

LIST OF FIGURES

| Figure number | | Page number |
|------------------|--|-------------|
| Chapter 2 | | |
| 2.1 | Map showing Sathanur location | 81 |
| 2.2 | Ponnaiyar basin | 82 |
| 2.3 | Sathanur reservoir water spread map showing arterial streams feeding the reservoir | 83 |
| 2.4 | SRP command area | 84 |
| 2.5 | Map representing the current states of SLBC command region with canal system and tanks | 85 |
| 2.6 | Map representing the current status of SRBC command region with canal system | 87 |
| 2.7 | Geological map of Ponnaiyar basin | 88 |
| 2.8 | Trend of the annual precipitation in Sathanur dam | 89 |
| 2.9 | Trend of the annual precipitation in uthanagarai and Krishnagiri | 90 |
| 2.10 | Trend of the annual precipitation in Tirupathur and Singarapet | 91 |
| 2.11 | Trend of the annual precipitation in Rayakotta and Palacode | 92 |
| 2.12 | Trend of the annual precipitation in Harur and chengam | 93 |
| 2.13 | Trend of the annual precipitation in Dharmapuri | 94 |
| 2.14 | Trend of annual precipitation in SCA (Thiruvannamalai) | 95 |
| Chapter 3 | | |
| 3.1 | Location of various projects in Ponnaiyar river basin | 99 |

Chapter 5

| | | |
|-----|---|------|
| 5.1 | Sathanur reservoir contour level vs depth | 135 |
| 5.2 | Reservoir contour level vs area | 136 |
| 5.3 | Reservoir contour level vs capacity | 137 |
| 5.4 | Depth vs sediments distribution (%) | 138 |
| 5.5 | Classification of Sathanur reservoir | 139 |
| 5.6 | Sathanur reservoir life by Trap efficiency method | 139A |

Chapter 6

| | | |
|-----|---|-----|
| 6.1 | Tourists visiting the Sathanur dam annually and revenue generated | 147 |
|-----|---|-----|

Chapter 7

| | | |
|-----|--|-----|
| 7.1 | Impact of precipitation on malarial parasite index in Sathanur reservoir | 154 |
| 7.2 | Impact of precipitation on malarial parasite index in Sathanur village | 155 |

Chapter 8

| | | |
|-----|---|-----|
| 8.1 | Impact of precipitation on annual fish catch Sathanur reservoir - <i>Catla Catla</i> , <i>Labeo rohita</i> | 173 |
| 8.2 | Impact of precipitation on annual fish catch Sathanur reservoir - <i>C.mrigal</i> , <i>L.fimbriatus</i> <i>C.carpio</i> | 174 |
| 8.3 | Impact of precipitation on annual fish catch Sathanur reservoir - <i>L.calabasu</i> , <i>C.cirrrosa</i> | 175 |
| 8.4 | Impact of precipitation on annual fish catch Sathanur reservoir - <i>Wallago attu</i> , Catfish | 176 |
| 8.5 | Impact of precipitation on annual fish catch Sathanur reservoir - Others | 177 |
| 8.6 | Impact of precipitation on annual fish catch Sathanur reservoir - Total annual fish catch | 178 |

| | | |
|------|---|-----|
| 8.7 | Impact of water level on annual fish catch in Sathanur reservoir - <i>Catla catla</i> , <i>Labeo rohita</i> , <i>C.mrigal</i> . | 179 |
| 8.8. | Impact of water level on annual fish catch in Sathanur reservoir - <i>C.Carpio</i> , <i>L.fimbriatus</i> , <i>L.calabasu</i> | 180 |
| 8.9 | Impact of water level on annual fish catch in Sathanur reservoir - <i>C.cirrrosa</i> , <i>Wallago attu</i> , catfish, Others. | 181 |
| 8.10 | Impact of water level on total annual fish catch in Sathanur reservoir | 182 |
| 8.11 | Impact of inflow on annual fish catch in Sathanur reservoir - <i>Catla catla</i> , <i>L.rohita</i> | 183 |
| 8.12 | Impact of inflow in annual fish catch in Sathanur reservoir - <i>C.mrigal</i> , <i>C.carpio</i> | 184 |
| 8.13 | Impact of inflow on annual fish catch in Sathanur reservoir - <i>L.fimbriatus</i> , <i>C.cirrrosa</i> | 185 |
| 8.14 | Impact of inflow in annual fish catch in Sathanur reservoir - <i>W. attu</i> , catfish | 186 |
| 8.15 | Impact of inflow on total annual fish catch in Sathanur reservoir. | 187 |
| 8.16 | Variation in zoomass per fish - <i>Catla catla</i> , <i>L.rohita</i> , <i>C.mrigal</i> | 188 |
| 8.17 | Variation in zoomass per fish - <i>L.fimbriatus</i> , <i>L.calabasu</i> , <i>C.cirrrosa</i> , <i>Wallago attu</i> , Catfish | 189 |
| 8.18 | Variation in annual catch of ichthyofauna in Sathanur reservoir | 190 |
| 8.19 | Sathanur reservoir: Fish seed yield vs revenue | 191 |
| 8.20 | Sathanur reservoir fisheries : Total annual catch vs revenue | 192 |

Chapter 9

| | | |
|------|---|-----|
| 9.1 | Variation in pH and precipitation in Sathanur reservoir | 231 |
| 9.2 | Variation in electrical conductivity and precipitation in Sathanur reservoir | 232 |
| 9.3 | Variation in alkalinity and precipitation in Sathanur reservoir | 233 |
| 9.4 | Variation in total hardness and precipitation in Sathanur reservoir | 234 |
| 9.5 | Variation in calcium hardness and precipitation in Sathanur reservoir | 235 |
| 9.6 | Variation in total solids, suspended solids, dissolved solids and precipitation in Sathanur reservoir | 236 |
| 9.7 | Variation in chloride and precipitation in Sathanur reservoir | 237 |
| 9.8 | Variation in magnesium, sulphate and precipitation values in Sathanur reservoir | 238 |
| 9.9 | Relationship between outflow, inflow and precipitation in Sathanur reservoir | 239 |
| 9.10 | Variation in turbidity values and reservoir outflow in Pick-up dam. | 240 |
| 9.11 | Variation in pH and outflow in Pick-up dam | 241 |
| 9.12 | Variation in E.C hardness and outflow in Pick-up dam | 242 |
| 9.13 | Variation in alkalinity, total solids and outflow in Pick-up dam | 243 |
| 9.14 | Variation in chloride and outflow in Pick-up dam | 244 |
| 9.15 | Variation in fluoride, iron and outflow in Pick-up dam | 245 |
| 9.16 | Vertical gradient of temperature and dissolved oxygen in Sathanur reservoir (June - 99) | 246 |

| | | |
|------|---|-----|
| 9.17 | Vertical gradient of temperature and dissolved oxygen in Sathanur reservoir(July- 99) | 247 |
|------|---|-----|

Chapter 10

| | | |
|------|---|-----|
| 10.1 | Irrigation pattern in SCA (block wise) for 1997-98 | 268 |
| 10.2 | Irrigation pattern in SCA (1997-98) | 269 |
| 10.3 | Gross irrigated area and gross cultivated area in SCA (1997-98) | 270 |
| 10.4 | Status of canal irrigation in SCA (1997-98). | 271 |

Chapter 11

| | | |
|-------|---|-----|
| 11.1 | Land use pattern of Thachampattu block (SLBC) for 1997-98 | 284 |
| 11.2 | Land use pattern of Thirukoilur block (SLBC) for 1997-98 | 285 |
| 11.3 | Land use pattern of Chengam block (SLBC) for 1997-98 | 286 |
| 11.4 | Land use pattern of SLBC command (1997-98) | 287 |
| 11.5 | Land use pattern of Sankarapuram block (SRBC) for 1997-98. | 288 |
| 11.6 | Land use pattern of Rishivandiyam block (SRBC) for 1997-98. | 289 |
| 11.7 | Land use pattern of Chengam block (SLBC) for 1997-98. | 290 |
| 11.8 | Land use pattern of SRBC command (1997-98) | 291 |
| 11.9 | Land use pattern of SCA (1997-98) | 292 |
| 11.10 | Land use pattern of Thiruvannamalai (1997-98) | 293 |
| 11.11 | Land use pattern of Tamil Nadu state, India (1995-96) | 294 |
| 11.12 | Follow land vs net sown area in SCA (1997-98) | 295 |

Chapter 13

| | | |
|-------|---|-----|
| 13.1 | Annual precipitation in SCA vs annual outflow from the Sathanur dam | 354 |
| 13.2 | Annual precipitation in Tamil Nadu state, India | 355 |
| 13.3 | Distribution of food crops and non - food crops in SCA | 356 |
| 13.4 | Area under paddy (<i>O.sativa</i>) cultivation during various seasons in SCA | 357 |
| 13.5 | Cropping pattern (1997-98) : Thachampattu block (SLBC command) | 358 |
| 13.6 | Cropping pattern (1997-98) : Thirukoilur block (SLBC command) | 359 |
| 13.7 | Cropping pattern (1997-98) : Chengam block (SLBC command) | 360 |
| 13.8 | Cropping pattern: SLBC command (1997-98) | 361 |
| 13.9 | Cropping pattern (1997-98):Sankarapuram (SRBC) command) | 362 |
| 13.10 | Cropping pattern (1997-98): Rishivandiyam block SRBC command) | 363 |
| 13.11 | Cropping pattern (1997-98): Chengam block (SRBC command) | 364 |
| 13.12 | Cropping pattern: SCA (1997-98) | 365 |
| 13.13 | Cropping pattern: SCA (1997-1998) | 366 |
| 13.14 | Cropping pattern: Tamil Nadu state, India (1996-1997) | 367 |
| 13.15 | Area under groundnut (<i>A.hypogaea</i>) cultivation in SCA and the state of Tamil Nadu | 368 |
| 13.16 | Classification of workers in SCA (1991 census) | 369 |
| 13.17 | Gender wise distribution of agricultural labourers in SCA (1991 census) | 370 |

Chapter 14

| | | |
|------|--|-----|
| 14.1 | pH values in the ground water in SLBC command | 384 |
| 14.2 | pH values in the ground water in SRBC command | 385 |
| 14.3 | Electrical conductivity values in the ground water in SLBC command | 386 |
| 14.4 | E.C. values in the ground water in SRBC command | 387 |
| 14.5 | Alkalinity values in the groundwater in SLBC command | 388 |

| | | |
|-------|---|-----|
| 14.6 | Alkalinity values in the groundwater in SRBC command | 389 |
| 14.7 | Total hardness values in the groundwater in SLBC command | 390 |
| 14.8 | Total hardness values in the ground water in SRBC command | 391 |
| 14.9 | Calcium values in the ground water in SLBC command | 392 |
| 14.10 | Calcium values in the ground water in SRBC command | 393 |
| 14.11 | Chloride values in the ground water in SLBC command | 394 |
| 14.12 | Chloride values in the ground water in SLBC command | 395 |
| 14.13 | Sulphate values in the ground water sample in SLBC command | 396 |
| 14.14 | Sulphate values in the ground water in SRBC command | 397 |
| 14.15 | Nitrogen (nitrate) values in the ground water in SLBC command | 398 |
| 14.16 | Nitrogen (nitrate) values in the ground water in SRBC command | 399 |
| 14.17 | Phosphate values in ground water in SLBC command | 400 |
| 14.18 | Phosphate values in ground water in SRBC command | 401 |
| 14.19 | Sodium values in ground water in SLBC command | 402 |
| 14.20 | Sodium concentration in ground water in SRBC command | 403 |
| 14.21 | Potassium concentration in ground water in SLBC command | 404 |
| 14.22 | Potassium concentration in ground water in SRBC command | 405 |
| 14.23 | Copper concentration in ground water in SLBC command | 406 |
| 14.24 | Copper concentration in ground water in SRBC command | 407 |
| 14.25 | Chromium concentration in ground water in SLBC command | 408 |
| 14.26 | Chromium concentration in ground water in SRBC command | 409 |
| 14.27 | Zinc concentration in ground water in SLBC command | 410 |
| 14.28 | Zinc concentration in ground water in SRBC command | 411 |

Chapter 15

| | | |
|-------|--|-----|
| 15.1 | Impact of precipitation on malarial annual parasite index in the villages of SLBC command -Devanur, Devariyarkuppam | 434 |
| 15.2 | Impact of precipitation on malarial annual parasite index in the villages of SLBC command -- Edathanur, Alappanur | 435 |
| 15.3 | Impact of precipitation on malarial annual parasite index in the villages of SLBC command - Melandhal, Kangaianur | 436 |
| 15.4 | Impact of precipitation on malarial annual parasite index in the villages of SLBC command - Vanapuram, Katampoondi | 437 |
| 15.5 | Impact of precipitation on malarial annual parasite index in the villages of SLBC command - Valavachanur, Sadakuppam | 438 |
| 15.6 | Impact of precipitation on malarial annual parasite index in the villages of SLBC command - Mazhuvampattu, Thenmudiyannur | 439 |
| 15.7 | Impact of precipitation on malarial annual parasite index in the villages of SLBC command - Vanapuram puddur, Perunduraipattu | 440 |
| 15.8 | Impact of precipitation on malarial annual parasite index in the villages of SLBC command - Palayanur, Periyampattu | 441 |
| 15.9 | Malarial annual parasite index vs annual precipitation in SLBC command | 442 |
| 15.10 | Impact of precipitation on malarial annual parasite index in the villages of SLBC command - Rayandapuram, Thirivudathanur | 443 |
| 15.11 | Impact of precipitation on malarial annual parasite index in the villages of SLBC command - Vadaponparappi, Moongilthuraipattu | 444 |
| 15.12 | Impact of precipitation on malarial annual parasite index in the villages of SLBC command - Puthurcheekady, Elayankani | 445 |
| 15.13 | Impact of precipitation on malarial annual parasite index in the villages of SLBC command - Poravalur, Porasapattu | 446 |
| 15.14 | Impact of precipitation on malarial annual parasite index in the villages of SRBC command | 447 |
| 15.15 | Annual precipitation in SCA and outflow from the reservoir | 448 |
| 15.16 | Impact of reservoir outflow on malarial annual parasite index in SLBC command | 449 |
| 15.17 | Impact of reservoir outflow on malarial annual parasite index in SRBC command | 450 |

| | | |
|-------|---|-----|
| 15.18 | Focal outbreak of malaria in Agarampallipattu village in SLBC command | 451 |
| 15.19 | Malarial annual parasite index for SCA | 452 |
| 15.20 | Incidence of malaria | 453 |
| 15.21 | Population distribution in various primary health centres in SCA | 454 |
| 15.22 | Malaria and filaria endemic villages in SLBC command | 455 |
| 15.23 | Malaria endemic villages in SRBC command | 458 |

Chapter 16

| | | |
|------|--|-----|
| 16.1 | Water logging in SLBC command | 507 |
| 16.2 | Water logging in SRBC command | 508 |
| 16.3 | Literacy status in SCA (1991 census) | 509 |
| 16.4 | Gender wise literacy status in SCA (1991 census) | 510 |