



## LIST OF FIGURES

Table No.	Description	Page No.
1.1	Utilizable surface water (31,500 MCM) in Gujarat	16
1.2	Utilizable groundwater (16,105 MCM) in Gujarat	17
1.3	Number of wells used for irrigation	18
1.4	Number of tube wells used for irrigation	19
6.1	Dendrogram using average linkage between Groups with scaled distance	122
6.2	Clusters of cropping systems practiced in tube well command based on mean groundwater extraction from the well, 2003-04	123
6.3	Clusters of cropping systems practiced in tube well command based on mean groundwater extraction from the well, 2004-05	124
6.4	Clusters of cropping systems practiced in tube well command based on mean groundwater extraction from the well, 2005-06	125
6.5	Clusters of cropping systems practiced in tube well command based on mean groundwater extraction from the wells, 2003-05 pooled data	126
8.1	Desired and optimal paths of groundwater trajectories, (Initial depth to groundwater table, 20m (a) groundwater table trajectory, (b) groundwater extraction trajectory- rate of extraction 0.5%	208
8.2	Desired and optimal paths of groundwater trajectories, control parameter value increased by 8%, (a) groundwater table trajectory, (b) groundwater extraction trajectory- rate of extraction 0.5%	209
8.3	Desired and optimal paths of groundwater trajectories, control parameter value decreased by 16%, (a) groundwater table trajectory, (b) groundwater extraction trajectory- rate of extraction 0.5%	210
8.4	Desired and optimal paths of groundwater trajectories, state parameter value increased by 0.2% (a) groundwater table trajectory, (b) groundwater extraction trajectory- rate of extraction 0.5%	211
8.5	Desired and optimal paths of groundwater trajectories, state parameter value decreased by 0.84% (a) groundwater table trajectory, (b) groundwater extraction trajectory- rate of extraction 0.5%	212
8.6	Desired and optimal paths of groundwater trajectories, intercept parameter value increased by 1.09% (a) groundwater table trajectory, (b) groundwater extraction trajectory- rate of extraction 0.5%	213
8.7	Desired and optimal paths of groundwater trajectories, intercept parameter value decreased by 2.31% (a) groundwater table trajectory, (b) groundwater extraction trajectory- rate of extraction 0.5%	214

8.8	Desired and optimal paths of groundwater trajectories, (Initial depth to groundwater table, 20m) (a) groundwater table trajectory, (b) groundwater extraction trajectory- rate of extraction 1%	215
8.9	Desired and optimal paths of groundwater trajectories, (Initial depth to groundwater table, 20m) (a) groundwater table trajectory, (b) groundwater extraction trajectory- rate of extraction 5%	216
8.10	Desired and optimal paths of groundwater trajectories, (Initial depth to groundwater table, 20m) (a) groundwater table trajectory, (b) groundwater extraction trajectory- rate of extraction 10%	217
8.11	Desired and optimal paths of groundwater trajectories, (Initial depth to groundwater table, 20m) (a) groundwater table trajectory, (b) groundwater extraction trajectory- rate of extraction 15%	218
8.12	Desired and optimal paths of groundwater trajectories, (Initial depth to groundwater table, 35m) (a) groundwater table trajectory (b) groundwater extraction trajectory- rate of extraction 0.5% 0.5 %	219
8.13	Desired and optimal paths of groundwater trajectories, (Initial depth to groundwater table, 35m) (a) groundwater table trajectory (b) groundwater extraction trajectory- rate of extraction 1 %	220
8.14	Desired and optimal paths of groundwater trajectories, (Initial depth to groundwater table, 35m) (a) groundwater table trajectory (b) groundwater extraction trajectory- rate of extraction 5 %	221
8.15	Desired and optimal paths of groundwater trajectories, (Initial depth to groundwater table, 35m) (a) groundwater table trajectory (b) groundwater extraction trajectory- rate of extraction 10 %	222
8.16	Desired and optimal paths of groundwater trajectories, (Initial depth to groundwater table, 35m) (a) groundwater table trajectory (b) groundwater extraction trajectory- rate of extraction 15 %	223
8.17	Desired and optimal paths of groundwater trajectories, (Initial depth to groundwater table, 50m) (a) groundwater table trajectory (b) groundwater extraction trajectory- rate of extraction 0.5 %	224
8.18	Desired and optimal paths of groundwater trajectories, (Initial depth to groundwater table, 50m) (a) groundwater table trajectory (b) groundwater extraction trajectory- rate of extraction 1 %	225
8.19	Desired and optimal paths of groundwater trajectories, (Initial depth to groundwater table, 50m) (a) groundwater table trajectory (b) groundwater extraction trajectory- rate of extraction 5 %	226
8.20	Desired and optimal paths of groundwater trajectories, (Initial depth to groundwater table, 50m) (a) groundwater table trajectory (b) groundwater extraction trajectory- rate of extraction 10 %	227
8.21	Desired and optimal paths of groundwater trajectories, (Initial depth to groundwater table, 50m) (a) groundwater table trajectory (b) groundwater extraction trajectory- rate of extraction 15 %	228
8.22	Desired and optimal paths of groundwater trajectories, (Initial depth to groundwater table, 70m) (a) groundwater table trajectory (b) groundwater extraction trajectory- rate of extraction 0.5 %	229