Table 6.7. Area reduction factor for storms in the Chambal watershed

Area (km²)	*ARF*	*Area (km²)*	*ARF*	*Area (km²)*	*ARF*
0.0	1.000	700.0	0.966	5 000.0	0.833
100.0	0.994	800.0	0.961	6 000.0	0.811
200.0	0.989	900.0	0.956	7 000.0	0.790
300.0	0.983	1 000.0	0.951	8 000.0	0.773
400.0	0.978	2 000.0	0.906	9 000.0	0.760
500.0	0.974	3 000.0	0.878	10 000.0	0.748
600.0	0.970	4 000.0	0.854		

1° longitude and latitude grid, and the above-mentioned method was then used to calculate PMP for the standard area of each grid. The Chambal and Betwa watersheds are presented below as an example.

(i) MAF was calculated for the storm that occurred on 27–29 June 1945 and transposed into each grid of the Chambal and Betwa watersheds. This storm covered the whole Chambal and Betwa watersheds, so it could be transposed into any grid of either watershed. The relevant values were determined to be: d_1 = 25.7°C; d_2 = 28.5°C; h_1 = 400 m; $(W_1)_{h1}$ = 84.0 – 8.0 = 76.0; $(W_2)_{h1}$ = 108 – 10.0 = 98.0; MMF = $(W_2)_{h1}/(W_1)_{h1}$ = 1.29. Table 6.9 lists the MAF for each grid.

(ii) PMP was determined for the standard area of either Chambal or Betwa watershed (2 500 km², 5 000 km², 7 500 km² and 10 000 km²) using the above-mentioned method (see Table 6.10).

Table 6.8. Calculated results of PMP for the Chambal watershed

Watershed	*Area (km²)*	*PMP (mm)*		
		1 day	*2 days*	*3 days*
	5 000	413	555	609
	10 000	379	498	547
	20 000	333	436	490
	30 000	307	413	452
	40 000	284	387	418
	50 000	362	361	400
Chambal	46 073	268	368	405
Banas	48 577	266	364	402
Kali Sindh	25 741	315	426	467
Parvati	14 122	359	472	520
Kunar	4 507	418	574	619
Kunwari	7 610	396	529	571