LIST OF TABLES

Table	Title	Page
	. •	
1.1	Earth's Water Resources	2
1.2	India's Water Budget	4
1.3	Surface And Ground Water Resources of Gujarat	6
1.4	Location and Drainage Areas of The World's Largest Rivers	7
1.5	Stream Flow and Drainage Areas of Major Indian River System	8
1.6	Region and Basin Wise Water Resources of Gujarat	11
2.1	Hydrogeomorphological Details of Machhan River Basin	39
2.2	Location of Check Dams on Machhan River	42
3.1	Some Popular Models and their Applications	70
4.1	Parameters of Tank Model	86
4.2	Initial Values of Basic Parameters Suggested by Sugawara	89
4.3	Formulas for Different Parameters of Tank Model	94
5.1	Hydrogeology of Dahod District	97
5.2	Mean Monthly Meteorological Data (1970-2000)	98
5.3	Rainfall Stations in Machhan River Basin	98
5.4	Salient Features of Machhan River	99
5.5	Check Dams in Jhalod Taluka – Dahod district	100
5.6	Details of Check Dams on Machhan River	101

Table	Title ***	Page
5.7	Storage Capacity of Check Dams on Machhan River	101
5.8	Lift Irrigation Schemes on Machhan River	102
5.9	Area Irrigated by Different Check Dams	102
5.10	Rainfall Characteristics - Jhalod	104
5.11	Rainfall Characteristics - Dahod	107
5.12	Observed Runoff in mm for Machhan River Basin	110
5.13	Observed Evaporation at Machhan Dam Site	114
5.14	Pre and Post-monsoon Water Levels in Dungri Falia, Rupakheda and Limbadi	120
5.15	Pre and Post-monsoon Water Levels in Therka (well 8-11)	121
5.16	Post-monsoon Water Levels in Therka (well 12-19)	122
5.17	Post-monsoon Water Levels in Therka (well 20-26)	123
5.18	Pre and Post-monsoon Water Levels in Chitrodia and Kalia Talav	124
5.19	Pre and Post-monsoon Water Levels in Kharsana	126
5.20	Pre and Post-monsoon Water Levels in Mandli Khunta, Melania, Munkhosla and Muvada	128
5.21	Pre and Post-monsoon Water Levels in Anwarpura and Bhanpur	130
5.22	Pre and Post-monsoon Water Levels in Dhavadia	132
5.23	Pre and Post-monsoon Water Levels in Mahudi	134

Table	Title Title	Page
5.24	Pre and Post-monsoon Water Levels in Dhadhela and Dahod	136
6.1	Rainfall Pattern – Jhalod	141
6.2	Rainfall Pattern - Dahod	142
6.3	Rainfall Characteristics – Jhalod	143
6.4	Rainfall Characteristics – Dahod	144
6.5	Drought Analysis – Jhalod	145
6.6	Drought Analysis - Dahod	146
6.7	Numbers of Different Order Streams	150
6.8	Lengths of Different Order Streams	151
6.9	Classification of Watershed Area (5E2A4a1b)	152
7.1	Details of Observation Wells for Study of Water Levels	155
7.2	Storage Calculation For Kachumber Check Dam	175
7.3	Storage Calculations for Wankol Check Dam	176
7.4	Storage Calculation For Simaliya Check Dam	176
7.5	Storage Calculation For Therka Check Dam	177
7.6	Storage Calculation For Mahudi Check Dam	178
8.1	Finalized Values of Different Parameters of Tank Model	193
9.1	Summary of Rainfall Pattern	218
9.2	Summary Of Draught Analysis Jhalod (1981-2007)	219
9.3	Summary Of Draught Analysis Dahod (1981-2001)	219

Table	Title	Page
9.4	Summarized Details of Various Drains in Machhan Basin	220
9.5	Overall Summary of Morphometric Analysis	220
9.6	Results of Tank Model Output	221
9.7	Summary of Analysis by Tank Model	221
9.8	Effect of Same Check Dam in Different Zones	222
9.9	Effect of Different Number of Check Dams	222
9.10	Variation in Surface Flow From 1 Check Dam to 3 Check Dams in % of No Check Dam Condition	223
9.11	Variation in Inter Flow From 1 Check Dam to 3 Check Dams in % of No Check Dam Condition	223
9.12	Variation in Base Flow From 1 Check Dam to 3 Check Dams in % of No Check Dam Condition	223