39	79.67
1973	521	350	42.12	22.34	5.31	9.34	32.82	63.11	68.24
1974	950	319	26.96	38.85	47.36	54.69	66.42	81.56	84.13
1975	1070	516	2.02	12.18	24.40	34.92	51.78	73.52	77.20
1976	253	397	231.96	185.76	145.99	111.76	56.82	13.83	25.83
1977	-	404	-	-	-	-	-	-	-
1978	920	350	19.52	30.72	40.36	48.66	61.66	79.11	82.02
1979		224							
1980		337							
1981									
1982		303							
1983		327							
1984		278							
1985									
no of data	24	37	19	19	19	19	19	19	19
MRAE			42.13	41.26	41.11	44.77	55.49	72.27	73.13

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Malawala

Q1obs Observed peakflow at Catchment at Agaliya

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error

Table 8.3.67 Exponent (n) for Transposition of Peakflow at Agaliya to Dela

A2 220 km² (Area of (Dela Watershed))
 A1 696 km² (Area of Agaliya Watershed)
 A2/A1 0.32

Trial Value of Exponent n			0	0.4	0.6	0.7	0.8	0.9	1
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940									
1941		502							
1942		390							
1943		971							
1944		436							
1945		420							
1946		591							
1947		425							
1948		295							
1949		210							
1950		326							
1951		227							
1952		218							
1953		323							
1954		404							
1955		-							
1956	108	-							
1957	135	269	99.26	25.70	0.16	11.02	20.70	29.33	37.02
1958	126	283	124.60	41.69	12.54	0.30	10.61	20.34	29.00
1959	140	-							
1960	61	224	267.21	131.66	64.00	63.98	46.14	30.24	16.07
1961	135	-							
1962	135	-							
1963	123	325	164.23	66.69	32.39	17.99	5.15	6.26	16.48
1964	104	286	155.77	61.35	28.16	14.21	1.79	9.26	19.15
1965	127	329	159.06	63.42	29.80	15.68	3.10	8.12	18.11
1966	99	306	209.09	94.99	54.87	38.02	23.01	9.63	2.30
1967	144	395	174.31	73.05	37.44	22.49	9.17	2.71	13.29
1968	147	363	146.94	55.78	23.73	10.27	1.73	12.42	21.94
1969	133	346	160.15	64.12	30.35	16.17	3.53	7.73	17.77
1970	117	255	117.95	37.49	9.20	2.68	13.26	22.70	31.11
1971	118	268	127.12	43.28	13.80	1.42	9.61	19.45	28.21
1972	153	215	40.52	11.35	29.59	37.25	44.08	50.16	55.58
1973	121	350	189.26	82.48	44.93	29.17	15.12	2.59	8.57
1974	153	319	108.50	31.53	4.47	6.90	17.02	26.05	34.10
1975	-	516	-	-	-	-	-	-	-
1976	104	397	281.73	140.81	91.27	70.46	51.92	35.39	20.66
1977	-	404	-	-	-	-	-	-	-
1978	190	350	84.21	16.21	7.70	17.74	26.69	34.66	41.77
1979	140	224	60.00	0.84	19.83	28.55	36.32	43.25	49.43
1980	185	337	104.24	28.85	2.34	8.80	16.72	27.56	35.44
1981	162	-							
1982	130	303	133.08	47.04	16.79	4.08	7.24	17.33	26.33
1983	148	327							
1984	153	278							
1985									
no of data	27	37	20	20	20	20	20	20	20
MRAE			145.36	55.92	26.67	20.85	18.25	20.76	26.12

Note
 Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)
 Q2obs Observed peakflow at Catchment at Dela
 Q1obs Observed peakflow at Catchment at Agaliya
 RAE Ratio of Absolute Error
 MRAE Mean Ratio of Absolute Error

Table 8.3.68 Exponent (n) for Transposition of Peakflow at Glencourse to Boppagoda

A2 442 km² (Area of Boppagoda Watershed)
 A1 1463 km² (Area of Glencourse Watershed)
 A2/A1 0.30

Trial Value of Exponent n			0	0.4	0.8	1.6	1.8	2	2.4
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940	319								
1941	836								
1942	878								
1943	1692								
1944									
1945	140								
1946	566								
1947	253								
1948	340	1770	420.59	222.53	99.82	23.30	39.63	52.48	70.56
1949	253	1019	302.77	149.53	54.60	40.66	53.29	63.24	77.22
1950	453	892	96.91	21.99	24.42	70.99	77.17	82.03	88.68
1951	453	1657	265.78	126.62	40.40	46.11	57.58	66.61	79.32
1952	245	1331	443.27	236.58	108.52	19.96	37.00	50.41	69.28
1953	374	722	93.05	19.60	25.90	71.56	77.61	82.38	89.08
1954	863	1303	50.98	6.46	42.05	77.76	82.49	86.22	91.46
1955	278	1104	297.12	146.03	52.43	41.49	53.95	63.75	77.54
1956	164	1248	659.76	370.70	191.62	11.93	11.90	30.65	57.04
1957	292	1232	321.92	161.40	61.95	37.84	51.07	61.49	76.14
1958	278	1700	511.51	278.86	134.72	9.91	29.09	44.18	65.42
1959	232	895	285.78	139.00	48.07	43.16	55.26	64.79	78.18
1960	127	736	479.53	259.04	122.44	14.62	32.80	47.10	67.23
1961	198	844	326.26	164.09	63.61	37.20	50.57	61.09	75.60
1962	453	957	111.26	30.89	18.91	68.88	75.50	80.72	88.05
1963	368	1954	430.98	228.96	103.81	21.77	38.43	51.53	69.97
1964	221	1730	682.81	384.98	200.47	15.33	9.22	28.55	55.73
1965	340								
1966	207	3795	1733.33	1035.83	603.69	170.10	112.60	67.34	3.67
1967	477	3075	544.65	289.39	147.44	5.02	25.24	41.16	63.55
1968	729	1897	160.22	61.22	0.12	61.66	69.82	76.25	85.28
1969	1008	983	2.48	39.58	62.57	85.63	68.69	91.10	94.49
1970	283	2039	620.49	346.38	176.55	6.15	16.45	34.24	59.26
1971	748	1400	87.17	15.98	28.16	72.43	78.30	82.92	89.42
1972	130	826	535.38	293.65	143.88	6.39	26.32	42.00	64.07
1973	283	3121	1002.83	583.25	323.30	62.48	27.89	0.66	37.64
1974	216	2982	1280.56	755.31	429.90	103.39	60.09	26.01	21.93
1975	154	1323	759.09	432.24	229.75	26.57	0.38	21.59	51.42
1976	134	1380	929.85	538.04	295.29	51.73	19.42	6.00	41.76
1977	178	1681	844.38	485.08	262.49	38.13	9.51	13.80	46.60
1978	270	4220	1462.96	868.32	499.92	130.27	81.25	42.68	11.62
1979		573							
1980	180	2695	1397.22	827.59	474.68	120.58	73.62	36.66	15.33
1981	172	1974	1047.67	611.03	340.52	69.08	33.09	4.75	35.10
1982	89	1060	1091.01	637.88	357.15	75.47	38.11	8.71	32.65
1983		4266							
1984		2096							
1985									
no of data			33	33	33	33	33	33	33
MRAE			584.23	326.61	174.82	52.68	48.28	46.88	61.54

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Boppagoda

Q1obs Observed peakflow at Catchment at Glencourse

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error



Table 8.3.69 Exponent (n) for Transposition of Peakflow at Metiyadola to Boppagoda

A2 442 km² (Area of Boppagoda Watershed)
 A1 606 km² (Area of Metoyadola Watershed)
 A2/A1 0.73

Trial Value of Exponent n			0	0.5	0.8	1	3	4	5
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940	319								
1941	838								
1942	878								
1943	1692								
1944									
1945	140								
1946	566								
1947	253								
1948	340	892	162.35	124.06	103.82	91.35	1.80	25.75	45.85
1949	253	767	203.16	158.81	135.52	121.12	17.63	14.20	37.42
1950	453	743	64.02	40.08	27.42	19.63	36.36	53.58	66.14
1951	453	963	112.58	81.55	65.15	55.05	17.51	39.64	56.12
1952	245	935	281.63	225.93	196.49	178.35	48.08	8.01	21.22
1953	374	391	4.55	10.71	18.78	23.75	59.43	70.41	78.42
1954	863	912	5.68	9.75	17.60	22.92	59.00	70.09	78.19
1955	278	793	185.25	143.61	121.61	108.05	10.68	19.27	41.12
1956	164	750	357.32	290.56	255.29	233.55	77.45	29.42	5.60
1957	292	765	161.89	123.75	103.53	91.09	1.65	25.66	45.92
1958	278	971	213.31	167.59	143.41	128.52	21.57	11.33	35.33
1959	232	432	188.21	59.03	44.66	35.81	27.75	47.30	61.56
1960	127	532	318.90	257.75	225.44	205.53	62.54	19.55	13.53
1961	198	566	185.86	144.13	122.08	108.50	10.92	19.10	40.99
1962	453	513	13.25	3.28	12.02	17.40	56.06	67.95	76.62
1963	368	1076	192.39	149.71	127.16	113.26	13.45	17.25	39.65
1964	221	948	328.98	266.35	233.25	212.87	66.44	21.40	11.45
1965	340	986	190.00	147.67	125.30	111.52	12.52	17.93	40.14
1966	207	664	220.77	173.95	149.21	133.96	24.46	9.22	33.76
1967	477	1060	122.22	89.79	72.64	62.08	13.77	37.11	54.13
1968	729	1215	66.67	42.34	29.48	21.56	35.33	52.83	65.60
1969	1008	331	67.16	71.96	74.49	76.05	87.26	90.71	93.22
1970	283	821	190.11	147.76	125.38	111.60	12.57	17.90	40.12
1971	748	722	3.48	17.57	25.01	29.60	62.55	72.68	80.08
1972	130	446	243.08	193.00	166.53	150.23	33.12	2.91	29.18
1973	283	1185	318.73	257.61	225.31	205.41	62.47	18.50	13.57
1974	216	980	353.70	287.48	252.48	230.82	76.04	28.40	6.35
1975	154	544	253.25	201.68	174.43	157.85	37.07	0.03	27.08
1976	134	623	364.93	297.06	261.20	239.10	80.40	31.58	4.03
1977	178	510	186.52	144.69	122.59	108.98	11.17	18.91	40.86
1978	270	2344	768.15	641.43	574.46	533.20	236.85	145.69	79.20
1979		416							
1980	180	936	420.00	344.10	303.98	279.27	101.77	47.16	7.34
1981	172	654	280.23	224.73	195.40	177.33	47.54	7.61	21.51
1982	69								
1983									
1984									
1985									
no of data	40	34	33	33	33	33	35	36	37
MRAE			209.89	167.87	143.41	133.19	43.52	32.13	37.60

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Boppagoda

Q1obs Observed peakflow at Catchment at Metiyadola

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error

Table 8.3.70 Exponent (n) for Transposition of Peakflow at Putupaula to Boppagoda

A2 397 km² (Area of Boppagoda Watershed)
 A1 1194 km² (Area of Putupaula Watershed)
 A2/A1 0.33

Trial Value of Exponent n			0.7	0.8	1	1.2	1.4	1.5	1.6
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940	319								
1941	838								
1942	878								
1943	1692	2011	45.01	50.75	60.48	68.29	74.56	77.21	79.59
1944		1430							
1945	140	1529	405.28	352.59	263.13	191.36	133.77	109.39	87.56
1946	566	2549	108.35	86.63	49.74	20.14	3.61	13.66	22.69
1947	253	1713	213.25	180.59	125.12	80.63	44.92	29.81	16.28
1948	340								
1949	253	1184	116.51	93.94	55.60	24.85	0.17	10.28	19.63
1950	453	1436	46.66	31.37	5.40	15.43	32.15	30.22	45.56
1951	453	1459	49.01	33.47	7.09	14.08	31.08	38.25	44.89
1952	245	1352	155.31	128.69	83.48	47.22	18.12	5.80	5.23
1953	374	1314	62.55	45.60	16.82	6.27	24.80	32.64	39.66
1954	863	1671	10.42	19.76	35.62	48.35	58.56	62.68	66.75
1955	278	1467	144.14	118.68	75.46	40.78	12.95	1.17	9.38
1956	164	1518	328.23	283.58	207.76	146.93	98.12	77.46	58.98
1957	292	1218	92.98	72.86	38.69	11.28	10.72	20.03	23.37
1958	278	793	31.97	18.21	5.15	23.90	38.94	45.31	51.01
1959	232	578	15.26	3.24	17.16	33.54	46.67	52.23	57.21
1960	127	799	157.82	131.02	85.36	48.72	19.32	6.88	4.26
1961	198	1048	144.88	119.34	75.99	41.20	13.29	1.48	9.10
1962	453	864	11.76	20.96	36.58	49.12	59.18	63.43	67.25
1963	368	1028	29.24	15.76	7.12	25.48	40.21	46.44	52.03
1964	221	947	96.25	77.58	42.48	14.31	8.28	17.84	26.41
1965	340	1228	66.83	49.43	19.89	3.80	22.82	30.87	38.07
1966	207								
1967	477	1283	24.44	11.46	10.57	26.25	42.43	48.43	53.81
1968	729	1047	33.55	40.48	52.25	61.69	69.26	72.46	75.34
1969	1008	797	63.42	67.23	73.71	78.91	83.08	84.84	86.42
1970	293	1029	68.22	50.68	20.90	3.00	22.17	30.29	37.58
1971	748	978	39.51	45.82	58.53	65.12	72.01	74.93	77.55
1972	130	779	177.23	148.33	99.24	59.66	28.26	14.89	2.91
1973	283	857	40.10	25.49	0.69	19.21	35.18	41.94	47.99
1974	216	1055	125.97	102.41	62.40	30.30	4.54	6.36	16.12
1975	154	864	159.56	132.50	88.54	49.67	20.09	7.57	3.65
1976	134	807	178.62	149.57	100.24	60.66	28.80	15.46	3.43
1977	178	1444	275.32	236.18	169.73	116.42	73.84	55.53	39.32
1978	270	975	67.07	49.65	20.07	3.66	22.71	30.77	37.98
1979									
1980	180	876	125.16	101.68	61.81	29.93	4.17	6.69	16.42
1981	172	1155	210.67	178.28	123.27	79.14	43.73	28.75	15.32
1982	89								
1983									
1984									
1985									
no of data	40	36	34	34	34	34	36	37	38
MRAE			115.37	96.29	66.24	45.28	37.29	35.17	35.35

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Boppagoda

Q1obs Observed peakflow at Catchment at Putupaula

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error

Table 8.3.71 Exponent (n) for Transposition of Peakflow at Ellagawa to Boppagoda

A2 397 km² (Area of Boppagoda Watershed)
 A1 656 km² (Area of Ellagawa Watershed)
 A2/A1 0.61

Trial Value of Exponent n			0.6	0.8	1	2	2.5	3	3.4
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940	319								
1941	838								
1942	878								
1943	1892								
1944	-								
1945	140								
1946	566								
1947	253								
1948	340								
1949	253								
1950	453								
1951	453								
1952	245								
1953	374								
1954	863								
1955	278								
1956	164	448	102.10	82.79	65.32	0.05	22.17	39.45	50.47
1957	292	333	15.63	23.69	30.98	58.23	67.51	74.72	79.32
1958	278	448	19.22	7.83	2.47	40.98	54.09	64.28	70.78
1959	232	340	18.42	1.04	11.31	46.33	58.25	67.52	73.43
1960	127	338	97.48	78.61	61.54	2.24	23.95	40.84	51.60
1961	198	484	73.37	58.81	41.82	14.17	33.23	48.08	57.51
1962	453	366	40.23	45.84	51.10	70.41	78.98	82.09	85.35
1963	368	481	3.30	12.54	20.80	52.13	82.76	71.03	76.30
1964	221	384	28.55	16.26	5.15	36.36	50.49	61.49	68.50
1965	340	685	49.05	34.81	21.93	26.21	42.80	55.34	63.47
1966	207	662	136.60	113.99	93.54	17.13	8.88	29.12	42.02
1967	477	756	17.26	6.05	4.08	41.95	54.84	64.87	71.26
1968	729	598	39.31	45.11	50.36	69.96	78.53	81.82	85.13
1969	1008	496	63.60	67.07	70.22	81.93	85.98	89.09	91.08
1970	263	931	143.39	120.13	99.09	20.49	6.27	27.08	40.35
1971	748	862	14.74	22.89	30.28	57.79	67.17	74.46	79.11
1972	130	578	228.94	197.50	169.07	82.84	26.68	1.45	19.39
1973	283	770	101.30	82.06	64.66	0.35	22.46	39.69	50.67
1974	216	1113	281.22	244.79	211.84	88.72	46.81	14.21	6.58
1975	154	879	228.20	195.02	168.83	81.48	25.62	2.27	20.06
1976	134	529	192.07	164.18	138.91	44.59	12.48	12.50	28.42
1977	178	1337	455.70	402.60	354.57	175.10	114.01	68.48	36.18
1978	270	670	83.59	66.04	50.18	9.12	29.30	45.00	55.01
1979	-	663	-	-	-	-	-	-	-
1980	180	810	232.92	201.11	172.33	64.81	26.21	0.26	19.41
1981	172								
1982	89								
1983									
1984									
1985									
no of data	40	25	24	24	24	24	24	24	24
MRAE			110.59	95.41	82.85	47.64	45.72	48.05	55.02

Note
 Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)
 Q2obs Observed peakflow at Catchment at Boppagoda
 Q1obs Observed peakflow at Catchment at Ellagawa
 RAE Ratio of Absolute Error
 MRAE Mean Ratio of Absolute Error

Table 8.3.72 Exponent (n) for Transposition of Peakflow at Millakanda to Boppagoda

A2 442 km² (Area of Boppagoda Watershed)
 A1 769 km² (Area of Millakanda Watershed)
 A2/A1 0.57

Trial Value of Exponent n			0.7	0.8	1.2	1.5	1.6	1.7	2
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940	319								
1941	838								
1942	878								
1943	1692								
1944									
1945	140								
1946	566								
1947	253								
1948	340								
1949	253								
1950	453	382	42.77	45.85	56.61	63.25	65.23	67.11	72.14
1951	453	439	34.23	37.78	50.14	57.77	60.05	62.20	67.88
1952	245	348	3.60	8.80	26.92	38.10	41.44	44.59	53.07
1953	374	538	2.38	7.64	25.99	37.32	40.69	43.89	52.46
1954	863	413	67.52	69.27	75.38	79.15	80.27	81.33	84.19
1955	278	386	3.33	8.54	26.71	37.93	41.27	44.44	52.04
1956	164	357	47.73	39.77	12.00	5.14	10.25	15.09	28.09
1957	292	340	20.98	25.24	40.09	49.28	51.99	54.58	61.53
1958	278	363	11.39	16.16	32.82	43.10	46.17	48.07	56.88
1959	232	272	20.43	24.72	39.68	46.91	51.66	54.27	61.27
1960	127	244	30.39	23.36	1.15	16.28	20.79	25.06	36.53
1961	198	486	70.01	60.85	28.89	9.16	3.28	2.29	17.24
1962	453	411	38.43	41.74	53.32	60.46	62.59	64.61	70.03
1963	388	532	1.89	7.18	25.62	37.00	40.40	43.61	52.24
1964	221	411	28.21	19.41	4.31	18.96	23.33	27.46	38.58
1965	340	533	6.39	0.66	19.34	31.69	35.37	38.85	48.21
1966	207	484	52.12	43.93	15.33	2.32	7.59	12.56	25.85
1967	477	654	6.95	11.86	29.46	40.25	43.47	46.52	54.70
1968	729	564	47.50	50.32	60.19	66.28	68.10	69.32	74.44
1969	1006	287	80.00	81.08	84.84	87.16	87.85	88.51	90.27
1970	283	462	10.79	4.82	16.01	28.86	32.69	36.32	43.07
1971	748	469	57.45	59.74	67.74	72.63	74.15	75.54	79.29
1972	130	311	62.35	53.61	23.09	4.25	1.37	6.66	20.97
1973	283	453	8.63	2.78	17.64	30.25	34.01	37.56	47.12
1974	216	773	142.87	129.79	84.13	55.94	47.54	38.59	18.23
1975	154	446	98.54	85.98	49.01	26.20	19.40	12.97	4.32
1976	134	447	128.39	114.19	71.63	45.36	37.53	30.12	10.20
1977	178	773	194.72	178.84	123.44	89.24	79.04	69.40	43.47
1978	270								
1979									
1980	160								
1981	172								
1982	69								
1983									
1984									
1985									
no of data	40	28	28	28	28	28	28	28	28
MRAE			46.93	44.78	41.68	42.22	43.13	44.43	48.87

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Boppagoda

Q1obs Observed peakflow at Catchment at Millakanda

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error

Table 8.3.73 Exponent (n) for Transposition of Peakflow at Nambapana to Boppagoda

A2 442 km² (Area of Boppagoda Watershed)
 A1 629 km² (Area of Nambapana Watershed)
 A2/A1 0.70

Trial Value of Exponent n			0	0.4	0.8	1	1.5	2	2.5
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940	319								
1941	838								
1942	878								
1943	1692								
1944	-								
1945	140								
1946	566								
1947	253								
1948	340								
1949	253								
1950	453								
1951	453								
1952	245								
1953	374								
1954	863								
1955	278								
1956	164	453	176.22	139.88	108.29	94.10	62.71	36.39	14.34
1957	292	363	24.32	7.95	6.28	12.64	26.77	38.81	48.54
1958	278	589	111.87	83.98	59.77	48.88	24.80	4.62	12.30
1959	232	268	15.52	0.31	12.89	18.83	31.95	42.96	52.18
1960	127	292	129.82	99.66	73.38	61.57	35.44	13.53	4.83
1961	198	408	106.06	78.94	55.39	44.80	21.38	1.75	14.70
1962	453	462	1.99	11.44	23.09	28.33	39.92	49.64	57.78
1963	368	481	30.71	13.50	1.44	8.15	23.01	35.46	45.80
1964	221	399	80.54	56.78	36.14	26.87	6.35	10.85	25.27
1965	340	579	70.29	47.68	28.42	19.67	0.31	15.91	29.51
1966	207	318	52.88	32.56	15.12	7.27	10.08	24.62	36.81
1967	477	729	52.83	32.71	15.25	7.39	9.97	24.53	36.74
1968	729	736	0.96	12.33	23.87	29.05	40.53	50.15	58.21
1969	1008	473	53.08	59.25	64.82	67.03	72.36	76.83	80.58
1970	283	633	123.67	94.23	68.67	57.18	31.76	10.45	7.41
1971	748	714	4.55	17.11	28.02	32.92	43.77	52.87	60.49
1972	130	375	188.46	150.49	117.52	102.70	69.92	42.44	19.40
1973	283	538	90.11	65.08	43.38	33.59	11.98	6.13	21.31
1974	216	609	181.94	144.83	112.61	98.12	68.08	39.22	16.71
1975	154	438	184.42	146.88	114.47	99.88	67.54	40.44	17.73
1976	134	274	104.48	77.56	54.19	43.69	20.45	0.97	15.36
1977	178								
1978	270	841	211.48	170.48	134.88	118.88	83.48	53.81	28.93
1979									
1980	180								
1981	172								
1982	89								
1983									
1984									
1985									
no of data	40	22	22	22	22	22	23	24	25
MRAE			90.73	70.18	54.44	48.25	34.91	28.01	28.29

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Boppagoda

Q1obs Observed peakflow at Catchment at Nambapana

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error

Table 8.3.74 Exponent (n) for Transposition of Peakflow at Boppagoda to Kitulgala

A2 388 km2 (Area of Kitulgala Watershed)
 A1 442 km2 (Area of Boppagoda Watershed)
 A2/A1 0.88

Trial Value of Exponent n			-4	-3.5	-3	-2	-1	0	0.8
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940		319							
1941		838							
1942		878							
1943		1692							
1944									
1945		140							
1946		568							
1947	527	253	19.15	24.25	29.03	37.70	45.31	51.99	58.74
1948	535	340	7.03	0.27	6.05	17.53	27.80	38.45	42.74
1949	758	253	43.84	47.20	50.53	58.57	61.88	66.53	69.65
1950	705	453	8.21	1.39	5.01	16.61	26.80	35.74	42.11
1951	1034	453	26.22	30.87	35.23	43.15	50.09	58.19	60.53
1952	847	245	51.29	54.36	57.24	62.46	67.05	71.07	73.94
1953	388	374	63.17	52.88	43.24	25.74	10.38	3.11	12.70
1954	1497	863	2.82	9.04	14.78	25.19	34.33	42.35	48.08
1955	1188	278	60.59	63.08	65.41	69.63	73.34	76.60	78.92
1956	863	164	58.34	60.97	63.43	67.90	71.82	75.26	77.71
1957	440	292	11.76	4.71	1.89	13.88	24.40	33.84	40.21
1958	1526	278	69.32	71.26	73.07	76.36	79.25	81.78	83.59
1959	772	232	49.39	52.58	55.57	61.00	65.77	69.95	72.92
1960	413	127	48.21	51.48	54.54	60.09	64.87	69.25	72.29
1961	495	198	32.64	36.89	40.87	48.09	54.43	60.00	63.96
1962	495	453	54.12	44.40	35.29	18.76	4.25	8.48	17.54
1963	973	388	36.31	40.32	44.09	50.82	56.82	62.18	65.92
1964	1526	221	75.61	77.15	78.59	81.21	83.50	85.52	88.05
1965	903	340	36.59	40.59	44.34	51.14	57.11	62.35	68.09
1966	488	207	28.56	33.07	37.29	44.95	51.68	57.58	61.78
1967	909	477	11.63	17.20	22.42	31.90	40.22	47.52	52.72
1968	359	729	241.98	220.41	200.20	163.52	131.33	103.08	82.98
1969	297	1008	471.57	435.51	401.74	340.44	286.83	239.39	205.80
1970	1200	283	60.28	62.78	65.14	69.40	73.13	76.42	78.75
1971	712	748	76.82	65.78	55.31	36.33	19.68	5.08	5.34
1972	235	130	6.84	12.71	18.22	28.21	36.98	44.68	50.16
1973	1517	283	68.58	70.56	72.42	75.79	78.75	81.34	83.19
1974	1058	216	65.62	67.79	69.82	73.51	76.74	79.58	81.61
1975	487	154	48.75	50.10	53.25	58.86	63.98	68.38	71.51
1976	796	134	71.65	73.44	75.11	78.15	80.82	83.17	84.83
1977	529	178	43.33	46.91	50.28	56.33	61.87	66.35	69.68
1978	2259	270	79.87	81.14	82.33	84.49	86.39	88.05	89.23
1979	430								
1980	590	180	48.62	51.86	54.80	60.41	65.25	69.49	72.51
1981	415	172	30.20	34.80	38.73	46.21	52.79	58.55	62.66
1982	328	89	54.30	57.19	59.89	64.79	69.09	72.87	75.55
1983	1342								
1984	825								
1985									
no of data	38	40	35	35	35	35	35	35	35
MRAE			61.75	61.28	61.58	62.78	63.84	65.43	67.46

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Kitulgala

Q1obs Observed peakflow at Catchment at Boppagoda

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error



Table 8.3.75 Exponent (n) for Transposition of Peakflow at Boppagoda to Imbulana

A2 329 km² (Area of Imbulana Watershed)
 A1 442 km² (Area of Boppagoda Watershed)
 A2/A1 0.74

Trial Value of Exponent n			0.8	0.8	1	1.8	2	2.2	3
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940		319							
1941		838							
1942		878							
1943		1692							
1944									
1945		140							
1946		566							
1947		253							
1948	289	340	4.75	10.21	15.36	33.17	37.00	40.61	53.10
1949	200	253	5.96	0.11	5.84	25.65	29.91	33.93	47.83
1950	153	453	148.01	133.79	120.38	74.02	64.04	54.64	22.10
1951	552	453	31.28	35.20	38.92	51.77	54.53	57.14	66.16
1952	566	245	63.74	65.82	67.78	74.58	76.02	77.39	82.15
1953	204	374	53.57	44.76	36.46	7.75	1.58	4.25	24.39
1954	268	863	169.74	154.27	139.89	89.26	78.41	68.18	32.60
1955	991	278	76.50	77.85	79.12	83.51	84.46	85.35	88.43
1956	235	164	41.54	44.89	48.05	58.98	61.33	63.55	71.22
1957	275	292	11.06	16.16	20.96	37.59	41.17	44.54	56.21
1958	402	278	42.07	45.39	48.53	59.35	61.69	63.88	71.48
1959	555	232	64.99	66.99	68.89	75.43	76.84	78.17	82.76
1960	187	127	43.11	46.37	49.45	60.08	62.37	64.53	71.89
1961	361	198	54.06	56.69	59.17	67.76	69.61	71.35	77.38
1962	272	453	39.51	31.51	23.97	2.11	7.73	13.02	31.32
1963	398	368	22.16	26.62	30.83	45.38	48.51	51.47	61.88
1964	561	221	67.00	68.89	70.68	76.85	78.17	79.43	83.75
1965	312	340	8.72	13.95	18.89	35.95	39.62	43.09	55.06
1966	297	207	41.62	44.97	48.12	59.04	61.38	63.80	71.28
1967	328	477	21.82	14.83	8.25	14.53	19.43	24.05	40.03
1968	300	729	103.55	91.88	80.88	42.82	34.63	26.91	0.21
1969	148	1008	470.51	437.80	408.98	300.31	277.35	255.71	160.88
1970	232	263	2.18	3.68	9.20	28.30	32.42	36.29	49.69
1971	312	748	100.82	89.31	78.45	40.91	32.83	25.21	1.13
1972	206	130	47.14	50.17	53.03	62.91	65.04	67.04	73.67
1973	297	263	20.18	24.76	29.07	44.00	47.21	50.23	60.70
1974		216							
1975		154							
1976		134							
1977		178							
1978		270							
1979									
1980		180							
1981		172							
1982		89							
1983									
1984									
1985									
no of data	28	40	26	26	26	26	26	26	26
MRAE			87.52	65.26	63.73	59.69	59.36	59.37	59.91

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

- Q2obs Observed peakflow at Catchment at Imbulana
- Q1obs Observed peakflow at Catchment at Boppagoda
- RAE Ratio of Absolute Error
- MRAE Mean Ratio of Absolute Error

Table 8.3.76 Exponent (n) for Transposition of Peakflow at Boppagoda to Deraniyagala

A2 152 km² (Area of Deraniyagala Watershed)
 A1 442 km² (Area of Boppagoda Watershed)
 A2/A1 0.34

Trial Value of Exponent n			0	0.2	0.4	0.5	0.6	0.8	1
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940		319							
1941		838							
1942		878							
1943		1892							
1944									
1945		140							
1946		566							
1947		253							
1948	249	340	36.55	10.30	10.91	19.93	28.03	41.87	53.04
1949	113	253	123.89	80.85	46.09	31.30	18.00	4.68	23.00
1950	183	453	147.54	99.95	61.52	45.16	30.47	5.39	14.87
1951	765	453	40.78	52.17	61.36	65.27	68.79	74.79	79.64
1952	687	245	64.34	71.19	76.73	79.09	81.20	84.82	87.74
1953	224	374	66.96	34.87	8.94	2.09	12.00	28.92	42.58
1954	340	863	153.82	105.03	65.62	48.85	33.78	8.08	12.71
1955	448	278	37.67	49.65	59.33	63.45	67.15	73.46	78.58
1956	439	164	82.64	69.62	75.62	78.09	80.31	84.10	87.15
1957	266	292	9.77	11.33	28.37	35.63	42.14	53.27	62.25
1958	365	278	23.84	38.48	50.30	55.34	59.86	67.57	73.81
1959	654	232	64.53	71.35	76.85	79.20	81.30	84.80	87.80
1960	239	127	46.88	57.08	65.33	68.84	71.99	77.39	81.73
1961	348	198	43.10	54.04	62.88	68.63	70.01	75.78	80.43
1962	292	453	55.14	25.31	1.22	9.02	18.23	33.95	46.65
1963	289	368	27.34	2.88	16.92	25.33	32.89	45.79	56.21
1964	320	221	30.94	44.21	54.84	59.50	63.60	70.60	76.25
1965	329	340	3.34	16.52	32.57	39.40	45.53	56.00	64.46
1966		207							
1967	323	477	47.68	19.29	3.64	13.40	22.17	37.13	49.21
1968	249	729	192.77	136.49	91.03	71.89	54.31	24.64	0.68
1969	246	1008	309.76	230.99	167.36	140.29	115.98	74.45	40.91
1970	231	283	22.51	1.04	20.08	28.18	35.43	47.84	57.87
1971	280	748	167.14	115.79	74.31	58.69	40.80	13.73	6.13
1972	268	130	51.13	60.52	68.11	71.34	74.24	79.19	83.19
1973	306	263	7.52	25.30	39.66	45.77	51.26	60.63	68.20
1974	321	216	32.71	45.65	56.09	60.54	64.53	71.35	76.66
1975	210	154	26.67	40.76	52.15	57.00	61.35	68.78	74.78
1976	329	134	59.27	67.10	73.42	78.12	78.53	82.66	85.99
1977		178							
1978									
1979									
1980		180							
1981		172							
1982		89							
1983									
1984									
1985									
no of data	28	40	28	28	28	28	28	28	28
MRAE			69.83	58.50	53.62	53.32	53.71	54.70	59.10

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Deraniyagala

Q1obs Observed peakflow at Catchment at Boppagoda

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error

Table 8.3.77 Exponent (n) for Transposition of Peakflow at Boppagoda to Malawala

A2 328 km² (Area of Malawala Watershed)
 A1 442 km² (Area of Boppagoda Watershed)
 A2/A1 0.74

Trial Value of Exponent n			-3	-2.2	-2	-1.8	-0.5	0	0.3
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940		319							
1941		838							
1942		878							
1943		1692							
1944									
1945		140							
1946		566							
1947		253							
1948		340							
1949		253							
1950		453							
1951		453							
1952		245							
1953		374							
1954	646	863	223.93	155.79	141.12	127.29	54.84	33.59	5.49
1955	430	278	56.77	23.79	16.68	10.00	25.06	35.35	48.95
1956	552	164	27.96	43.11	46.38	49.45	65.56	70.29	76.54
1957	327	292	116.53	70.98	61.17	51.83	3.50	10.70	29.48
1958	609	278	10.69	12.60	17.61	22.33	47.09	54.35	63.95
1959	406	232	38.56	9.41	3.14	2.78	33.77	42.88	54.88
1960	360	127	14.46	32.45	36.33	39.98	59.11	64.72	72.14
1961	984	188	51.21	61.47	63.68	65.76	76.68	79.88	84.11
1962	892	453	23.14	2.76	8.34	13.59	41.14	49.22	59.80
1963	1067	368	16.37	33.96	37.75	41.32	60.02	65.51	72.77
1964	803	221	33.28	47.30	50.33	53.17	69.10	72.48	78.27
1965	1403	340	41.24	53.60	56.26	58.77	71.91	75.77	80.68
1966	427	207	17.55	7.18	12.50	17.52	43.81	51.52	61.72
1967	1066	477	8.50	14.32	19.24	23.87	48.14	55.25	64.67
1968	1288	729	37.24	8.37	2.16	3.70	34.40	43.40	55.31
1969	1062	1008	130.15	81.73	71.31	61.49	10.01	5.08	25.05
1970	869	283	21.03	37.65	41.22	44.59	62.25	67.43	74.29
1971	807	748	124.75	77.47	67.29	57.70	7.43	7.31	26.81
1972	500	130	36.95	50.22	53.07	55.76	69.86	74.00	79.47
1973	521	283	31.71	4.00	1.96	7.58	37.04	45.68	57.11
1974	950	216	44.87	56.47	58.96	61.32	73.65	77.26	82.05
1975	1070	154	65.10	72.44	74.02	75.51	83.32	85.61	88.64
1976	253	134	28.43	1.41	4.40	9.89	38.61	47.04	58.18
1977		178							
1978	920	270	28.84	43.81	47.03	50.07	65.98	70.65	76.83
1979									
1980		180							
1981		172							
1982		89							
1983									
1984									
1985									
no of data	24	40	24	24	24	24	24	24	24
MRAE			51.22	41.78	41.33	41.89	49.22	53.54	61.59

Note
 Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)
 Q2obs Observed peakflow at Catchment at Malawala
 Q1obs Observed peakflow at Catchment at Boppagoda
 RAE Ratio of Absolute Error
 MRAE Mean Ratio of Absolute Error

Table 8.3.78 Exponent (n) for Transposition of Peakflow at Boppagoda to Dela

A2 220 km² (Area of Dela Watershed)
A1 442 km² (Area of Boppagoda Watershed)
A2/A1 0.50

Trial Value of Exponent n			0.6	0.8	1	1.2	1.4	1.6	2
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940		319							
1941		838							
1942		878							
1943		1692							
1944									
1945		140							
1946		566							
1947		253							
1948		340							
1949		253							
1950		453							
1951		453							
1952		245							
1953		374							
1954		863							
1955		278							
1956	108	164	0.09	13.10	24.42	34.26	42.82	50.27	62.38
1957	135	292	42.31	23.78	7.66	6.36	16.56	29.16	46.41
1958	126	278	45.17	28.28	9.82	4.48	16.92	27.74	45.34
1959	140	232	8.03	5.17	17.52	28.26	37.60	45.73	58.85
1960	61	127	36.89	19.14	3.63	8.87	21.61	31.82	49.42
1961	135	199	3.50	18.07	27.00	36.51	44.78	51.97	63.88
1962	135	453	120.78	92.03	67.02	45.27	28.35	9.69	16.87
1963	123	368	96.85	71.22	48.92	28.52	12.65	2.02	25.88
1964	104	221	39.82	21.81	5.77	8.01	19.99	30.41	47.35
1965	127	340	76.15	53.21	33.25	15.90	0.80	12.32	33.68
1966	99	207	37.57	19.66	4.07	9.48	21.27	31.52	48.20
1967	144	477	117.95	89.56	64.88	43.40	24.73	8.48	17.94
1968	147	729	226.30	183.80	146.84	114.69	86.73	62.41	22.66
1969	133	1008	398.67	333.72	277.23	228.10	165.37	148.20	87.76
1970	117	283	59.15	38.42	20.39	4.71	8.92	20.79	40.08
1971	118	748	317.08	262.78	215.51	174.42	138.68	107.60	57.04
1972	153	130	44.09	51.38	57.71	63.22	68.01	72.17	78.95
1973	121	283	53.89	33.84	16.41	1.25	11.94	23.40	42.08
1974	153	216	7.11	19.21	29.73	38.88	48.84	53.77	65.02
1975	-	154	-	-	-	-	-	-	-
1976	104	134	15.22	26.27	35.87	44.22	51.49	57.60	63.03
1977	-	178	-	-	-	-	-	-	-
1978	190	270	6.50	18.68	29.27	38.48	46.49	53.46	64.79
1979	140	-	-	-	-	-	-	-	-
1980	165	160	28.22	37.57	45.70	52.77	58.92	64.27	72.97
1981	162	172	30.14	39.24	47.15	54.04	60.02	65.23	73.70
1982	130	89	54.95	60.82	65.92	70.36	74.22	77.58	83.04
1983	148								
1984	153								
1985									
no of data	27	40	24	24	24	24	24	24	24
M/RAE			77.81	64.85	54.24	48.19	46.39	47.42	52.98

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Dela

Q1obs Observed peakflow at Catchment at Boppagoda

RAE Ratio of Absolute Error

M/RAE Mean Ratio of Absolute Error

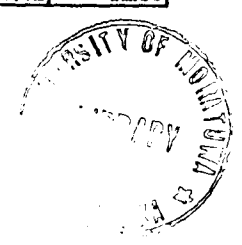


Table 8.3.79 Exponent (n) for Transposition of Peakflow at Agaliya to Boppagoda

A2 442 km² (Area of Boppagoda Watershed)
 A1 696 km² (Area of Agaliya Watershed)
 A2/A1 0.64

Trial Value of Exponent n			0.8		1	1.1	1.2	1.3	1.4	1.5
year	Q2obs	Q1obs	RAE	RAE	RAE	RAE	RAE	RAE	RAE	RAE
1940	319									
1941	838	502	58.34	61.96	63.65	65.26	66.80	68.28	69.68	
1942	878	390	69.11	71.79	73.04	74.24	75.36	76.48	77.52	
1943	1692	971	60.09	63.56	65.17	66.72	68.20	69.61	70.68	
1944		436								
1945	140	420	108.63	90.52	82.08	73.98	66.26	58.88	51.92	
1946	566	591	27.39	33.69	36.63	39.45	42.13	44.70	47.18	
1947	253	425	16.82	6.68	1.94	2.58	6.91	11.04	14.98	
1948	340	295	39.66	44.90	47.35	49.68	51.92	54.05	56.09	
1949	253	210	42.28	47.29	49.63	51.86	54.00	56.04	57.99	
1950	453	326	49.95	54.30	58.33	58.27	60.12	61.89	63.58	
1951	453	227	65.15	68.18	69.59	70.94	72.23	73.48	74.64	
1952	245	218	38.12	43.49	46.00	48.40	50.69	52.88	54.97	
1953	374	323	39.94	45.15	47.59	49.92	52.14	54.26	56.29	
1954	863	404	67.44	70.27	71.59	72.85	74.06	75.21	76.31	
1955	278	-	-	-	-	-	-	-	-	
1956	164	-	-	-	-	-	-	-	-	
1957	292	289	35.94	41.50	44.09	46.57	48.95	51.21	53.38	
1958	278	283	29.21	35.35	39.22	40.96	43.58	46.09	48.48	
1959	232	-	-	-	-	-	-	-	-	
1960	127	224	22.66	12.01	7.04	2.29	2.25	6.59	10.74	
1961	198	-	-	-	-	-	-	-	-	
1962	453	-	-	-	-	-	-	-	-	
1963	368	325	38.58	43.91	46.40	48.78	51.08	53.23	55.31	
1964	221	266	16.30	23.56	28.96	30.20	33.30	36.28	39.09	
1965	340	329	32.71	38.55	41.28	43.88	46.37	48.75	51.03	
1966	207	306	2.80	6.12	10.29	14.27	18.08	21.71	25.19	
1967	477	395	42.41	47.41	49.75	51.98	54.11	56.15	58.09	
1968	729	363	65.37	68.38	69.78	71.12	72.40	73.63	74.80	
1969	1008	346	76.13	78.20	79.17	80.09	80.98	81.82	82.63	
1970	283	255	37.34	42.78	45.32	47.74	50.06	52.28	54.40	
1971	748	268	75.08	77.25	78.28	79.22	80.14	81.03	81.87	
1972	130	215	15.01	5.03	0.37	4.09	8.35	12.41	16.30	
1973	263	350	13.99	21.46	24.95	28.28	31.46	34.50	37.41	
1974	216	319	2.70	6.21	10.37	14.35	18.15	21.79	25.26	
1975	154	516	133.01	112.79	103.34	94.31	85.69	77.45	69.57	
1976	134	397	108.03	88.15	79.80	71.82	64.19	56.90	49.94	
1977	178	404	57.84	44.14	37.74	31.62	25.78	20.20	14.88	
1978	270	350	9.85	17.68	21.33	24.82	28.16	31.35	34.40	
1979		224								
1980	180	337	30.20	18.90	13.62	8.58	3.76	0.85	5.25	
1981	172	-	-	-	-	-	-	-	-	
1982	69	303	136.78	116.20	106.61	97.44	88.67	80.30	72.29	
1983		327								
1984		278								
1985										
no of data	40	37	34	34	34	34	34	34	34	34
MRAE			48.91	48.45	48.39	48.72	49.30	50.04	50.95	

Note

Hydrological year (1940) is taken as from 1st of October (01.10.1940) to 31st of September (31.09.1941)

Q2obs Observed peakflow at Catchment at Boppagoda

Q1obs Observed peakflow at Catchment at Agaliya

RAE Ratio of Absolute Error

MRAE Mean Ratio of Absolute Error



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ANNEX 4:
COMPUTATION OF DESIGN FLOWS

Table 8.4.1

Computation of Design Flows for the Watershed at Metiyadola using transposed data from Glencourse

Calculation of Moments of the Logarithms

Rank	T	P	Observed Peakflow		Transposed Peakflow	
			Q	log Q	Q	log Q
1	40.00	0.03	2344	3.370	2118	3.326
2	20.00	0.06	1215	3.088	2088	3.319
3	13.33	0.08	1185	3.074	1875	3.273
4	10.00	0.10	1076	3.032	1542	3.188
5	8.00	0.13	1060	3.026	1519	3.182
6	6.67	0.15	986	2.994	1473	3.168
7	5.71	0.18	980	2.991	1332	3.124
8	5.00	0.20	963	2.984	1036	3.015
9	4.44	0.23	948	2.977	1007	3.003
10	4.00	0.25	936	2.971	975	2.989
11	3.64	0.28	938	2.971	965	2.985
12	3.33	0.30	912	2.960	937	2.972
13	3.08	0.33	892	2.950	874	2.942
14	2.86	0.35	871	2.940	858	2.933
15	2.67	0.38	821	2.914	855	2.932
16	2.50	0.40	793	2.899	840	2.924
17	2.35	0.43	767	2.885	831	2.919
18	2.22	0.45	765	2.884	819	2.913
19	2.11	0.48	750	2.875	692	2.840
20	2.00	0.50	743	2.871	682	2.834
21	1.90	0.53	722	2.859	658	2.818
22	1.82	0.55	664	2.822	654	2.815
23	1.74	0.58	654	2.816	644	2.809
24	1.67	0.60	623	2.794	616	2.789
25	1.60	0.63	666	2.753	609	2.784
26	1.54	0.65	644	2.736	545	2.737
27	1.48	0.68	532	2.726	524	2.719
28	1.43	0.70	513	2.710	503	2.702
29	1.38	0.73	510	2.708	488	2.686
30	1.33	0.75	446	2.649	473	2.675
31	1.29	0.78	432	2.635	442	2.646
32	1.25	0.80	416	2.619	441	2.644
33	1.21	0.83	391	2.592	417	2.620
34	1.18	0.85	331	2.520	408	2.611
35	1.14	0.88			364	2.561
36	1.11	0.90			357	2.552
37	1.08	0.93			283	2.452
38	1.05	0.95				
39	1.03	0.98				
40						
Moments of the logarithms						
no of data				34		37
Mean			803	2.870	858	2.876
Standard Deviation				0.171		0.223
Coefficient of Skewness				0.261		0.318
Standard Error of Estimation						
S.E.E (mean)				0.029		0.037
S.E.E.(Stan. Dev.)				0.109		0.133
S.E.E.(Coeff. of Skew.)				0.403		0.368

Calculation of Design flows using frequency factors

Lognormal distribution

T _r	P	K _r	obs. peak flow		cal. peak flow	
			Log Q	Q	Log Q	Q
2	0.600	0	2.870	742	2.876	751
5	0.200	0.842	3.014	1,034	3.063	1,167
10	0.100	1.282	3.090	1,230	3.181	1,460
25	0.040	1.751	3.170	1,479	3.266	1,845
50	0.020	2.054	3.222	1,667	3.333	2,155
100	0.010	2.326	3.269	1,856	3.394	2,478

Note

Frequency factor was taken from Table 12.3.1 (Applied Hydrology, Ven Te Chow)

T: Return Period

P: Exceedence Probability

Table 8.4.2

Computation of Design Flows for the Watershed at Deranlyagala using transposed data from Glencourse

Calculation of Moments of the Logarithms

Rank	T	P	Observed Peakflow		Transposed Peakflow	
			Q	log Q	Q	log Q
1	40.00	0.03	766	2.884	289	2.461
2	20.00	0.05	687	2.837	167	2.221
3	13.33	0.08	684	2.816	148	2.164
4	10.00	0.10	446	2.649	271	2.433
5	8.00	0.13	439	2.642	217	2.337
6	6.67	0.15	365	2.562	118	2.072
7	5.71	0.18	348	2.542	213	2.328
8	5.00	0.20	340	2.531	180	2.266
9	4.44	0.23	322	2.521	204	2.309
10	4.00	0.25	329	2.517	201	2.304
11	3.64	0.28	329	2.517	278	2.444
12	3.33	0.30	323	2.509	148	2.165
13	3.08	0.33	321	2.507	120	2.080
14	2.86	0.35	320	2.505	138	2.140
15	2.67	0.38	308	2.486	156	2.194
16	2.50	0.40	292	2.466	319	2.504
17	2.35	0.43	289	2.461	283	2.451
18	2.22	0.45	280	2.447	284	2.453
19	2.11	0.48	266	2.425	620	2.792
20	2.00	0.50	266	2.425	602	2.701
21	1.90	0.53	249	2.396	310	2.491
22	1.82	0.55	249	2.396	161	2.206
23	1.74	0.58	246	2.391	333	2.523
24	1.67	0.60	239	2.378	229	2.359
25	1.60	0.63	231	2.364	135	2.130
26	1.54	0.65	224	2.350	510	2.708
27	1.48	0.68	210	2.322	487	2.688
28	1.43	0.70	183	2.262	216	2.335
29	1.38	0.73	113	2.053	226	2.353
30	1.33	0.75			275	2.439
31	1.29	0.78			690	2.839
32	1.25	0.80			94	1.971
33	1.21	0.83			440	2.644
34	1.18	0.85			323	2.609
35	1.14	0.88			173	2.239
36	1.11	0.90			700	2.846
37	1.08	0.93			343	
38	1.05	0.95				
39	1.03	0.98				
40						
Moments of the logarithms						
Number of Data				29		37
Mean			332	2.488	284	2.391
Standard Deviation				0.169		0.225
Coefficient of Skewness				0.319		0.367
Standard Error of Estimation						
S.E.E (mean)				0.031		0.037
S.E.E (Stan. Dev.)				0.143		0.168
S.E.E (Coeff. of Skow.)				0.434		0.368

Calculation of Design flows using frequency factors

Lognormal distribution

T	P	K _T	Observed Peakflow		Transposed Peakflow	
			Log Q	Q	Log Q	Q
2	0.800	0	2.486	308	2.391	246
5	0.200	0.842	2.631	427	2.581	381
10	0.100	1.282	2.705	507	2.679	478
25	0.040	1.751	2.784	609	2.785	609
50	0.020	2.054	2.836	685	2.863	713
100	0.010	2.326	2.882	762	2.914	821

Note

Frequency factor was taken from Table 12.3.1 (Applied Hydrology, Ven Te Chow)

T: Return Period

P: Exceedance Probability

Table 8.4.3 Computation of Design Flows for the Watershed at Kitulgala using transposed data from Glencourse

Calculation of Moments of the Logarithms

Rank	T	P	Observed Peakflow		Transposed Peakflow	
			Q	log Q	Q	log Q
1	40.00	0.03	2269	3.354	1482	3.171
2	20.00	0.05	1626	3.184	1469	3.164
3	13.33	0.08	1626	3.184	1312	3.118
4	10.00	0.10	1517	3.181	1079	3.033
5	8.00	0.13	1497	3.176	1063	3.027
6	6.67	0.15	1342	3.128	1031	3.013
7	5.71	0.18	1200	3.079	932	2.969
8	5.00	0.20	1188	3.076	726	2.860
9	4.44	0.23	1066	3.024	706	2.848
10	4.00	0.25	1034	3.016	683	2.834
11	3.64	0.28	973	2.988	678	2.830
12	3.33	0.30	926	2.966	656	2.817
13	3.08	0.33	909	2.959	612	2.787
14	2.86	0.35	903	2.956	600	2.778
15	2.67	0.38	847	2.928	698	2.777
16	2.50	0.40	796	2.901	688	2.769
17	2.35	0.43	772	2.888	681	2.764
18	2.22	0.45	766	2.879	673	2.768
19	2.11	0.48	712	2.852	484	2.686
20	2.00	0.50	706	2.848	477	2.679
21	1.90	0.53	663	2.822	460	2.663
22	1.82	0.55	590	2.771	458	2.660
23	1.74	0.58	536	2.728	451	2.654
24	1.67	0.60	529	2.723	431	2.634
25	1.60	0.63	527	2.722	426	2.629
26	1.54	0.65	496	2.696	382	2.582
27	1.48	0.68	495	2.695	367	2.564
28	1.43	0.70	488	2.688	352	2.547
29	1.38	0.73	487	2.688	340	2.531
30	1.33	0.75	440	2.643	331	2.520
31	1.29	0.78	430	2.633	310	2.491
32	1.25	0.80	416	2.618	308	2.489
33	1.21	0.83	413	2.616	292	2.466
34	1.18	0.85	386	2.587	286	2.456
35	1.14	0.88	369	2.555	256	2.406
36	1.11	0.90	328	2.516	250	2.397
37	1.08	0.93	297	2.473	198	2.297
38	1.05	0.95	236	2.371		
39	1.03	0.98				
40						
Moments of the logarithms						
Number of Data				38		37
Mean			804	2.845	600	2.721
Standard Deviation				0.232		0.223
Coefficient of Skewness				0.123		0.318
Standard Error of Estimation						
S.E.E (mean)				0.038		0.037
S.E.E.(Stan. Dev.)				0.052		0.136
S.E.E.(Coeff. of Skew.)				0.383		0.388

Calculation of Design flows using frequency factors

Lognormal distribution

T	P	K _T	Observed Peakflow		Transposed Peakflow		
			Log Q	Q	Log Q	Q	
	2	0.500	0	2.845	700	2.721	626
	5	0.200	0.842	3.040	1,097	2.908	810
	10	0.100	1.282	3.142	1,387	3.006	1,016
	25	0.040	1.781	3.251	1,761	3.111	1,291
	50	0.020	2.054	3.321	2,094	3.179	1,608
	100	0.010	2.326	3.384	2,421	3.239	1,734

Note
 Frequency factor was taken from Table 12.3.1 (Applied Hydrology, Ven Te Chow)
 T: Return Period
 P: Exceedence Probability

Table 8.4.4 Computation of Design Flows for the Watershed at Deraniyagala using transposed data from Metiyadola

Calculation of Moments of the Logarithms

Rank	T	P	Observed Peakflow		Transposed Peakflow	
			Q	log Q	Q	log Q
1	40.00	0.03	765	2.884	295	2.470
2	20.00	0.05	687	2.837	254	2.404
3	13.33	0.08	654	2.818	246	2.390
4	10.00	0.10	446	2.649	319	2.503
5	8.00	0.13	439	2.642	309	2.490
6	6.67	0.15	365	2.562	129	2.112
7	5.71	0.18	348	2.542	302	2.479
8	5.00	0.20	340	2.531	262	2.419
9	4.44	0.23	322	2.521	248	2.395
10	4.00	0.25	329	2.517	253	2.403
11	3.64	0.28	329	2.517	288	2.460
12	3.33	0.30	323	2.509	143	2.165
13	3.08	0.33	321	2.507	176	2.245
14	2.86	0.35	320	2.505	187	2.272
15	2.67	0.38	306	2.488	170	2.230
16	2.50	0.40	292	2.465	356	2.551
17	2.35	0.43	289	2.461	314	2.496
18	2.22	0.45	280	2.447	326	2.513
19	2.11	0.48	268	2.425	220	2.342
20	2.00	0.50	266	2.425	351	2.545
21	1.90	0.53	249	2.396	402	2.604
22	1.82	0.55	249	2.396	109	2.039
23	1.74	0.58	246	2.391	272	2.434
24	1.67	0.60	239	2.378	239	2.378
25	1.60	0.63	231	2.364	148	2.169
26	1.54	0.65	224	2.350	392	2.593
27	1.48	0.68	210	2.322	324	2.511
28	1.43	0.70	183	2.262	180	2.255
29	1.38	0.73	113	2.053	206	2.314
30	1.33	0.75			169	2.227
31	1.29	0.78			775	2.889
32	1.25	0.80			138	2.139
33	1.21	0.83			310	2.491
34	1.18	0.85			216	2.335
35	1.14	0.88				
36	1.11	0.90				
37	1.08	0.93				
38	1.05	0.95				
39	1.03	0.98				
40						
Moments of the logarithms						
Number of Data				29		34
Mean			332	2.488	265	2.390
Standard Deviation				0.169		0.171
Coefficient of Skewness				0.319		0.261
Standard Error of Estimation						
S.E.E (mean)				0.031		0.029
S.E.E (Stan. Dev.)				0.143		0.119
S.E.E (Coeff. of Skew.)				0.434		0.403

Calculation of Design flows using frequency factors

Lognormal distribution

T	P	K _T	Observed Peakflow		Transposed Peakflow	
			Log Q	Q	Log Q	Q
2	0.500	0	2.488	308	2.390	245
5	0.200	0.842	2.631	427	2.534	342
10	0.100	1.282	2.705	507	2.609	407
25	0.040	1.751	2.784	609	2.690	489
50	0.020	2.054	2.836	685	2.741	551
100	0.010	2.325	2.892	762	2.788	614

Note

Frequency factor was taken from Table 12.3.1 (Applied Hydrology, Ven Te Chow)

T: Return Period

P: Exceedence Probability

Table 8.4.5

Computation of Design Flows for the Watershed at Millakanda using transposed data from Putupaula

Calculation of Moments of the Logarithms

Rank	T	P	Observed Peakflow		Transposed Peakflow	
			Q	log Q	Q	log Q
1	40.00	0.03	382	2.582	789	2.880
2	20.00	0.05	439	2.642	540	2.732
3	13.33	0.08	348	2.542	577	2.761
4	10.00	0.10	538	2.731	962	2.983
5	8.00	0.13	413	2.616	647	2.811
6	6.67	0.15	396	2.598	451	2.654
7	6.71	0.18	357	2.553	447	2.650
8	5.00	0.20	340	2.531	542	2.734
9	4.44	0.23	363	2.560	551	2.741
10	4.00	0.25	272	2.435	511	2.708
11	3.64	0.28	244	2.387	496	2.696
12	3.33	0.30	496	2.695	631	2.800
13	3.08	0.33	411	2.614	554	2.743
14	2.86	0.35	532	2.725	573	2.758
15	2.67	0.38	411	2.614	460	2.663
16	2.50	0.40	533	2.727	299	2.476
17	2.35	0.43	464	2.667	219	2.339
18	2.22	0.45	654	2.816	267	2.427
19	2.11	0.48	564	2.751	396	2.597
20	2.00	0.50	297	2.473	328	2.514
21	1.90	0.53	462	2.665	388	2.589
22	1.82	0.55	469	2.671	358	2.553
23	1.74	0.58	311	2.493	463	2.666
24	1.67	0.60	453	2.655	451	2.654
25	1.60	0.63	773	2.888	484	2.685
26	1.54	0.65	446	2.649	395	2.597
27	1.48	0.68	447	2.650	301	2.478
28	1.43	0.70	773	2.888	389	2.589
29	1.38	0.73			369	2.667
30	1.33	0.75			284	2.469
31	1.29	0.78			324	2.510
32	1.25	0.80			398	2.600
33	1.21	0.83			326	2.514
34	1.18	0.85			305	2.484
35	1.14	0.88			545	2.737
36	1.11	0.90			368	2.566
37	1.08	0.93			451	2.654
38	1.05	0.95			331	2.520
39	1.03	0.98			438	2.640
40						
Moments of the logarithms						
Number of Data				28		39
Mean			450	2.636	451	2.634
Standard Deviation				0.121		0.131
Coefficient of Skewness				0.170		0.233
Standard Error of Estimation						
S.E.E (mean)				0.023		0.021
S.E.E (Stan. Dev.)				0.074		0.102
S.E.E (Coeff. of Skew.)				0.441		0.378

Calculation of Design flows using frequency factors

Lognormal distribution

T	P	K _T	Observed Peakflow		Transposed Peakflow	
			Log Q	Q	Log Q	Q
2	0.500	0	2.636	433	2.634	431
5	0.200	0.842	2.738	547	2.745	556
10	0.100	1.282	2.791	618	2.802	634
25	0.040	1.751	2.848	704	2.864	731
50	0.020	2.054	2.884	766	2.903	801
100	0.010	2.326	2.917	826	2.939	869

Note

Frequency factor was taken from Table 12.3.1 (Applied Hydrology, Ven Te Chow)

T: Return Period

P: Exceedance Probability

Table 8.4.6

Computation of Design Flows for the Watershed at Ellagawa using transposed data from Putupaula

Calculation of Moments of the Logarithms

Rank	T	P	Observed Peakflow		Transposed Peakflow	
			Q	log Q	Q	log Q
1	40.00	0.03	448	2.651	1221	3.087
2	20.00	0.05	333	2.522	869	2.939
3	13.33	0.08	448	2.651	929	2.968
4	10.00	0.10	340	2.531	1548	3.190
5	8.00	0.13	339	2.530	1040	3.017
6	6.67	0.15	464	2.667	725	2.860
7	5.71	0.18	368	2.563	719	2.857
8	5.00	0.20	481	2.682	872	2.941
9	4.44	0.23	384	2.584	886	2.948
10	4.00	0.25	685	2.836	821	2.914
11	3.64	0.28	662	2.821	798	2.902
12	3.33	0.30	756	2.879	1015	3.006
13	3.08	0.33	598	2.777	891	2.950
14	2.86	0.35	496	2.695	922	2.965
15	2.67	0.38	931	2.969	740	2.869
16	2.50	0.40	862	2.936	482	2.683
17	2.36	0.43	578	2.762	351	2.545
18	2.22	0.45	770	2.886	430	2.633
19	2.11	0.48	1113	3.046	637	2.804
20	2.00	0.50	679	2.832	625	2.720
21	1.90	0.53	529	2.723	624	2.795
22	1.82	0.55	1337	3.126	575	2.760
23	1.74	0.58	670	2.826	745	2.872
24	1.67	0.60	663	2.822	725	2.860
25	1.60	0.63	810	2.908	779	2.892
26	1.54	0.65			636	2.803
27	1.48	0.68			484	2.685
28	1.43	0.70			626	2.796
29	1.38	0.73			694	2.774
30	1.33	0.75			473	2.675
31	1.29	0.78			521	2.716
32	1.25	0.80			641	2.807
33	1.21	0.83			525	2.720
34	1.18	0.85			490	2.690
35	1.14	0.88			877	2.943
36	1.11	0.90			592	2.772
37	1.08	0.93			725	2.860
38	1.05	0.95			832	2.728
39	1.03	0.98			702	2.846
40						
Moments of the logarithms						
Number of Data				25		39
Mean			630	2.769	725	2.841
Standard Deviation				0.163		0.131
Coefficient of Skewness				0.246		0.234
Standard Error of Estimation						
S.E.E (mean)				0.033		0.021
S.E.E (Stan. Dev.)				0.104		0.098
S.E.E (Coeff. of Skew.)				0.464		0.378

Calculation of Design flows using frequency factors

Lognormal distribution

T	P	K _T	Observed Peakflow		Transposed Peakflow	
			Log Q	Q	Log Q	Q
2	0.500	0	2.769	588	2.841	693
5	0.200	0.842	2.906	808	2.951	893
10	0.100	1.282	2.978	951	3.009	1,020
25	0.040	1.751	3.055	1,134	3.070	1,175
50	0.020	2.054	3.104	1,271	3.110	1,268
100	0.010	2.326	3.148	1,408	3.145	1,398

Note

Frequency factor was taken from Table 12.3.1 (Applied Hydrology, Ven Te Chow)

T: Return Period

P: Exceedence Probability

Table 8.4.7 Computation of Design Flow for the Watershed at Eilagawa using Transposed Data from Putupaula

Calculation of Moments of the Logarithms of Peak Annual Flows

Rank	T	P	obs. peak flow		cal. peak flow	
			Q	log Q	Q	log Q
1	40.00	0.03	299	2.476	385	2.588
2	20.00	0.05	200	2.301	274	2.437
3	13.33	0.08	153	2.185	293	2.468
4	10.00	0.10	652	2.742	498	2.698
5	8.00	0.13	666	2.753	326	2.518
6	6.67	0.15	204	2.310	228	2.360
7	5.71	0.18	268	2.428	227	2.355
8	5.00	0.20	991	2.996	276	2.439
9	4.44	0.23	236	2.371	279	2.448
10	4.00	0.25	276	2.439	269	2.413
11	3.64	0.28	402	2.604	252	2.401
12	3.33	0.30	555	2.744	320	2.505
13	3.08	0.33	187	2.272	291	2.448
14	2.86	0.35	361	2.558	291	2.463
15	2.67	0.38	272	2.435	233	2.368
16	2.50	0.40	398	2.598	152	2.181
17	2.35	0.43	561	2.749	111	2.044
18	2.22	0.45	312	2.494	136	2.132
19	2.11	0.48	297	2.473	201	2.302
20	2.00	0.50	328	2.516	165	2.219
21	1.90	0.53	300	2.477	197	2.294
22	1.82	0.55	148	2.170	181	2.258
23	1.74	0.58	232	2.365	238	2.371
24	1.67	0.60	312	2.494	239	2.360
25	1.60	0.63	206	2.314	246	2.390
26	1.54	0.65	297	2.473	200	2.302
27	1.48	0.68			153	2.184
28	1.43	0.70			197	2.294
29	1.38	0.73			187	2.272
30	1.33	0.75			149	2.174
31	1.29	0.78			164	2.215
32	1.25	0.80			202	2.305
33	1.21	0.83			165	2.219
34	1.18	0.85			184	2.189
35	1.14	0.88			276	2.442
36	1.11	0.90			187	2.271
37	1.08	0.93			229	2.360
38	1.05	0.95			168	
39	1.03	0.98			221	
40						
Moments of the Logarithms						
no of data				26		39
Mean			343	2.490	229	2.342
Standard Deviation				0.193		0.133
Coefficient of Skewness				0.645		0.182
Standard Error of Estimation (S.E.E)						
S.E.E (mean)				0.038		0.021
S.E.E.(Stan. Dev.)				0.289		0.084
S.E.E.(Coeff. of Skew.)				0.486		0.378

Calculation of Design flow using Frequency Factors (Log normal Distribution)

T	P	K _T	obs. peak flow		cal. peak flow	
			Log Q	Q	Log Q	Q
2	0.500	0	2.490	309	2.342	220
5	0.200	0.842	2.682	449	2.455	285
10	0.100	1.282	2.737	546	2.513	326
25	0.040	1.781	2.828	673	2.576	376
50	0.020	2.054	2.887	770	2.616	413
100	0.010	2.326	2.939	869	2.652	449

Note

Frequency factor was taken from Table 12.3.1 (Applied Hydrology, Ven Te Chow)

T: Return Period

P: Exceedence Probability



Table 8.4.8 Computation of Design Flow for the Watershed at Imbulana using Transposed Data from Ellagawa

Calculation of Moments of the Logarithms of Peak Annual Flows

Rank	T	P	obs. peak flow		cal. peak flow	
			Q	log Q	Q	log Q
1	40.00	0.03	299	2.476	141	2.150
2	20.00	0.05	200	2.301	106	2.021
3	13.33	0.08	153	2.185	141	2.150
4	10.00	0.10	552	2.742	107	2.030
5	8.00	0.13	566	2.753	107	2.029
6	6.67	0.15	204	2.310	146	2.165
7	5.71	0.18	268	2.428	115	2.062
8	5.00	0.20	991	2.996	152	2.181
9	4.44	0.23	235	2.371	121	2.083
10	4.00	0.25	275	2.439	216	2.334
11	3.64	0.28	402	2.604	209	2.319
12	3.33	0.30	555	2.744	238	2.377
13	3.08	0.33	187	2.272	188	2.275
14	2.86	0.35	361	2.558	156	2.194
15	2.67	0.38	272	2.435	293	2.468
16	2.50	0.40	396	2.598	272	2.434
17	2.35	0.43	561	2.749	182	2.261
18	2.22	0.45	312	2.494	243	2.388
19	2.11	0.48	297	2.473	351	2.545
20	2.00	0.50	328	2.516	214	2.330
21	1.90	0.53	300	2.477	167	2.222
22	1.82	0.55	148	2.170	421	2.625
23	1.74	0.58	232	2.365	211	2.325
24	1.67	0.60	312	2.494	209	2.320
25	1.60	0.63	206	2.314	255	2.407
26	1.54	0.65	297	2.473		
27	1.48	0.68				
28	1.43	0.70				
29	1.38	0.73				
30	1.33	0.75				
31	1.29	0.78				
32	1.25	0.80				
33	1.21	0.83				
34	1.18	0.85				
35	1.14	0.88				
36	1.11	0.90				
37	1.08	0.93				
38	1.05	0.95				
39	1.03	0.98				
40						
Moments of the Logarithms						
no of data				26		25
Mean			343	2.490	198	2.268
Standard Deviation				0.193		0.183
Coefficient of Skewness				0.645		0.246
Standard Error of Estimation (S.E.E)						
S.E.E (mean)				0.038		0.033
S.E.E.(Stan. Dev.)				0.289		0.115
S.E.E.(Coef. of Skew.)				0.456		0.464

Calculation of Design flow using Frequency Factors (Log normal Distribution)

T	P	K _T	obs. peak flow		cal. peak flow	
			Log Q	Q	Log Q	Q
2	0.500	0	2.490	309	2.268	185
5	0.200	0.842	2.552	449	2.405	254
10	0.100	1.282	2.737	546	2.477	300
25	0.040	1.751	2.828	673	2.553	358
50	0.020	2.054	2.887	770	2.603	401
100	0.010	2.326	2.939	869	2.647	444

Note

Frequency factor was taken from Table 12.3.1 (Applied Hydrology, Ven Te Chow)

T: Return Period

P: Exceedence Probability

Table 8.4.9 Computation of Design Flow for the Watershed at Imbulana using Transposed Data from Millakanda

Calculation of Moments of the Logarithms of Peak Annual Flows

Rank	T	P	obs. peak flow		cal. peak flow	
			Q	log Q	Q	log Q
1	40.00	0.03	299	2.476	194	2.287
2	20.00	0.05	200	2.301	223	2.347
3	13.33	0.08	153	2.185	176	2.247
4	10.00	0.10	552	2.742	273	2.436
5	8.00	0.13	566	2.753	209	2.321
6	6.67	0.15	204	2.310	201	2.303
7	5.71	0.18	268	2.428	181	2.258
8	5.00	0.20	991	2.998	172	2.236
9	4.44	0.23	235	2.371	184	2.265
10	4.00	0.25	275	2.439	138	2.140
11	3.64	0.28	402	2.604	124	2.092
12	3.33	0.30	555	2.744	251	2.400
13	3.08	0.33	187	2.272	208	2.319
14	2.86	0.35	361	2.558	270	2.431
15	2.67	0.38	272	2.435	208	2.319
16	2.50	0.40	396	2.598	270	2.432
17	2.35	0.43	561	2.749	235	2.372
18	2.22	0.45	312	2.494	332	2.521
19	2.11	0.48	297	2.473	286	2.456
20	2.00	0.50	328	2.516	151	2.178
21	1.90	0.53	300	2.477	234	2.370
22	1.82	0.55	148	2.170	238	2.376
23	1.74	0.58	232	2.365	158	2.198
24	1.67	0.60	312	2.494	230	2.361
25	1.60	0.63	206	2.314	392	2.593
26	1.54	0.65	297	2.473	226	2.354
27	1.48	0.68			227	2.355
28	1.43	0.70			392	2.593
29	1.38	0.73				
30	1.33	0.75				
31	1.29	0.78				
32	1.25	0.80				
33	1.21	0.83				
34	1.18	0.85				
35	1.14	0.88				
36	1.11	0.90				
37	1.08	0.93				
38	1.05	0.95				
39	1.03	0.98				
40						
Moments of the Logarithms						
no of data				34		37
Mean			343	2.490	228	2.341
Standard Deviation				0.193		0.121
Coefficient of Skewness				0.645		0.170
Standard Error of Estimation (S.E.E)						
S.E.E (mean)				0.033		0.020
S.E.E.(Stan. Dev.)				0.289		0.079
S.E.E.(Coeff. of Skew.)				0.403		0.388

Calculation of Design flow using Frequency Factors (Log normal Distribution)

T	P	K _T	obs. peak flow		cal. peak flow	
			Log Q	Q	Log Q	Q
2	0.500	0	2.490	309	2.341	219
6	0.200	0.842	2.652	449	2.443	277
10	0.100	1.282	2.737	546	2.496	313
25	0.040	1.751	2.828	673	2.553	367
50	0.020	2.054	2.887	770	2.589	388
100	0.010	2.326	2.939	869	2.622	419

Note

Frequency factor was taken from Table 12.3.1 (Applied Hydrology, Ven Te Chow)

T: Return Period

P: Exceedance Probability

Table 8.4.10 Computation of Design Flow for the Watershed at Imbulana using Transposed Data from Nambapana

Calculation of Moments of the Logarithms of Peak Annual Flows

Rank	T	P	obs. peak flow		cal. peak flow	
			Q	log Q	Q	log Q
1	40.00	0.03	299	2.476	270	2.431
2	20.00	0.05	200	2.301	216	2.336
3	13.33	0.08	183	2.185	381	2.545
4	10.00	0.10	552	2.742	160	2.203
5	8.00	0.13	566	2.753	174	2.240
6	6.67	0.15	204	2.310	243	2.385
7	5.71	0.18	268	2.429	275	2.439
8	5.00	0.20	991	2.996	286	2.457
9	4.44	0.23	235	2.371	238	2.376
10	4.00	0.25	275	2.439	345	2.538
11	3.64	0.28	402	2.604	188	2.275
12	3.33	0.30	555	2.744	434	2.638
13	3.08	0.33	187	2.272	438	2.642
14	2.86	0.35	361	2.558	282	2.450
15	2.67	0.38	272	2.435	377	2.576
16	2.50	0.40	396	2.598	425	2.629
17	2.35	0.43	561	2.749	223	2.349
18	2.22	0.45	312	2.494	320	2.506
19	2.11	0.48	297	2.473	363	2.559
20	2.00	0.50	328	2.516	261	2.416
21	1.90	0.53	300	2.477	163	2.213
22	1.82	0.55	148	2.170	297	2.473
23	1.74	0.58	232	2.365	501	2.700
24	1.67	0.60	312	2.494		
25	1.60	0.63	206	2.314		
26	1.54	0.65	297	2.473		
27	1.48	0.68				
28	1.43	0.70				
29	1.38	0.73				
30	1.33	0.75				
31	1.29	0.76				
32	1.25	0.80				
33	1.21	0.83				
34	1.18	0.85				
35	1.14	0.88				
36	1.11	0.90				
37	1.08	0.93				
38	1.05	0.95				
39	1.03	0.98				
40						
Moments of the Logarithms						
no of data				26		23
Mean			343	2.490	297	2.451
Standard Deviation				0.193		0.142
Coefficient of Skewness				0.645		-0.138
Standard Error of Estimation (S.E.E)						
S.E.E (mean)				0.038		0.030
S.E.E (Stan. Dev.)				0.289		-0.061
S.E.E (Coeff. of Skow.)				0.456		0.481

Calculation of Design flow using Frequency Factors (Log normal Distribution)

T	P	K _T	obs. peak flow		cal. peak flow	
			Log Q	Q	Log Q	Q
2	0.500	0	2.490	309	2.451	282
5	0.200	0.842	2.652	449	2.570	372
10	0.100	1.282	2.737	546	2.633	429
25	0.040	1.751	2.828	673	2.699	500
50	0.020	2.054	2.887	770	2.742	552
100	0.010	2.326	2.939	869	2.760	603

Note

Frequency factor was taken from Table 12.3.1 (Applied Hydrology, Ven Te Chow)

T: Return Period

P: Exceedence Probability

Table 8.4.11 Computation of Design Flow for the Watershed at Deraniyagala using Transposed Data from Malawala

Calculation of Moments of the Logarithms of Peak Annual Flows

Rank	T	P	obs. peak flow		cal. peak flow	
			Q	log Q	Q	log Q
1	40.00	0.03	249	2.396	348	2.542
2	20.00	0.05	113	2.053	232	2.365
3	13.33	0.08	183	2.262	298	2.474
4	10.00	0.10	765	2.884	176	2.246
5	8.00	0.13	687	2.837	328	2.516
6	6.67	0.15	224	2.350	219	2.340
7	5.71	0.18	340	2.531	194	2.289
8	5.00	0.20	446	2.649	531	2.725
9	4.44	0.23	439	2.642	481	2.682
10	4.00	0.25	266	2.425	575	2.760
11	3.64	0.26	385	2.582	433	2.636
12	3.33	0.30	654	2.816	756	2.879
13	3.08	0.33	239	2.378	230	2.362
14	2.86	0.35	348	2.542	575	2.759
15	2.67	0.38	292	2.465	694	2.842
16	2.50	0.40	289	2.461	573	2.758
17	2.35	0.43	320	2.505	469	2.671
18	2.22	0.45	329	2.517	435	2.639
19	2.11	0.48	332	2.521	270	2.431
20	2.00	0.60	323	2.509	281	2.449
21	1.90	0.63	249	2.396	512	2.709
22	1.82	0.65	246	2.391	577	2.761
23	1.74	0.68	231	2.364	136	2.135
24	1.67	0.60	280	2.447	409	2.612
25	1.60	0.63	266	2.425	496	2.696
26	1.54	0.65	305	2.486		
27	1.48	0.68	321			
28	1.43	0.70	210			
29	1.38	0.73	329			
30	1.33	0.75				
31	1.29	0.78				
32	1.25	0.80				
33	1.21	0.83				
34	1.18	0.85				
35	1.14	0.88				
36	1.11	0.90				
37	1.08	0.93				
38	1.05	0.95				
39	1.03	0.98				
40						
Moments of the Logarithms						
no of data				26		25
Mean			332	2.493	409	2.671
Standard Deviation				0.176		0.200
Coefficient of Skewness				0.273		-0.499
Standard Error of Estimation (S.E.E)						
S.E.E (mean)				0.034		0.040
S.E.E (Stan. Dev.)				0.122		-0.220
S.E.E (Coef. of Skow.)				0.456		0.464

Calculation of Design flow using Frequency Factors (Log normal Distribution)

T	P	K _T	obs. peak flow		cal. peak flow	
			Log Q	Q	Log Q	Q
2	0.500	0	2.493	311	2.671	372
5	0.200	0.842	2.641	437	2.740	549
10	0.100	1.282	2.718	523	2.828	673
25	0.040	1.751	2.801	632	2.922	836
50	0.020	2.054	2.854	714	2.983	981
100	0.010	2.326	2.902	797	3.037	1,090

Note

Frequency factor was taken from Table 12.3.1 (Applied Hydrology, Ven Te Chow)

T: Return Period

P: Exceedence Probability

Table 8.4.12 Computation of Design Flow for the Watershed at Nambapana using Transposed Data from Glencourse

Calculation of Moments of the Logarithms of Peak Annual Flows

Rank	T	P	obs. peak flow		cal. peak flow	
			Q	log Q	Q	log Q
1	40.00	0.03	463	2.656	801	2.955
2	20.00	0.05	363	2.560	619	2.716
3	13.33	0.08	589	2.770	464	2.657
4	10.00	0.10	268	2.428	843	2.926
5	8.00	0.13	292	2.465	677	2.831
6	6.67	0.15	408	2.611	368	2.565
7	5.71	0.18	462	2.665	663	2.822
8	5.00	0.20	481	2.682	562	2.750
9	4.44	0.23	399	2.601	834	2.802
10	4.00	0.25	579	2.763	627	2.797
11	3.64	0.28	316	2.500	865	2.937
12	3.33	0.30	729	2.863	456	2.659
13	3.08	0.33	736	2.867	375	2.574
14	2.86	0.35	473	2.676	430	2.633
15	2.67	0.38	633	2.801	487	2.688
16	2.50	0.40	714	2.854	995	2.998
17	2.35	0.43	375	2.574	881	2.946
18	2.22	0.45	538	2.731	884	2.946
19	2.11	0.48	609	2.785	1932	3.286
20	2.00	0.50	438	2.641	1565	3.195
21	1.90	0.53	274	2.438	966	2.985
22	1.82	0.55	499	2.698	500	2.699
23	1.74	0.58	841	2.925	1038	3.016
24	1.67	0.60			713	2.853
25	1.60	0.63			420	2.624
26	1.54	0.65			1589	
27	1.48	0.68			1518	
28	1.43	0.70			673	
29	1.38	0.73			702	
30	1.33	0.75			856	
31	1.29	0.78			2148	
32	1.25	0.80			292	
33	1.21	0.83			1372	
34	1.18	0.85			1005	
35	1.14	0.88			540	
36	1.11	0.90			2182	
37	1.08	0.93			1067	
38	1.05	0.95				
39	1.03	0.98				
40						
Moments of the Logarithms						
no of data				23		37
Mean			499	2.676	884	2.834
Standard Deviation				0.142		0.186
Coefficient of Skewness				-0.136		0.606
Standard Error of Estimation (S.E.E)						
S.E.E (mean)				0.030		0.030
S.E.E.(Stan. Dev.)				-0.059		0.255
S.E.E.(Coeff. of Skew.)				0.481		0.388

Calculation of Design flow using Frequency Factors (Log normal Distribution)

T	P	K _T	obs. peak flow		cal. peak flow	
			Log Q	Q	Log Q	Q
2	0.600	0	2.676	474	2.834	683
5	0.200	0.842	2.795	624	2.990	978
10	0.100	1.282	2.858	721	3.072	1,181
25	0.040	1.751	2.924	840	3.159	1,442
50	0.020	2.054	2.967	927	3.215	1,642
100	0.010	2.326	3.006	1,013	3.266	1,844

Note

Frequency factor was taken from Table 12.3.1 (Applied Hydrology, Ven Te Chow)

T: Return Period

P: Exceedence Probability

Table 8.4.13 Computation of Design Flow for the Watershed at Malawala using Transposed Data from Glencourse

Calculation of Moments of the Logarithms of Peak Annual Flows

Rank	T	P	obs. peak flow		cal. peak flow	
			Q	log Q	Q	log Q
1	40.00	0.03	646	2.810	636	2.730
2	20.00	0.05	430	2.633	309	2.490
3	13.33	0.08	552	2.742	270	2.432
4	10.00	0.10	327	2.515	602	2.701
5	8.00	0.13	609	2.788	403	2.606
6	6.67	0.15	406	2.609	219	2.340
7	6.71	0.18	360	2.556	395	2.597
8	6.00	0.20	984	2.993	336	2.625
9	4.44	0.23	892	2.950	378	2.677
10	4.00	0.25	1067	3.028	373	2.672
11	3.64	0.28	803	2.905	516	2.712
12	3.33	0.30	1403	3.147	271	2.433
13	3.08	0.33	427	2.630	223	2.348
14	2.86	0.35	1066	3.028	256	2.408
15	2.67	0.38	1288	3.110	290	2.462
16	2.50	0.40	1062	3.026	592	2.772
17	2.35	0.43	669	2.939	524	2.720
18	2.22	0.45	807	2.907	525	2.721
19	2.11	0.48	600	2.699	1150	3.061
20	2.00	0.50	521	2.717	932	2.969
21	1.90	0.53	950	2.978	575	2.760
22	1.82	0.55	1070	3.029	298	2.474
23	1.74	0.58	253	2.403	618	2.791
24	1.67	0.60	759	2.880	424	2.628
25	1.60	0.63	920	2.964	250	2.399
26	1.54	0.65			948	2.976
27	1.48	0.68			904	2.956
28	1.43	0.70			401	2.603
29	1.38	0.73			418	2.621
30	1.33	0.75			509	2.707
31	1.29	0.76			1279	3.107
32	1.25	0.80			174	2.240
33	1.21	0.83			817	2.912
34	1.18	0.85			598	2.777
35	1.14	0.88			321	2.507
36	1.11	0.90			1299	3.114
37	1.08	0.93			635	2.803
38	1.05	0.95				
39	1.03	0.98				
40						
Moments of the Logarithms						
no of data				25		25
Mean			759	2.839	526	2.663
Standard Deviation				0.200		0.223
Coefficient of Skewness				-0.499		0.318
Standard Error of Estimation (S.E.E)						
S.E.E (mean)				0.040		0.045
S.E.E (Stan. Dev.)				-0.210		0.138
S.E.E (Coeff. of Skew.)				0.464		0.464

Calculation of Design flow using Frequency Factors (Log normal Distribution)

T	P	K _T	obs. peak flow		cal. peak flow	
			Log Q	Q	Log Q	Q
2	0.500	0	2.839	691	2.663	461
5	0.200	0.842	3.008	1,019	2.851	710
10	0.100	1.262	3.096	1,248	2.949	890
25	0.040	1.751	3.190	1,550	3.054	1,132
50	0.020	2.054	3.251	1,783	3.121	1,322
100	0.010	2.326	3.306	2,021	3.182	1,520

Note

Frequency factor was taken from Table 12.3.1 (Applied Hydrology, Ven Te Chow)

T: Return Period

P: Exceedence Probability

Table 8.4.14 Computation of Design Flow for the Watershed at Malawala using Transposed Data from Kitulgala

Calculation of Moments of the Logarithms of Peak Annual Flows

Rank	T	P	obs. peak flow		cal. peak flow	
			Q	log Q	Q	log Q
1	40.00	0.03	646	2.810	462	2.665
2	20.00	0.05	430	2.833	469	2.671
3	13.33	0.08	552	2.742	663	2.821
4	10.00	0.10	327	2.516	618	2.791
5	8.00	0.13	609	2.785	906	2.957
6	6.67	0.15	406	2.609	742	2.871
7	5.71	0.18	360	2.556	338	2.529
8	5.00	0.20	984	2.993	1312	3.118
9	4.44	0.23	892	2.980	1041	3.018
10	4.00	0.25	1067	3.028	581	2.764
11	3.64	0.28	803	2.905	386	2.586
12	3.33	0.30	1403	3.147	1337	3.126
13	3.08	0.33	427	2.630	677	2.830
14	2.86	0.35	1066	3.028	362	2.559
15	2.67	0.38	1288	3.110	434	2.637
16	2.50	0.40	1062	3.026	434	2.637
17	2.35	0.43	869	2.939	853	2.931
18	2.22	0.45	807	2.907	1327	3.126
19	2.11	0.48	500	2.699	791	2.898
20	2.00	0.50	621	2.717	428	2.631
21	1.90	0.53	950	2.978	797	2.901
22	1.82	0.55	1070	3.029	315	2.498
23	1.74	0.58	253	2.403	260	2.415
24	1.67	0.60	759	2.880	1052	3.022
25	1.60	0.63	920	2.964	624	2.795
26	1.54	0.65			206	2.314
27	1.48	0.68			1329	3.124
28	1.43	0.70			927	2.967
29	1.38	0.73			427	2.630
30	1.33	0.75			698	2.844
31	1.29	0.78			464	2.666
32	1.26	0.80			1980	3.297
33	1.21	0.83			377	2.576
34	1.18	0.85			517	2.714
35	1.14	0.88			364	2.561
36	1.11	0.90			287	2.459
37	1.08	0.93			1176	3.070
38	1.05	0.95			811	2.909
39	1.03	0.98				
40						
Moments of the Logarithms						
no of data				25		38
Mean			759	2.839	705	2.788
Standard Deviation				0.200		0.232
Coefficient of Skewness				-0.499		0.123
Standard Error of Estimation (S.E.E)						
S.E.E (mean)				0.040		0.038
S.E.E (Stan. Dev.)				-0.210		0.052
S.E.E (Coeff. of Skow.)				0.464		0.383

Calculation of Design flow using Frequency Factors (Log normal Distribution)

T	P	K _T	obs. peak flow		cal. peak flow	
			Log Q	Q	Log Q	Q
2	0.500	0	2.839	691	2.788	613
5	0.200	0.842	3.008	1,019	2.983	981
10	0.100	1.282	3.096	1,248	3.085	1,216
25	0.040	1.751	3.190	1,550	3.193	1,581
50	0.020	2.054	3.251	1,783	3.264	1,836
100	0.010	2.326	3.306	2,021	3.327	2,122

Note

Frequency factor was taken from Table 12.3.1 (Applied Hydrology, Ven Te Chow)

T: Return Period

P: Exceedence Probability

Table 8.4.15 Computation of Design Flow for the Watersheds at Agallya using Transposed Data from Putupaula)

Calculation of Moments of the logarithms of annual flows

Rank	T	P	Observed Peakflow		Transposed Peakflow	
			Q	Log Q2	Q	Log Q2
1	40.000	0.025	502	2.701	701	2.846
2	20.000	0.050	390	2.591	499	2.698
3	13.333	0.075	971	2.987	533	2.727
4	10.000	0.100	436	2.639	889	2.949
5	8.000	0.125	420	2.623	597	2.776
6	6.887	0.150	591	2.772	416	2.619
7	5.714	0.175	425	2.628	413	2.616
8	5.000	0.200	295	2.470	501	2.700
9	4.444	0.225	210	2.322	509	2.708
10	4.000	0.250	326	2.513	471	2.673
11	3.636	0.275	227	2.356	458	2.661
12	3.333	0.300	218	2.338	583	2.765
13	3.077	0.325	323	2.509	511	2.709
14	2.857	0.350	404	2.606	529	2.724
15	2.667	0.375	357	2.553	425	2.628
16	2.500	0.400	357	2.553	276	2.442
17	2.353	0.425	269	2.430	202	2.304
18	2.222	0.450	283	2.452	247	2.392
19	2.105	0.475	357	2.553	365	2.563
20	2.000	0.500	224	2.350	301	2.479
21	1.905	0.525	357	2.553	358	2.554
22	1.818	0.550	357	2.553	330	2.519
23	1.739	0.575	325	2.512	427	2.631
24	1.667	0.600	266	2.425	416	2.619
25	1.600	0.625	329	2.517	447	2.651
26	1.538	0.650	308	2.486	365	2.562
27	1.481	0.675	395	2.597	278	2.444
28	1.429	0.700	363	2.560	359	2.555
29	1.379	0.725	346	2.539	341	2.533
30	1.333	0.750	255	2.407	272	2.434
31	1.290	0.775	268	2.428	299	2.475
32	1.250	0.800	215	2.332	368	2.568
33	1.212	0.825	350	2.544	301	2.479
34	1.176	0.850	319	2.504	281	2.449
35	1.143	0.875	516	2.713	503	2.702
36	1.111	0.900	397	2.599	340	2.531
37	1.081	0.925	404	2.606	416	2.619
38	1.053	0.950	350	2.544	305	2.485
39	1.026	0.975	224	2.350	403	2.605
40	1.000	1.000	337	2.528		
41	0.976	1.025	357	2.553		
42	0.952	1.050	303	2.481		
43	0.930	1.075	327	2.515		
44	0.909	1.100	278	2.444		
45						
Moments of the logarithms						
no of data				44		25
Mean			353	2.528	416	2.600
Standard Deviation				0.132		0.131
Coefficient of Skewness				0.926		0.234
Standard Error of Estimation (S.E.E.)						
S.E.E (mean)				0.020		0.026
S.E.E.(Stan. Dev.)				0.412		0.103
S.E.E.(Coeff. of Skew.)				0.357		0.464

Calculation of Design Flows using Frequency Factors (Log-normal Distribution)

T	P	K _T	Observed Peakflow		Transposed Peakflow	
			Log Q	Q	Log Q	Q
2	0.500	0	2.528	337	2.600	398
5	0.200	0.842	2.639	438	2.710	513
10	0.100	1.282	2.697	498	2.768	566
25	0.040	1.751	2.759	575	2.829	675
50	0.020	2.054	2.799	630	2.869	739
100	0.010	2.326	2.835	684	2.904	802

Note

frequency factor was taken from Table 12.3.1 (Applied Hydrology, Ven Te Chow)

T: Return Period

P: Probability of Exceedence

Table 8.4.16 Computation of Design Flow for the Watersheds at Agalliya using Transposed Data from Ellagawa

Calculation of Moments of the Logarithms of Annual Flows

Rank	T	P	Observed Peakflow		Transposed Peakflow	
			Q	Log Q2	Q	Log Q2
1	40.000	0.025	502	2.701	257	2.410
2	20.000	0.050	390	2.591	191	2.281
3	13.333	0.075	971	2.987	257	2.410
4	10.000	0.100	436	2.639	195	2.290
5	8.000	0.125	420	2.623	195	2.289
6	6.667	0.150	591	2.772	266	2.425
7	5.714	0.175	425	2.628	210	2.322
8	5.000	0.200	295	2.470	276	2.441
9	4.444	0.225	210	2.322	220	2.343
10	4.000	0.250	326	2.513	393	2.595
11	3.636	0.275	227	2.358	380	2.580
12	3.333	0.300	218	2.338	434	2.637
13	3.077	0.325	323	2.509	343	2.536
14	2.857	0.350	404	2.608	285	2.454
15	2.667	0.375	352	2.547	534	2.728
16	2.500	0.400	352	2.547	495	2.694
17	2.353	0.425	269	2.430	332	2.521
18	2.222	0.450	283	2.452	442	2.645
19	2.105	0.475	352	2.547	639	2.805
20	2.000	0.500	224	2.350	390	2.591
21	1.905	0.525	352	2.547	304	2.482
22	1.818	0.550	352	2.547	787	2.885
23	1.739	0.575	325	2.512	385	2.585
24	1.667	0.600	266	2.425	381	2.580
25	1.600	0.625	329	2.517	465	2.667
26	1.538	0.650	308	2.486		
27	1.481	0.675	395	2.597		
28	1.429	0.700	363	2.560		
29	1.379	0.725	346	2.539		
30	1.333	0.750	255	2.407		
31	1.290	0.775	268	2.428		
32	1.250	0.800	215	2.332		
33	1.212	0.825	350	2.544		
34	1.178	0.850	319	2.504		
35	1.143	0.875	516	2.713		
36	1.111	0.900	397	2.599		
37	1.081	0.925	404	2.608		
38	1.053	0.950	350	2.544		
39	1.028	0.975	224	2.350		
40	1.000	1.000	337	2.528		
41	0.978	1.025	352	2.547		
42	0.952	1.050	303	2.481		
43	0.930	1.075	327	2.515		
44	0.909	1.100	278	2.444		
45						
Moments of the logarithms no of data				44		25
Mean			352	2.527	361	2.528
Standard Deviation				0.132		0.163
Coefficient of Skewness				0.946		0.246
Standard Error of Estimation (S.E.E.)						
S.E.E.(mean)				0.020		0.033
S.E.E.(Stan. Dev.)				0.421		0.109
S.E.E.(Coeff. of Skew.)				0.357		0.464

Calculation of Design Flows using Frequency Factors (Log-normal Distribution)

T	p	K _T	Observed Peakflow		Transposed Peakflow	
			Observed Peakflow		Transposed Peakflow	
			Log Q	Q	Log Q	Q
2	0.500	0	2.527	337	2.528	337
5	0.200	0.842	2.638	435	2.665	463
10	0.100	1.282	2.696	497	2.737	546
25	0.040	1.751	2.758	573	2.814	651
50	0.020	2.054	2.798	628	2.863	730
100	0.010	2.328	2.834	683	2.907	808

Note

frequency factor was taken from Table 12.3.1 (Applied Hydrology, Ven Te Chow)

T: Return Period

P: Probability of Exceedence

Table 8.4.17 Computation of Design Flow for the Watersheds at Agallya using Transposed Data from Millakanda

Calculation of Moments of the Logarithms of Annual Flows

Rank	T	P	Observed Peakflow		Transposed Peakflow	
			Q	Log Q2	Q	Log Q2
1	40.000	0.025	502	2.701	353	2.547
2	20.000	0.050	390	2.591	405	2.608
3	13.333	0.075	971	2.987	321	2.507
4	10.000	0.100	438	2.639	497	2.698
5	8.000	0.125	420	2.623	381	2.581
6	6.667	0.150	591	2.772	368	2.563
7	5.714	0.175	425	2.628	330	2.518
8	5.000	0.200	295	2.470	314	2.497
9	4.444	0.225	210	2.322	335	2.525
10	4.000	0.250	328	2.513	251	2.400
11	3.636	0.275	227	2.358	225	2.353
12	3.333	0.300	218	2.338	458	2.661
13	3.077	0.325	323	2.509	379	2.579
14	2.857	0.350	404	2.606	491	2.691
15	2.667	0.375	352	2.547	379	2.579
16	2.500	0.400	352	2.547	492	2.692
17	2.353	0.425	269	2.430	428	2.632
18	2.222	0.450	283	2.452	604	2.781
19	2.105	0.475	352	2.547	521	2.717
20	2.000	0.500	224	2.350	274	2.438
21	1.905	0.525	352	2.547	427	2.630
22	1.818	0.550	352	2.547	433	2.637
23	1.739	0.575	325	2.512	287	2.458
24	1.667	0.600	266	2.425	418	2.621
25	1.600	0.625	329	2.517	714	2.854
26	1.538	0.650	308	2.488	412	2.615
27	1.481	0.675	395	2.597	413	2.616
28	1.429	0.700	363	2.560	714	2.854
29	1.379	0.725	346	2.539		
30	1.333	0.750	255	2.407		
31	1.290	0.775	268	2.428		
32	1.250	0.800	215	2.332		
33	1.212	0.825	350	2.544		
34	1.178	0.850	319	2.504		
35	1.143	0.875	516	2.713		
38	1.111	0.900	397	2.599		
37	1.081	0.925	404	2.606		
38	1.053	0.950	350	2.544		
39	1.028	0.975	224	2.350		
40	1.000	1.000	337	2.528		
41	0.978	1.025	352	2.547		
42	0.952	1.050	303	2.481		
43	0.930	1.075	327	2.515		
44	0.909	1.100	278	2.444		
45						
Moments of the logarithms						
no of data				44		28
Mean			352	2.527	415	2.602
Standard Deviation				0.132		0.121
Coefficient of Skewness				0.946		0.170
Standard Error of Estimation (S.E.E.)						
S.E.E. (mean)				0.020		0.023
S.E.E. (Stan. Dev.)				0.421		0.075
S.E.E. (Coeff. of Skew.)				0.357		0.441

Calculation of Design Flows using Frequency Factors (Log-normal Distribution)

T	p	K _T	Observed Peakflow		Transposed Peakflow	
			Log Q	Q	Log Q	Q
2	0.500	0	2.527	337	2.602	400
5	0.200	0.842	2.638	435	2.703	505
10	0.100	1.282	2.696	497	2.756	571
25	0.040	1.751	2.758	573	2.813	650
50	0.020	2.054	2.798	628	2.850	707
100	0.010	2.326	2.834	683	2.882	763

Note

frequency factor was taken from Table 12.3.1 (Applied Hydrology, Ven Te Chow)

T: Return Period

P: Probability of Exceedence





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ANNEX 5:
COMPARISON OF DESIGN FLOWS

Percentage Error in Estimation of Design Flow in Comparison with those of Observed Peakflow (Transposition within Same River Basin)

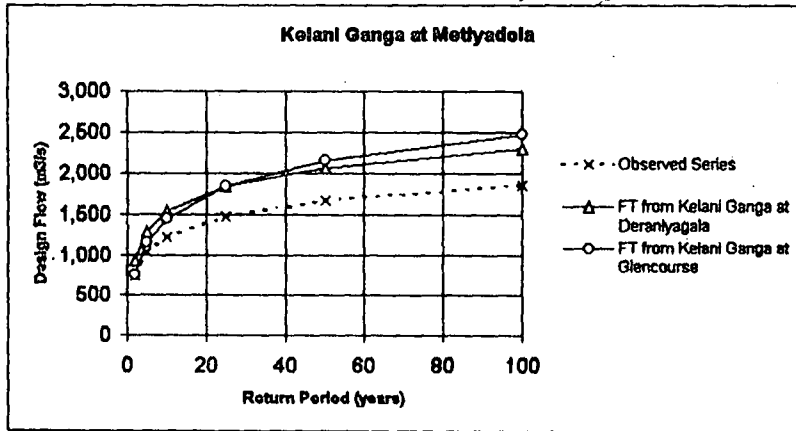


Figure 8.5.1 Comparison of Design Flows at Methyadola

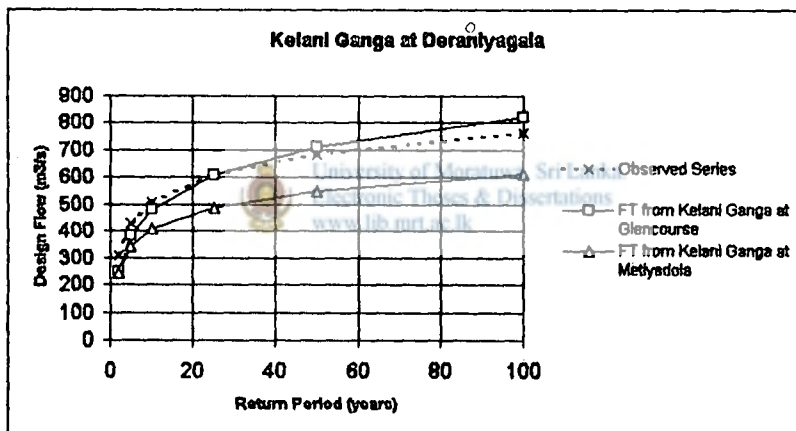


Figure 8.5.2 Comparison of Design Flows at Deraniyagala

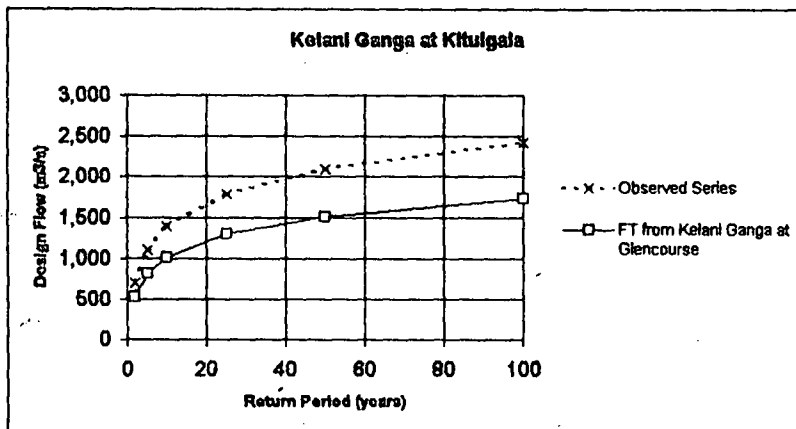


Figure 8.5.3 Comparison of Design Flows at Kitulgala

Percentage Error in Estimation of Design Flow in Comparison with those of Observed Peakflow (Contd.)
 (Transposition within Same River Basin)

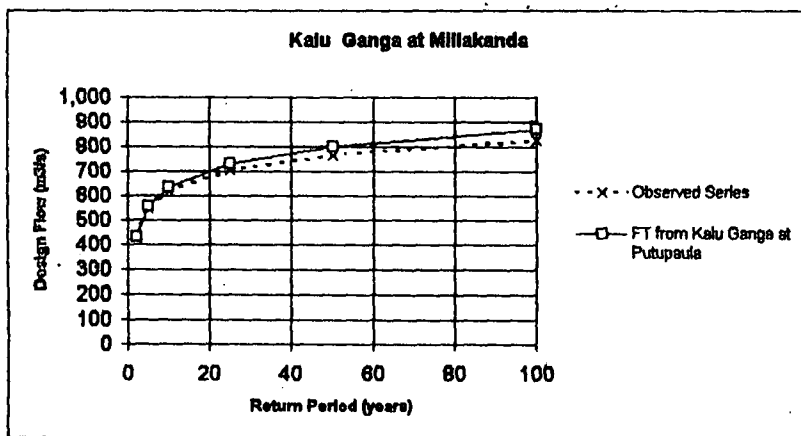


Figure 8.5.4 Comparison of Design Flows at Millakanda

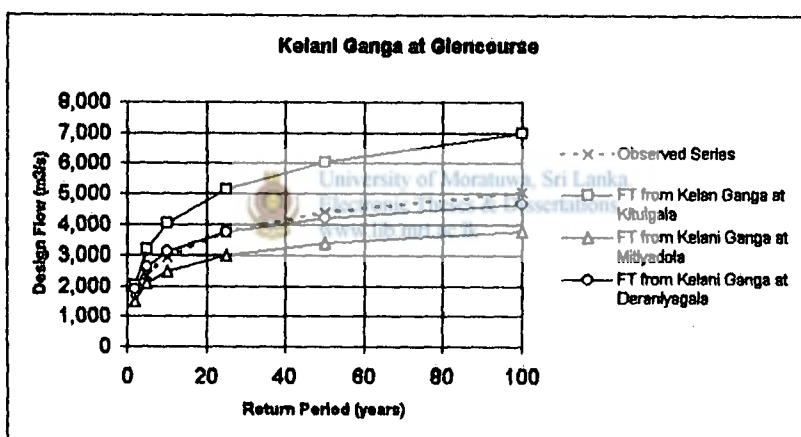


Figure 8.5.5 Comparison of Design Flows at Glencourse

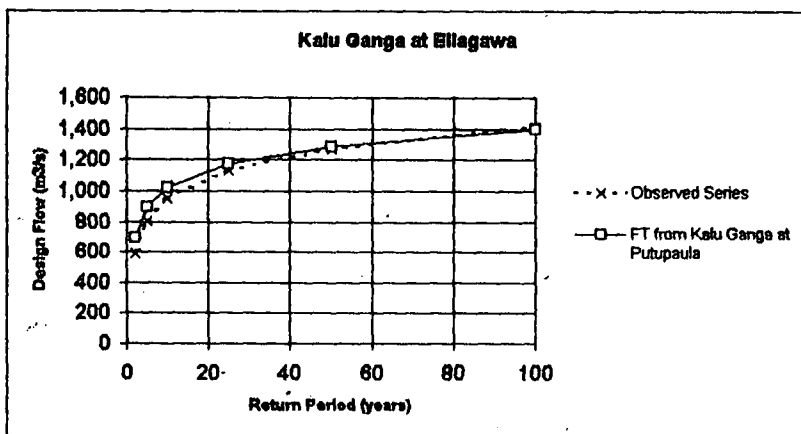


Figure 8.5.6 Comparison of Design Flows at Ellagawa

**Percentage Error in Estimation of Design Flow In Comparison with those of Observed Peakflow (Contd.)
(Transposition within Same River Basin)**

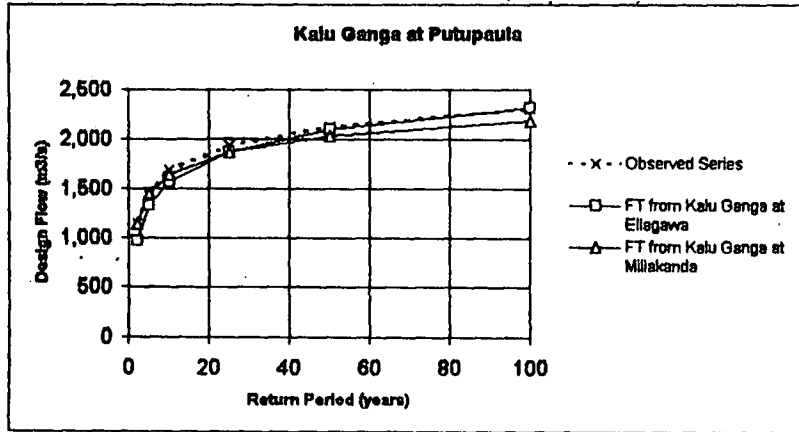


Figure 8.5.7 Comparison of Design Flows at Putupaula



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Percentage Error in Estimation of Design Flow in Comparison with those of Observed Peakflow (Transposition Between River Basin)

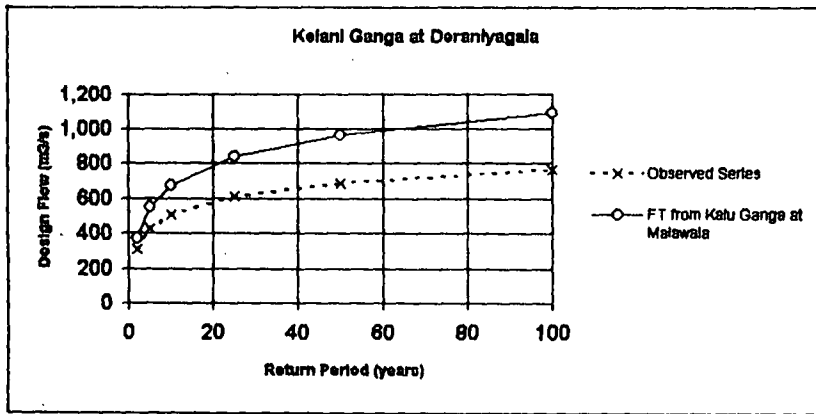


Figure 8.5.8 Comparison of Design Flows at Deranhyagla



Figure 8.5.9 Comparison of Design Flows at Millakanda

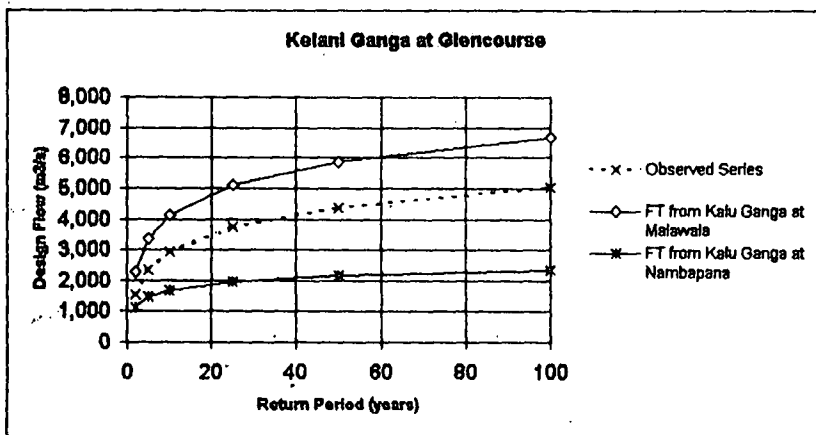


Figure 8.5.10 Comparison of Design Flows at Glencourse

Percentage Error in Estimation of Design Flow in Comparison with those of Observed Peakflow (Contd.)
 (Transposition Between River Basin)

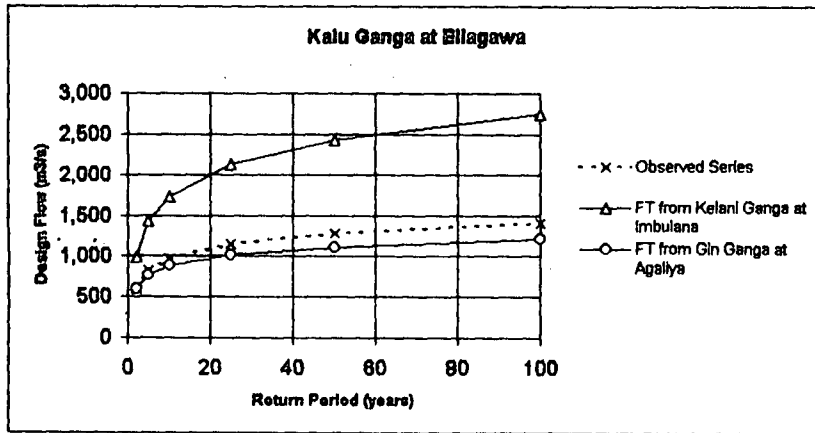


Figure 8.5.11 Comparison of Design Flows at Ellagawa

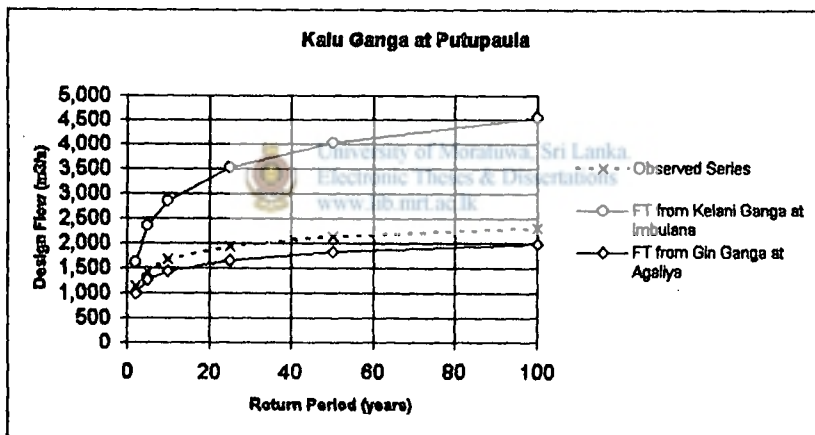


Figure 8.5.12 Comparison of Design Flows at Putupaula

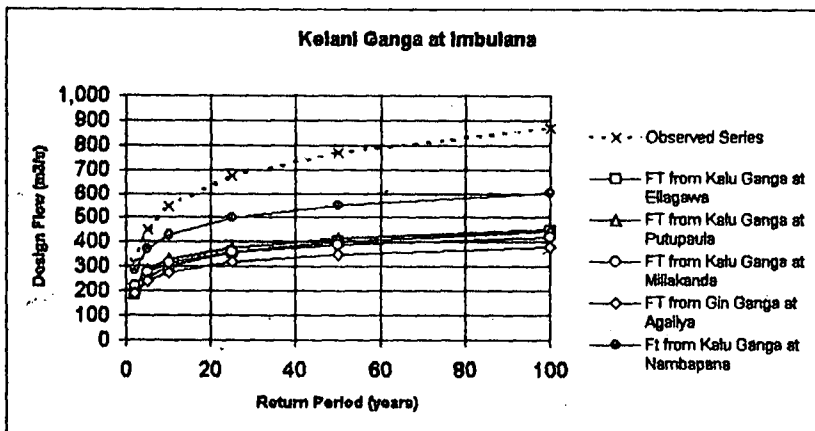


Figure 8.5.13 Comparison of Design Flows at Imbulana

Percentage Error in Estimation of Design Flow in Comparison with those of Observed Peakflow (Contd.)
(Transposition Between River Basin)

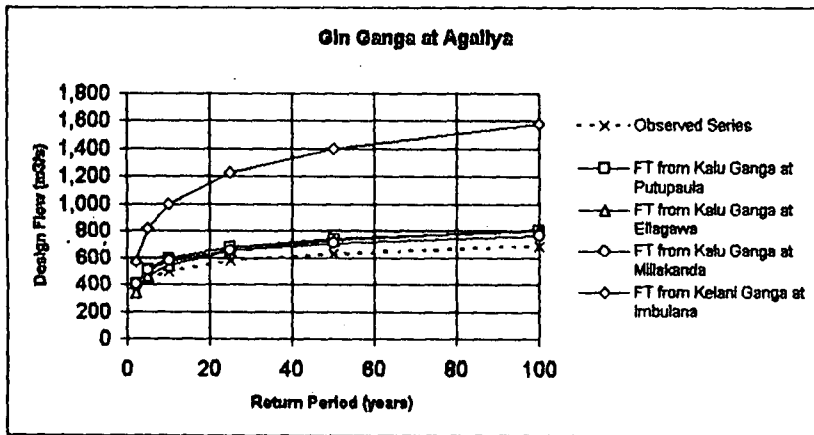


Figure 8.5.14 Comparison of Design Flows at Agaiya

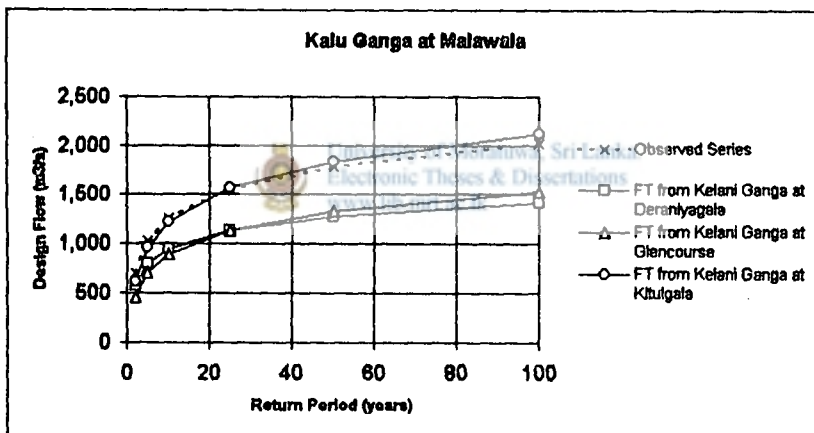


Figure 8.5.15 Comparison of Design Flows at Malawala

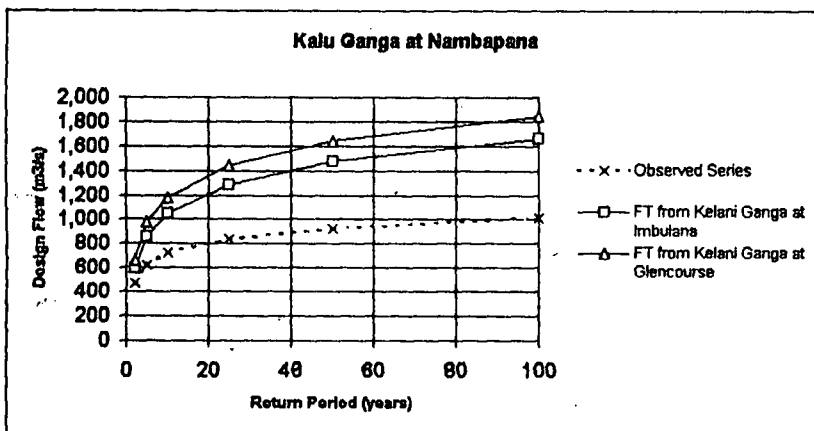


Figure 8.5.16 Comparison of Design Flows at Nambapana



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**ANNEX 6:
COMPARISON OF SOME OTHER PEAKFLOW
ESTIMATION METHODS**

Table 8.6.1: Comparison of Different Methods for Design Flood Estimation
Design Flood in m³/s

Return Period	Method of Estimation	Aluth Oya at Aluthoya	Gaimal Oya at Moragahamulla	Gurugoda Oya at Holombuwa	Mundeni Aru at Nilobe	Uma Oya at Wellimada	Gal Oya at Galoya	Maha Oya at Girululla	Maduru Oya at Welikanda	Maha Oya at Badalgama	Mahaweli Ganga at Gurudeniya
T10	Rational M.	12,547	14,806	1,934	4,579	9,089	6,183	#	#	#	#
	Snyder's M.	8,283	12,593	14,502	20,539	18,343	22,059	48,432	55,017	75,662	68,091
	SSC M.	6,023	5,175	12,907	17,338	8,163	24,845	43,022	48,106	52,690	74,672
	log-normal	2,609	4,381	5,978	4,592	4,569	9,597	26,274	40,165	34,649	69,396
T20	Rational M.	15,661	18,736	3,239	8,591	13,166	11,552	#	#	#	#
	Snyder's M.	9,573	14,797	16,062	28,568	21,036	25,515	53,782	64,260	83,918	77,520
	SSC M.	7,152	6,088	15,488	28,007	9,648	30,642	51,626	66,146	73,766	93,993
	log-normal	2,856	4,972	6,582	5,177	5,230	11,036	28,616	46,739	38,913	79,961
T50	Rational M.	19,756	24,254	6,124	13,509	18,347	16,240	#	#	#	#
	Snyder's M.	11,381	18,448	18,672	30,329	26,000	29,333	63,587	74,930	99,512	91,463
	SSC M.	9,599	7,305	19,360	30,008	11,874	39,752	68,835	105,233	94,842	140,989
	log-normal	3,477	6,667	8,132	6,230	7,177	15,411	34,332	67,660	50,605	112,067
T75	Rational M.	25,798	26,017	8,378	16,915	22,594	19,479	#	#	#	#
	Snyder's M.	12,006	19,305	19,698	31,015	27,449	31,019	66,262	88,337	102,125	96,803
	SSC M.	10,352	8,218	21,296	34,656	14,100	44,721	81,742	114,253	105,380	151,433
	log-normal	3,616	7,045	8,473	6,906	7,611	16,386	35,624	72,260	53,206	119,223
T100	Rational M.	29,390	28,305	9,436	18,272	24,045	21,536	#	#	#	#
	Snyder's M.	12,676	20,253	20,568	34,633	28,901	32,568	68,762	88,475	107,508	100,868
	SSC M.	11,293	9,131	23,232	37,343	15,585	49,690	96,800	126,279	118,553	167,099
	log-normal	3,684	7,231	8,644	7,036	7,827	16,867	36,258	74,634	54,496	122,752

(Bahwitige et al, 1998)

Table 8.6.2: Comparison of Different Methods for Design Flood Estimation
 Percentage Variation with respect to the Statistical Method

Return Period	Method of Estimation	Alurth Oya at Alurthoya	Gaimal Oya at Moragahamulla	Gurugoda Oya at Holombuwa	Mundeni Aru at Nilobe	Uma Oya at Wellimada	Gal Oya at Galoya	Maha Oya at Giriulla	Maduru Oya at Welikanda	Maha Oya at Badalgama	Mahaweli Ganga at Gurudeniya
T10	Rational M.	381%	238%	-68%	0%	99%	-36%	#	#	#	#
	Snyder's M.	217%	187%	143%	347%	301%	130%	84%	37%	118%	-2%
	SSC M.	131%	18%	116%	278%	79%	159%	64%	20%	52%	8%
T20	Rational M.	448%	277%	-51%	66%	152%	5%	#	#	#	#
	Snyder's M.	235%	198%	144%	452%	302%	131%	88%	37%	116%	-3%
	SSC M.	150%	22%	135%	441%	84%	178%	80%	42%	90%	18%
T50	Rational M.	468%	264%	-25%	117%	156%	5%	#	#	#	#
	Snyder's M.	227%	177%	130%	387%	262%	90%	85%	11%	97%	-18%
	SSC M.	176%	10%	138%	382%	65%	158%	100%	56%	87%	26%
T75	Rational M.	#	269%	-1%	145%	197%	19%	#	#	#	#
	Snyder's M.	232%	174%	132%	349%	261%	89%	86%	22%	92%	-19%
	SSC M.	186%	17%	151%	402%	85%	173%	129%	58%	98%	27%
T100	Rational M.	698%	291%	9%	160%	207%	28%	#	#	#	#
	Snyder's M.	244%	180%	138%	392%	269%	93%	90%	19%	97%	-18%
	SSC M.	207%	26%	169%	431%	99%	195%	167%	69%	118%	36%

Table 8.6.3: Comparison of Peak Flow Estimates from Four Methods

Design Flood in m³/s

Return Period		Peak flow from Different watersheds in Ports Premises (cumec)									
		I	K	L	M	N	O	P	R		
2 yr.	Rational Method	3.71	2.11	8.29	3.16	3.05	8.64	7.96	3.33		
	Hec1 Model	3.88	2.52	10.05	3.37	2.97	8.92	8.52	3.20		
	SCS Method	3.08	1.73	6.88	2.62	2.54	7.17	6.47	2.83		
	Snyder - ID	4.01	2.81	12.42	3.61	3.03	11.00	11.68	3.92		
5 yr.	Rational Method	4.59	2.68	10.39	3.81	3.68	10.67	9.81	4.10		
	Hec1 Model	4.95	3.40	13.14	4.08	4.02	11.75	10.96	4.39		
	SCS Method	4.09	2.31	9.17	3.47	3.35	9.51	8.61	3.71		
	Snyder - ID	5.03	3.54	15.65	4.54	3.81	13.84	14.72	4.93		
10 yr.	Rational Method	4.97	2.97	11.47	4.20	4.06	11.57	10.74	4.44		
	Hec1 Model	5.97	4.02	15.23	5.10	4.78	14.10	12.12	4.90		
	SCS Method	4.63	2.65	10.44	3.90	3.77	10.78	9.77	4.19		
	Snyder - ID	5.52	3.89	17.34	5.01	4.16	15.29	16.32	5.41		
25 yr.	Rational Method	5.59	3.31	12.79	4.64	4.49	12.99	11.95	4.99		
	Hec1 Model	6.85	4.56	17.19	5.80	5.44	16.08	13.79	5.55		
	SCS Method	5.32	3.07	2.02	4.48	4.32	12.38	11.26	4.81		
	Snyder - ID	6.22	4.39	19.68	5.66	4.69	17.30	18.54	6.12		

Wijesekara, 2000



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ANNEX 7:
COMPUTATION OF KEY FACTORS

Computation of key factors

Area (km²)

For the calculation of drainage areas watershed boundaries are demarcated by using 1 mile: ¼ inch map of Water Resources Development Plan prepared by Survey Department and finer adjustments were done by using 1" topo sheets. Areas of sub catchments are extracted from the Master Plan of Electricity Supply of Sri Lanka these data were verified by manual calculations. (Table 3.1, 3.4, 3.7, and 3.8)

Slope (%)

The stream segments and their slopes were extracted from Master Plan for Electricity Supply of Sri Lanka and average slopes were calculated (CEB, 1985) (Table 3.1, 3.4, 3.7, and 3.8)

Shape (km/km)

Shape is taken as the ratio of width and length of the watershed. This is taken as the ratio of Breadth (B) and Length (L). (Table 3.1, 3.4, 3.7, and 3.8)

Where:

B = Average width obtained by axial length

L = Axial length from outlet to the remotest point of the basin

Average Rainfall (mm)

Mean annual rainfall of a single station is determined by taking simple average of several consecutive years. (In this study it is 40 years) The average annual rainfall figures at selected rain gauge stations were converted into areal mean rainfall by using Thiessen Polygons. Annual rainfall figures were extracted from the data base of Electricity supply of Sri Lanka and this was verified by using Point rainfall-areal rainfall conversion tables found in literature (IEA, 1977) (Table 3.1, 3.4, 3.7, and 3.8)



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ANNEX 8:
FREQUENCY ANALYSIS

Frequency Analysis

When rank and total number of data are taken as n and m respectively

Return Period $T_r = n/(1+m)$ and

Exceedance Probability $p = 1/T_r$

Moments of Logarithms

$$\text{Mean (M)} = (1/N) \sum_{i=1}^n X_i$$

$$\text{Standard Deviation (S)} = \sqrt{(\sum (X_i - M)^2) / (N - 1)}$$

$$\text{Coefficient of Skewness (g)} = (N \sum (X_i - M)^3) / N(N-2) S^3$$

Standard Error of estimate

$$\text{Error for mean, SEE (M)} = S / \sqrt{N}$$

$$\text{Error for standard deviation, SEE (S)} = S / \sqrt{2N}$$

$$\text{Error for coeff. of skewness, SEE (g)} = \sqrt{6N(N-1)/(N-1)(N+1)(N+3)}$$

Computation of design flows for both observed and calculated flows using frequency factor method is in table 4.8.

$$\text{Log (Q}_T) = M + K_T S$$

Where

Q_T = Peak flow at return period T_r

M = Mean

K_T = Frequency factor (Chow, 1985)

S = Standard deviation

