

APPENDICES TO CHAPTER 3

LAND USE AREAS BY ZONE, 1980

(In ha)

| Zone No. | High Density Residential | Residential Area | Commercial Area | Industrial Area | Government Institution Utility Facility | Religious Area | Agricultural Belt | Others | Total |
|----------|--------------------------|------------------|-----------------|-----------------|---|----------------|-------------------|--------|---------|
| 1. | | 1.2 | 11.2 | | 7.3 | 1.2 | | 143.8 | 164.7 |
| 2. | | 34.5 | 129.0 | 0.8 | 115.7 | 33.5 | | 3.4 | 316.9 |
| 3. | 17.6 | | 140.7 | 0.5 | 16.7 | 17.6 | | | 193.1 |
| 4. | | | 96.4 | | 7.8 | 10.8 | | 98.6 | 213.6 |
| 5. | | | 3.5 | 12.5 | 51.2 | 3.8 | | 36.4 | 107.4 |
| 6. | | 47.5 | 12.5 | | 242.5 | 2.8 | | 125.9 | 431.2 |
| 7. | | 122.5 | 30.0 | 25.0 | 295.0 | 7.5 | | 47.2 | 527.2 |
| 8. | | 537.5 | 62.5 | 200.0 | 45.0 | | 150.0 | 160.5 | 1,155.5 |
| 9. | 68.7 | 15.8 | 2.5 | | 4.8 | | | | 91.8 |
| 10. | 49.2 | 22.4 | 31.3 | | 131.9 | 4.4 | | | 239.2 |
| 11. | | 59.7 | 107.5 | 0.5 | 66.2 | 1.2 | | 115.2 | 350.3 |
| 12. | 20.0 | 9.0 | 125.0 | | 270.0 | 7.5 | | 488.7 | 920.2 |
| 13. | 12.5 | 7.5 | 112.5 | | 37.5 | 5.0 | | 95.3 | 270.3 |
| 14. | | 5.0 | 37.5 | | 77.5 | 7.5 | | 90.6 | 218.1 |
| 15. | 37.5 | 25.0 | 30.0 | | 67.5 | | | 188.5 | 348.5 |
| 16. | 7.5 | | 122.5 | | 19.0 | 3.0 | | 112.2 | 264.2 |
| 17. | | 50.0 | 80.0 | | 6.3 | 2.5 | | 150.6 | 289.4 |
| 18. | 155.0 | 25.0 | 32.5 | 45.2 | 24.0 | 31.2 | 6.0 | 439.6 | 758.5 |
| 19. | 5.0 | 157.5 | 7.5 | 10.0 | 7.2 | 10.0 | 212.0 | 452.9 | 862.1 |

(In ha)

| Zone No. | High Density Residential | Residential Area | Commercial Area | Industrial Area | Government Institution Utility Facility | Religious Area | Agricultural Belt | Others | Total |
|----------|--------------------------|------------------|-----------------|-----------------|---|----------------|-------------------|---------|---------|
| 20. | | 87.5 | 12.5 | | 80.0 | | | 224.1 | 404.1 |
| 21. | 22.5 | 347.5 | 37.5 | 40.0 | 7.0 | 5.0 | 386.0 | 820.7 | 1,666.2 |
| 22. | | 130.0 | 87.5 | | 0.5 | 0.4 | 94.0 | 258.0 | 570.4 |
| 23. | | 519.6 | 10.0 | | | | 279.0 | 998.2 | 1,806.8 |
| 24. | | 1,950.0 | 115.0 | 15.0 | 675.0 | | | 535.8 | 3,290.8 |
| 25. | | 1,027.5 | 35.0 | 40.0 | 448.8 | | 2,656.0 | 1,771.6 | 5,978.9 |
| 26. | | 1,002.5 | 51.5 | 7.5 | 784.5 | 23.8 | 4,156.0 | 1,635.5 | 7,661.3 |
| 27. | | 659.2 | 25.0 | 3.2 | 19.4 | 6.2 | 1,550.0 | 784.6 | 3,047.6 |
| 28. | | 2,409.5 | 86.3 | 8.0 | 11.9 | | 390.0 | 338.6 | 3,244.3 |
| 29. | | 1,310.0 | 42.5 | 64.0 | 45.0 | 5.8 | 3,300.0 | 540.8 | 5,308.1 |
| 30. | | 145.0 | | 1.2 | 0.8 | | 1,250.0 | 285.2 | 1,682.2 |
| 31. | | | 55.0 | 28.8 | 29.0 | 1.5 | 500.0 | 1,031.8 | 1,646.1 |
| 32.-33. | 80.0 | 312.5 | 75.0 | 75.0 | 14.0 | 2.5 | | 228.8 | 787.8 |
| 34.-35. | 20.1 | 587.5 | 72.5 | 15.0 | 10.0 | | | 128.1 | 833.2 |
| 36. | 21.4 | 461.8 | 85.9 | 21.4 | 28.1 | 6.4 | | 36.5 | 661.5 |
| 37. | | 350.0 | 32.5 | 7.5 | 12.5 | 15.0 | 725.0 | 811.4 | 1,953.9 |
| 38. | 13.0 | 712.5 | 58.8 | 245.0 | 127.5 | 10.5 | 425.0 | 3,000.0 | 4,592.3 |

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(in ba)

| Zone No. | High Density Residential | Residential Area | Commercial Area | Industrial Area | Government Institution Utility Facility | Religious Area | Agricultural Belt | Others | Total |
|----------|--------------------------|------------------|-----------------|-----------------|---|----------------|-------------------|----------|-----------|
| 39. | | 250.0 | 3.0 | 11.8 | 9.5 | | 1,750.0 | 718.0 | 2,742.3 |
| 40. | | 218.4 | 1.1 | 4.2 | 34.8 | | 2,450.0 | 76.3 | 2,784.8 |
| 41. | | 1,215.2 | 6.5 | 42.5 | 17.6 | 3.4 | 16,144.0 | 4.0 | 17,433.2 |
| 42. | | 396.0 | 4.1 | 40.7 | 44.6 | 5.4 | 11,828.0 | 67.1 | 12,385.9 |
| 43. | | 277.7 | | 5.4 | 5.8 | 2.6 | 23,333.0 | 1.6 | 23,626.1 |
| 44. | 10.9 | 746.6 | 71.1 | 5.5 | 28.0 | 26.8 | 222.0 | 167.9 | 1,278.8 |
| 45. | 70.7 | 303.1 | 47.4 | 4.1 | 100.6 | 17.3 | 212.0 | 296.3 | 1,051.5 |
| 46. | 362.5 | 112.5 | 61.2 | 15.0 | 33.3 | 30.7 | | 2.8 | 618.0 |
| 47. | 73.8 | | 30.0 | 2.5 | 18.8 | 7.2 | | 72.1 | 204.4 |
| 48. | 262.5 | | 37.8 | 18.1 | 5.5 | 10.7 | | 66.1 | 400.7 |
| 49. | 85.0 | | 14.0 | | 19.3 | 18.0 | | 11.3 | 147.6 |
| 50. | 115.0 | 5.5 | 25.0 | 6.2 | 5.2 | 14.0 | | 163.7 | 334.6 |
| 51. | 241.2 | 41.0 | 43.4 | 8.2 | 22.4 | 9.7 | | 14.5 | 380.4 |
| 52. | | 446.2 | 71.3 | 126.6 | 45.0 | 10.9 | 3,537.0 | 50.4 | 4,287.4 |
| 53. | 57.5 | 440.5 | 56.0 | 87.8 | 123.3 | 19.5 | 14,564.0 | 2,767.0 | 18,115.6 |
| 54. | | 966.2 | 48.2 | 70.7 | 358.0 | 15.9 | 8,757.0 | 7.1 | 10,223.0 |
| 55. | | 39.3 | 1.1 | 1.2 | 1.1 | 6.1 | 7,921.0 | | 7,969.8 |
| EXCC | 1,809.1 | 18,590.9 | 2,578.3 | 1,316.6 | 4,659.9 | 424.7 | 106,797.0 | 20,665.3 | 156,841.8 |

(In ha)

| Zone No. | High Density Residential | Residential Area | Commercial Area | Industrial Area | Government Institution Utility Facility | Religious Area | Agricultural Belt | Others | Total |
|--------------|--------------------------|------------------|-----------------|-----------------|---|----------------|-------------------|----------|-----------|
| 56. | | 369.5 | 26.5 | 136.5 | 36.0 | 35.8 | 2,505.0 | 976.7 | 4,086.0 |
| 57. | 2.5 | 227.5 | 20.0 | 160.0 | 330.3 | 15.5 | 9,318.0 | 16.2 | 10,090.0 |
| 58. | | 355.0 | 20.5 | 401.3 | 28.8 | 20.3 | 575.0 | 1,071.1 | 2,472.0 |
| 59. | 112.5 | 1,445.5 | 80.3 | 480.5 | 227.8 | 75.1 | 12,053.0 | 3,617.3 | 18,092.0 |
| 60. | | 43.8 | 20.0 | 7.5 | 8.0 | 1.2 | 24,044.0 | 993.5 | 25,118.0 |
| 61. | | 49.9 | | | | | 8,046.0 | 240.1 | 8,336.0 |
| 62. | | 187.0 | 22.5 | 23.8 | 35.8 | 20.8 | 22,083.0 | 527.1 | 22,900.0 |
| Samut prakan | 115.0 | 2,678.2 | 189.8 | 1,209.6 | 666.7 | 168.7 | 78,624.0 | 7,442.0 | 91,094.0 |
| 63. | | 172.5 | 2.5 | 0.4 | 5.0 | 10.0 | 1,114.0 | 74.6 | 1,379.0 |
| 64. | | | | | | | 4,641.0 | 28.0 | 4,669.0 |
| 65. | | 1,112.5 | 32.5 | 50.0 | 115.0 | 30.0 | 2,417.0 | 93.0 | 3,850.0 |
| 66. | 0.5 | 132.5 | | 7.5 | 14.2 | 11.5 | 7,999.0 | 73.8 | 8,239.0 |
| 67. | | 400.0 | 25.0 | 35.0 | 171.0 | 12.5 | 3,836.0 | 24.5 | 4,504.0 |
| 68. | | 287.5 | 5.5 | 2.8 | 9.8 | 1.4 | 42,513.0 | | 42,820.0 |
| Non thaburi | 0.5 | 2,105.0 | 65.5 | 95.7 | 315.0 | 65.4 | 62,520.0 | 293.9 | 65,461.0 |
| CBA | 1,924.6 | 23,374.1 | 2,893.6 | 2,621.9 | 5,641.6 | 658.8 | 247,941.0 | 28,401.2 | 313,396.8 |

Source = TCP, 1982

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APPENDIX TABLE 3-2

LAND USE AREAS BY ZONE, 2000

(In ha)

| Zone No. | High Density Residential | Medium Density Residential | Low Density Residential | Commercial Area | Industrial Area | Government Institution Utility Facility | Religious Area | Park Open Space | Agricultural Belt | Rural Area | Satellite Town | Total |
|----------|--------------------------|----------------------------|-------------------------|-----------------|-----------------|---|----------------|-----------------|-------------------|------------|----------------|---------|
| 1. | | | | | | 12.9 | 62.5 | 89.3 | | | | 164.7 |
| 2. | | | | 25.0 | | 127.0 | 52.5 | 112.4 | | | | 316.9 |
| 3. | | | | 135.5 | | 14.3 | 2.5 | 40.8 | | | | 193.1 |
| 4. | | | | 116.6 | | 37.9 | 5.0 | 54.1 | | | | 213.6 |
| 5. | | | | | | | 41.4 | 66.0 | | | | 107.4 |
| 6. | | | | | | 192.3 | | 238.9 | | | | 431.2 |
| 7. | | | | | | 229.7 | 10.0 | 287.5 | | | | 527.2 |
| 8. | | 280.5 | 400.0 | | | 55.0 | 20.0 | 400.0 | | | | 1,155.5 |
| 9. | | | | 51.8 | | | | 40.0 | | | | 91.8 |
| 10. | | | | 33.7 | | 180.5 | | 25.0 | | | | 239.2 |
| 11. | | | | 104.2 | | 118.4 | | 127.7 | | | | 350.3 |
| 12. | 460.2 | | | | | 190.0 | 10.0 | 260.0 | | | | 920.2 |
| 13. | | | | 132.8 | | 30.0 | | 107.5 | | | | 270.3 |
| 14. | | | | 48.1 | | 100.0 | 7.5 | 62.5 | | | | 218.1 |
| 15. | | | | 193.5 | | 80.0 | | 75.0 | | | | 348.5 |
| 16. | | | | 172.8 | 5.0 | | 2.5 | 83.9 | | | | 264.2 |
| 17. | | | | 284.4 | | 5.0 | | | | | | 289.4 |
| 18. | 345.3 | 280.0 | | | | | 40.0 | 93.2 | | | | 758.5 |
| 19. | | 732.1 | | | | | | 130.0 | | | | 862.1 |

(In ha)

| Zone No. | High Density Residential | Medium Density Residential | Low Density Residential | Commercial Area | Industrial Area | Government Institution Utility Facility | Religious Area | Park Open Space | Agricultural Belt | Rural Area | Satellite Town | Total |
|----------|--------------------------|----------------------------|-------------------------|-----------------|-----------------|---|----------------|-----------------|-------------------|------------|----------------|---------|
| 20. | 314.1 | | | | | 90.0 | | | | | | 404.1 |
| 21. | 488.4 | 367.8 | | 160.0 | | | | 650.0 | | | | 1,666.2 |
| 22. | | 107.9 | | 37.5 | | 25.0 | | 400.0 | | | | 570.4 |
| 23. | 304.4 | 689.9 | | 42.5 | | 70.0 | | 700.0 | | | | 1,806.8 |
| 24. | | 1,361.3 | | 660.0 | | 525.0 | | 744.5 | | | | 3,290.8 |
| 25. | | | 2,716.4 | | | 1,076.0 | | 1,691.5 | 495.0 | | | 5,978.9 |
| 26. | | | 1,126.4 | | | 496.0 | 35.0 | 2,378.5 | 3,625.4 | | | 7,661.3 |
| 27. | | 137.5 | 1,339.9 | 130.5 | | 10.7 | 8.2 | 1,420.8 | | | | 3,047.6 |
| 28. | | 407.0 | 1,714.3 | 338.5 | | | 1.7 | 782.8 | | | | 3,244.3 |
| 29. | | | 1,825.0 | | | | 64.1 | 1,934.0 | 1,485.0 | | | 5,308.1 |
| 30. | | | | | | | | 524.7 | 1,157.5 | | | 1,682.2 |
| 31. | | 139.5 | 315.0 | 62.5 | | 44.1 | | 702.5 | 382.5 | | | 1,646.1 |
| 32.-33. | 212.8 | | | 200.0 | | 125.0 | | 250.0 | | | | 787.8 |
| 34.-35. | 251.9 | 265.0 | | 75.0 | | 12.5 | | 228.8 | | | | 833.2 |
| 36. | | 347.1 | | 157.2 | | 13.8 | 5.9 | 137.5 | | | | 661.5 |
| 37. | | | 703.9 | | | | | 1,250.0 | | | | 1,953.9 |
| 38. | | 187.0 | 2,136.4 | | | | | 1,705.0 | 563.9 | | | 4,592.3 |

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(In ha)

| Zone No. | High Density Residential | Medium Density Residential | Low Density Residential | Commercial Area | Industrial Area | Government Institution Utility Facility | Religious Area | Park Open Space | Agricultural Belt | Rural Area | Satellite Town | Total |
|----------|--------------------------|----------------------------|-------------------------|-----------------|-----------------|---|----------------|-----------------|-------------------|------------|----------------|-----------|
| 39. | | | 942.3 | | | | | 1,275.0 | 525.0 | | | 2,742.3 |
| 40. | | | 384.8 | | | | | 525.0 | 1,875.0 | | | 2,784.8 |
| 41. | | | | | 226.9 | 65.5 | 15.7 | 1,351.5 | 14,952.8 | | 820.8 | 17,433.2 |
| 42. | | | | | 843.0 | 50.0 | 31.4 | 1,052.5 | 4,203.8 | 5,531.5 | 673.7 | 12,385.9 |
| 43. | | | | | | | | 250.0 | | 22,801.9 | 574.2 | 23,626.1 |
| 44. | 132.1 | | 481.7 | 140.0 | | | 75.2 | 281.5 | 168.3 | | | 1,278.8 |
| 45. | 194.0 | | 160.2 | | | 97.6 | 25.0 | 331.5 | 243.2 | | | 1,051.5 |
| 46. | 277.0 | | 190.0 | | | | 10.0 | 141.0 | | | | 618.0 |
| 47. | 80.0 | | | | | 9.5 | 5.0 | 109.9 | | | | 204.4 |
| 48. | 279.5 | | | | | | | 121.2 | | | | 400.7 |
| 49. | | | | | | | 10.0 | 68.1 | | | | 147.6 |
| 50. | | 74.8 | 63.0 | | | | 10.0 | 96.9 | | | | 334.6 |
| 51. | | 167.5 | | | | | 31.4 | 93.1 | | | | 380.4 |
| 52. | | | 1,000.0 | | 452.0 | | | 230.0 | 2,605.4 | | | 4,287.4 |
| 53. | | | 1,057.5 | | | 30.0 | | 902.2 | 16,125.9 | | | 18,115.6 |
| 54. | | | 644.9 | | | | | 824.9 | 7,169.6 | | 1,583.6 | 10,223.0 |
| 55. | | | 300.0 | | | | | 509.5 | 7,160.3 | | | 7,969.8 |
| BKK | 3,339.7 | 5,544.9 | 17,501.7 | 3,522.7 | 1,526.9 | 4,140.9 | 582.5 | 25,958.2 | 62,738.6 | 28,333.4 | 3,652.3 | 156,841.8 |

(In ha)

| Zone No. | High Density Residential | Medium Density Residential | Low Density Residential | Commercial Area | Industrial Area | Government Utility Facility | Religious Area | Park Open Space | Agricultural Belt | Rural Area | Satellite Town | Total |
|---------------|--------------------------|----------------------------|-------------------------|-----------------|-----------------|-----------------------------|----------------|-----------------|-------------------|------------|----------------|-----------|
| 56. | | | 162.5 | | 191.5 | | 33.8 | 1,248.8 | 2,611.9 | | | 4,086.0 |
| 57. | | | 137.5 | | 562.5 | 275.0 | 22.5 | 1,138.5 | 8,514.0 | | | 10,090.0 |
| 58. | | 17.5 | | | | | | 1,112.0 | 620.0 | | | 2,472.0 |
| 59. | | 1,383.5 | 2,340.0 | 294.1 | 50.0 | 85.0 | 132.5 | 2,957.4 | 10,849.5 | | | 18,092.0 |
| 60. | | | | | | | | 1,526.0 | 14,177.4 | 7,851.0 | 1,563.6 | 25,118.0 |
| 61. | | | | | | 3,759.0 | | 212.5 | 2,567.5 | 1,797.0 | | 8,336.0 |
| 62. | | | 855.0 | | | | | 1,446.0 | 936.0 | 19,663.0 | | 22,900.0 |
| Sangat prakaz | | 1,401.0 | 3,495.0 | 294.1 | 804.0 | 4,119.0 | 188.8 | 9,641.2 | 40,276.3 | 29,311.0 | 1,563.6 | 91,094.0 |
| 63. | | | | | | 33.0 | 25.0 | 410.0 | 911.0 | | | 1,379.0 |
| 64. | | | | | | | 7.5 | 622.5 | 4,039.0 | | | 4,669.0 |
| 65. | | | 2,134.5 | 125.0 | | 172.0 | 15.5 | 551.5 | 851.5 | | | 3,850.0 |
| 66. | | | 743.0 | | | 5.0 | 22.5 | 2,269.5 | 5,199.0 | | | 8,239.0 |
| 67. | | | 290.5 | 68.0 | | 214.7 | 15.0 | 1,296.5 | 2,619.3 | | | 4,504.0 |
| 68. | | | 317.0 | 100.0 | | 5.0 | 5.0 | 3,626.0 | 16,554.5 | 22,015.0 | 197.5 | 42,820.0 |
| Months built | | | 3,485.0 | 293.0 | | 429.7 | 90.5 | 8,776.0 | 30,174.3 | 22,015.0 | 197.5 | 65,461.0 |
| GBA. | 3,339.7 | 6,945.9 | 24,481.7 | 4,109.8 | 2,330.9 | 8,689.6 | 861.8 | 44,375.4 | 133,189.2 | 79,659.4 | 5,413.4 | 313,396.8 |

Source : TCP in 1982

APPENDIX TABLE 3-3
POPULATION FORECAST

A. POPULATION BY REGION

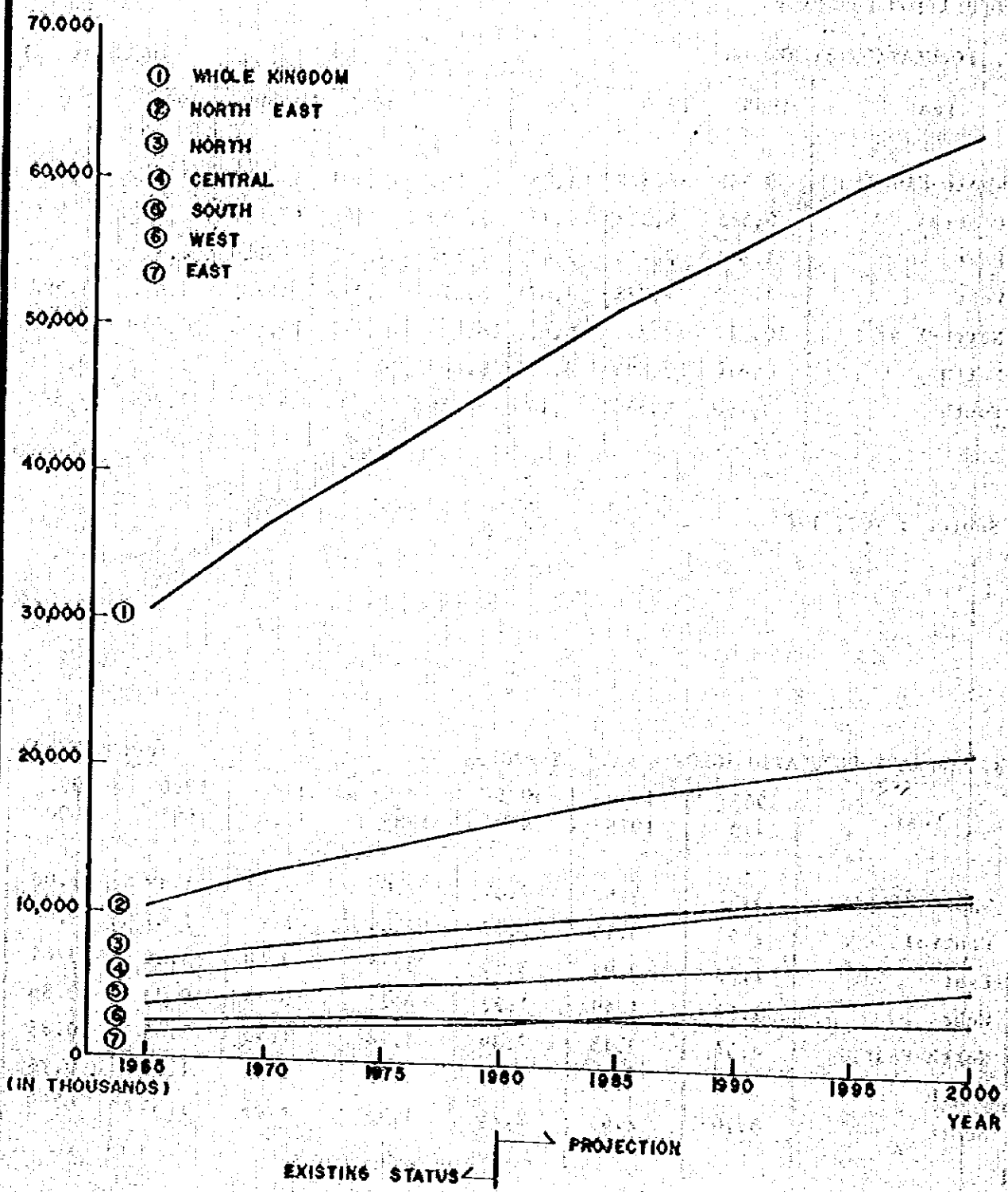
| Year | (In thousand) | | | | | | | |
|---------------|---------------|--------|--------|--------|--------|--------|--------|--------|
| | 1965 | 1970 | 1975 | 1980 | 1985 | 1990 | 1995 | 2000 |
| Whole-Kingdom | 30,568 | 36,370 | 41,388 | 46,455 | 51,301 | 55,345 | 59,580 | 62,868 |
| Central | 5,565 | 6,319 | 7,379 | 8,500 | 9,588 | 10,547 | 11,570 | 11,966 |
| East | 1,841 | 2,114 | 2,447 | 2,891 | 3,477 | 4,110 | 4,849 | 5,790 |
| West | 2,569 | 2,778 | 3,021 | 3,210 | 3,329 | 3,385 | 3,441 | 3,592 |
| North-East | 10,217 | 12,755 | 14,606 | 16,433 | 18,122 | 19,453 | 20,801 | 21,700 |
| North | 6,616 | 7,894 | 8,795 | 9,667 | 10,449 | 11,048 | 11,650 | 12,222 |
| South | 3,760 | 4,510 | 5,140 | 5,754 | 6,336 | 6,802 | 7,269 | 7,598 |

Source : TCP, 1982

B. AVERAGE POPULATION GROWTH RATE BY REGION

| Year | (In thousand) | | | | | | |
|---------------|---------------|-----------|-----------|-----------|-----------|-----------|-----------|
| | 1965-1970 | 1970-1975 | 1975-1980 | 1980-1985 | 1985-1990 | 1990-1995 | 1995-2000 |
| Whole-Kingdom | 3.54 | 2.62 | 2.34 | 2.00 | 1.53 | 1.49 | 1.08 |
| Central | 2.57 | 3.15 | 2.87 | 2.44 | 1.92 | 1.87 | 0.68 |
| East | 2.80 | 2.97 | 3.39 | 3.76 | 3.40 | 3.36 | 3.61 |
| West | 1.58 | 1.69 | 1.22 | 0.73 | 0.33 | 0.33 | 0.86 |
| North-East | 4.54 | 2.75 | 2.39 | 1.98 | 1.43 | 1.35 | 0.85 |
| North | 3.60 | 2.19 | 1.91 | 1.57 | 1.12 | 1.07 | 0.96 |
| South | 3.70 | 2.65 | 2.28 | 1.95 | 1.43 | 1.34 | 0.89 |

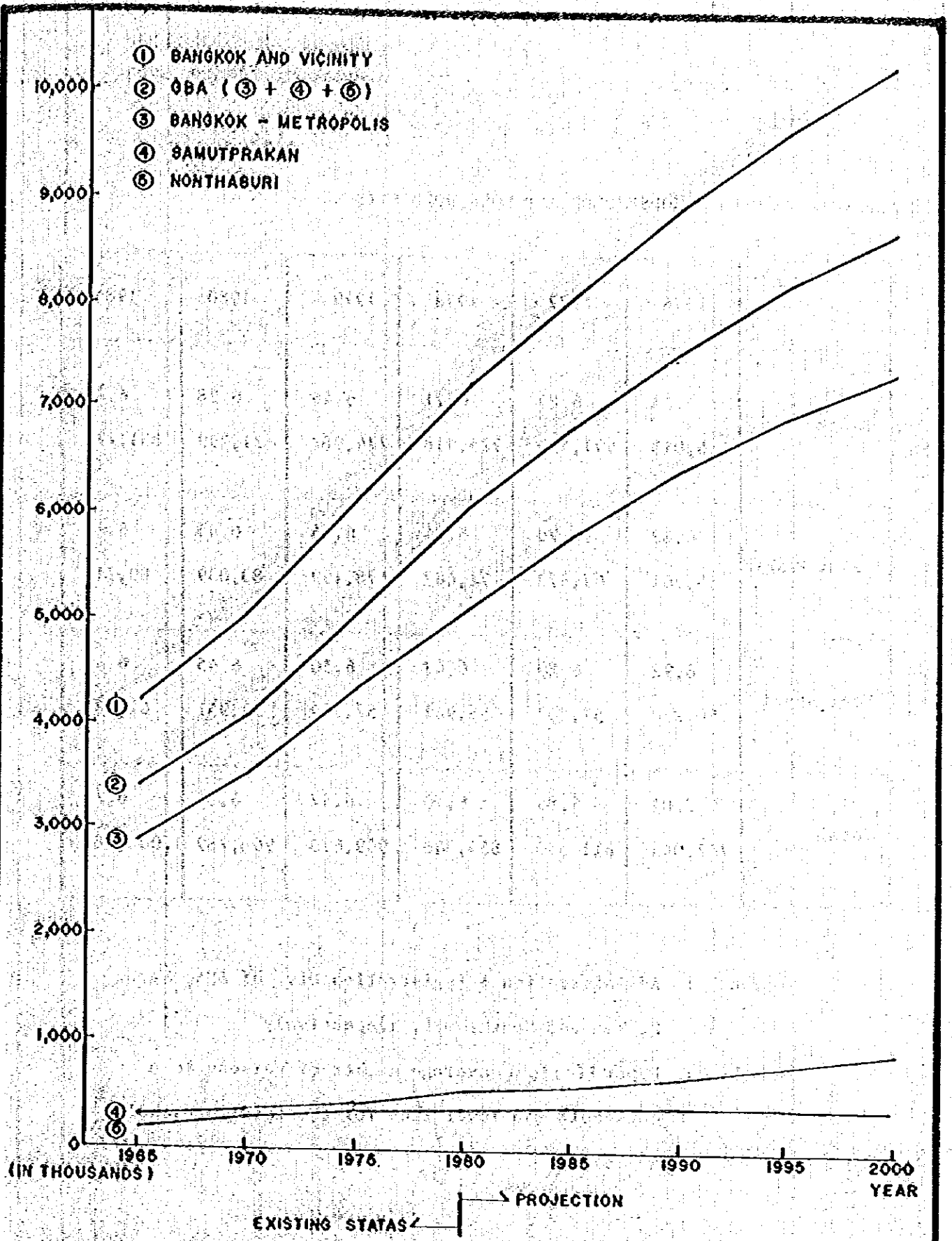
Source : TCP, 1982



APPENDIX
FIG. 3-1

POPULATION BY REGION

THE SECOND STAGE EXPRESSWAY SYSTEM IN THE GREATER BANGKOK



APPENDIX
FIG. 3-2

POPULATION IN THE GBA

THE SECOND STAGE EXPRESSWAY SYSTEM IN THE GREATER BANGKOK

APPENDIX TABLE 3-4 HOUSEHOLDS AND HOUSEHOLD SIZE

| | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 |
|--------------|-----------------|-----------------|-----------------|-----------------|-----------------|-------------------|
| Bangkok | 7.04 646,013 | 6.87 691,550 | 6.71 725,918 | 6.46 774,082 | 6.28 821,299 | 6.26 851,290 |
| Samut Prakan | 6.82 65,761 | 6.90 67,473 | 6.74 72,487 | 6.54 78,199 | 6.45 83,039 | 6.25 89,214 |
| Nonthaburi | 6.92 50,270 | 6.80 52,307 | 6.47 55,941 | 6.50 57,389 | 6.45 59,951 | 6.43 62,783 |
| Total | 7.01 762,044 | 6.86 811,330 | 6.70 854,348 | 6.47 909,670 | 6.30 964,289 | 6.29 1,003,287 |

Source : Administration & Registration Div. of BMA, Samut Prakan and Nonthaburi, respectively.

Remarks : Upper line is for average number of persons in a household and lower line for the total household number.

| | 1976 | | 1977 | | 1978 | | 1979 | | 1980 | |
|--|-------------------|---------|-------------------|---------|-------------------|---------|-------------------|---------|-------------------|---------|
| | | % | | % | | % | | % | | % |
| 1. Agriculture, Fishing and Forestry Hunting | 5,773.6 (0.3) | (60.0) | 6,104.0 (0.4) | (57.4) | 6,291.9 (0.2) | (56.6) | 6,301.0 (0.3) | (54.2) | 6,333.8 (0.3) | (52.8) |
| 2. Mining and Quarrying | 26.1 (0.3) | | 47.1 (0.4) | | 17.0 (0.2) | | 38.0 (0.3) | | 32.6 (0.3) | |
| 3. Manufacturing | 1,023.1 (10.6) | (13.3) | 1,128.6 (10.6) | (14.1) | 1,270.3 (11.4) | (14.3) | 1,514.2 (13.0) | (16.7) | 1,565.4 (13.1) | (16.9) |
| 4. Construction, Repair and Demolition | 232.2 (2.4) | | 327.4 (3.1) | | 307.9 (2.8) | | 398.3 (3.4) | | 427.0 (3.6) | |
| 5. Electricity, Gas, Water and Sanitary Services | 44.6 (0.5) | | 48.5 (0.5) | | 58.2 (0.5) | | 53.9 (0.5) | | 59.9 (0.5) | |
| 6. Commerce | 942.6 (9.8) | | 1,164.4 (11.0) | | 1,164.1 (10.4) | | 1,247.8 (10.7) | | 1,375.2 (11.5) | |
| 7. Transport, Storage and Communication | 318.3 (3.3) | (26.7) | 367.6 (3.5) | (28.4) | 375.6 (3.4) | (29.2) | 414.4 (3.6) | (29.1) | 445.9 (3.7) | (30.3) |
| 8. Services | 1,269.8 (13.2) | | 1,443.0 (13.6) | | 1,655.7 (14.9) | | 1,668.1 (14.3) | | 1,746.6 (14.6) | |
| 9. Activities not adequately described | - | | 0.7 (0.0) | | - | | - | | 0.5 (0.0) | |
| 10. Total 1) | 9,630.3 | (100.0) | 10,631.3 | (100.0) | 11,140.7 | (100.0) | 11,635.7 | (100.0) | 11,986.3 | (100.0) |
| 11. Total including unpaid family workers | 18,410.9 | (42.6) | 20,308.1 | (45.9) | 21,738.1 | (48.1) | 21,229.5 | (46.0) | 22,523.9 | (48.0) |
| 12. Population | 43,213.7 | (100.0) | 44,272.7 | (100.0) | 45,224.6 | (100.0) | 46,113.8 | (100.0) | 46,961.3 | (100.0) |
| 13. Employment Rate (10/12) | | (22.3) | | (24.0) | | (24.6) | | (25.2) | | (25.5) |

Source: NSQ, Reports of the Labour Force Survey Round 2, 1976-1980, respectively.

Note: 1) Excluding unpaid family workers.

APPENDIX TABLE 3-6

EMPLOYED PERSONS BY INDUSTRY IN CENTRAL REGION¹⁾

| | 1976 | | 1977 | | 1978 | | 1979 | | 1980 | |
|--|-----------------|---------|-----------------|---------|-----------------|---------|-----------------|---------|-----------------|---------|
| | | % | | % | | % | | % | | % |
| 1. Agriculture, Fishing and Forestry Hunting | 1,183.1 | (54.9) | 1,223.2 | (51.1) | 1,321.4 | (52.3) | 1,182.2 | (45.7) | 1,220.3 | (46.4) |
| 2. Mining and Quarrying | 9.6 (0.4) | | 11.2 (0.5) | | 1.0 (0.0) | | 5.3 (0.2) | | 10.0 (0.4) | |
| 3. Manufacturing | 264.7 (12.3) | (15.4) | 305.2 (12.8) | (17.8) | 323.6 (12.8) | (16.5) | 480.5 (18.6) | (23.2) | 440.4 (16.8) | (22.2) |
| 4. Construction, Repair and Demolition | 58.2 (2.7) | | 108.3 (4.5) | | 91.9 (3.6) | | 114.2 (4.4) | | 131.2 (5.0) | |
| 5. Electricity, Gas, Water and Sanitary Services | 9.5 (0.4) | | 12.3 (0.5) | | 13.8 (0.5) | | 7.8 (0.3) | | 13.9 (0.5) | |
| 6. Commerce | 210.6 (9.8) | | 278.6 (11.6) | | 238.5 (9.4) | | 260.6 (10.1) | | 296.9 (11.3) | |
| 7. Transport, Storage and Communication | 84.8 (3.9) | (29.6) | 102.1 (4.3) | (31.1) | 85.7 (3.4) | (31.2) | 120.3 (4.6) | (31.1) | 115.1 (4.4) | (31.4) |
| 8. Services | 332.7 (15.5) | | 350.6 (14.7) | | 449.0 (17.8) | | 417.4 (16.1) | | 399.8 (15.2) | |
| 9. Activities not adequately described | - | | - | | - | | - | | - | |
| 10. Total ²⁾ | 2,153.2 | (100.0) | 2,391.5 | (100.0) | 2,524.9 | (100.0) | 2,588.3 | (100.0) | 2,627.6 | (100.0) |
| 11. Total including unpaid family workers | 3,893.0 | (40.0) | 4,271.7 | (42.9) | 4,418.2 | (43.5) | 4,206.6 | (40.6) | 4,433.4 | (42.2) |
| 12. Population | 9,730.1 | (100.0) | 9,964.2 | (100.0) | 10,163.9 | (100.0) | 10,367.1 | (100.0) | 10,508.3 | (100.0) |
| 13. Employment Rate (10/12) | | (22.1) | | (24.0) | | (24.8) | | (25.0) | | (25.0) |

EMPLOYED PERSONS BY INDUSTRY IN BANGKOK

(in thousands)

| | 1976 | | 1977 | | 1978 | | 1979 | | 1980 | |
|--|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| | | % | | % | | % | | % | | % |
| 1. Agriculture, Fishing and Forestry Hunting | 69.0 | (5.5) | 78.2 | (4.9) | 106.0 | (5.9) | 88.4 | (4.7) | 75.7 | (3.8) |
| 2. Mining and Quarrying | 0.6 | (0.0) | 1.0 | (0.1) | 1.1 | (0.1) | 1.2 | (0.1) | 0.5 | (0.0) |
| 3. Manufacturing | 337.6 | (31.8) | 423.0 | (31.6) | 558.7 | (35.7) | 554.5 | (35.2) | 593.4 | (35.2) |
| 4. Construction, Repair and Demolition | 59.0 | (4.7) | 80.4 | (5.4) | 85.4 | (4.7) | 103.8 | (5.5) | 108.8 | (5.5) |
| 5. Electricity, Gas, Water and Sanitary Services | 22.1 | (1.8) | 21.4 | (1.4) | 20.9 | (1.2) | 25.7 | (1.4) | 25.1 | (1.3) |
| 6. Commerce | 313.8 | (25.1) | 405.6 | (27.1) | 441.6 | (24.4) | 455.5 | (24.3) | 497.9 | (25.0) |
| 7. Transport, Storage and Communication | 87.6 | (62.7) | 111.7 | (63.5) | 116.1 | (58.5) | 128.1 | (60.1) | 126.0 | (61.0) |
| 8. Services | 361.3 | (28.9) | 474.4 | (31.7) | 478.2 | (26.4) | 515.0 | (27.5) | 566.3 | (28.4) |
| 9. Activities not adequately described | 0.0 | (0.0) | 0.1 | (0.0) | 0.0 | (0.0) | 0.0 | (0.0) | 0.4 | (0.0) |
| 10. Total 1) | 1,251.0 | (100.0) | 1,595.8 | (100.0) | 1,808.0 | (100.0) | 1,872.2 | (100.0) | 1,994.1 | (100.0) |
| 11. Total including unpaid family workers | 1,449.3 | (31.9) | 1,934.4 | (40.6) | 2,138.9 | (43.9) | 2,194.7 | (43.9) | 2,330.6 | (45.2) |
| 12. Population | 4,545.6 | (100.0) | 4,742.8 | (100.0) | 4,870.5 | (100.0) | 4,999.5 | (100.0) | 5,153.9 | (100.0) |
| 13. Employment Rate (10/12) | | (27.5) | | (33.6) | | (37.1) | | (37.4) | | (38.7) |

Source : NSO, Report of the Labour Force Survey Round 2, 1976-1980, respectively

Note : 1) Excluding unpaid family worker.

APPENDIX TABLE 3-8

EMPLOYED PERSONS IN THE GBA, 1982

(In thousand)

| | Employed Persons at Residential Places | | Employed Persons at Work Places | |
|-----------------------|--|---------|---------------------------------|-------------------------|
| | | | | |
| Bangkok Metropolis | 2,128.6 (39.0%) | A 1) | 75.7 (3.6%) | A 75.7 (3.5%) |
| | | B 2) | 2,052.9 (96.4%) | B 2,072.7 (96.5%) |
| Nonthaburi | 101.5 (25.0%) | A | 44.3 (43.6%) | A 44.3 (46.0%) |
| | | B | 57.2 (56.4%) | B 52.0 (54.0%) |
| Samut Prakan | 170.4 (30.0%) | A | 55.8 (32.7%) | A 55.8 (33.6%) |
| | | B | 114.6 (67.3%) | B 110.5 (66.4%) |
| Total-Area | 2,400.5 (37.3%) | A | 175.8 (7.3%) | A 175.8 (7.3%) |
| | | B | 2,224.7 (92.7%) | B 2,235.2 (92.7%) |

Source : Estimated by the Team

Remarks : () percent in the population

(()) a ratio of those at work places/residential places

- 1) A is agriculture and others in the primary sector. The persons in 1982 were assumed to be equal to those in 1980. Those in 2000 were estimated by the average area per employed person of the sector in 1980 and the agricultural area approximated by studying the new Structural Plan 2000.
- 2) B is other sectors excluding A above. The ratio of employed persons at work places over those at residential places in 2000 was assumed to be equal to that in 1980 (excluding agriculture and others in the primary sector)

APPENDIX TABLE 3-9

EMPLOYED PERSONS IN THE GBA, 2000

(In thousand)

| | Employed Persons at Residential Places | | Employed Persons at Work Places | | | |
|--------------------|--|-----------------|---------------------------------|---------------------|-----------------|--------------------|
| | | A | B | A | B | |
| Bangkok Metropolis | 3,034.4 (41.2%) | 64.6 (2.1%) | 2,969.8 (97.9%) | 3,063.0 (100.9%) | 64.6 (2.1%) | 2,998.4 (97.9%) |
| Nonthaburi | 112.9 (26.5%) | 37.0 (32.8%) | 75.9 (67.2%) | 106.0 (93.9%) | 37.0 (34.9%) | 69.0 (65.1%) |
| Samut Prakan | 317.0 (33.9%) | 49.4 (15.6%) | 267.6 (84.4%) | 307.4 (97.0%) | 49.4 (16.1%) | 258.0 (83.9%) |
| Total Area | 3,464.3 (39.7%) | 151.0 (4.4%) | 3,313.3 (95.6%) | 3,476.4 (100.3%) | 151.0 (4.3%) | 3,325.4 (95.7%) |

Source and Notes : See Appendix Table 3-8

APPENDIX TABLE 3-10 POPULATION AND EMPLOYED PERSONS BY ZONE 1982 AND 2000

| Zone No. | Zone Name | Area (ha) | 1982 | | | 2000 | | |
|----------|-----------|-----------|------------------------|---------------------------------|---------------------------------|------------------------|---------------------------------|---------------------------------|
| | | | Residential Population | Population Density (persons/ha) | Employed Persons at Work Places | Residential Population | Population Density (Persons/ha) | Employed Persons at Work Places |
| 1. | | 165 | 9,260 | 56 | 30,730 | 12,850 | 78 | 30,730 |
| 2. | | 317 | 89,250 | 282 | 154,580 | 123,820 | 391 | 154,580 |
| 3. | | 193 | 188,500 | 977 | 175,370 | 235,760 | 1,222 | 175,370 |
| 4. | | 214 | 98,780 | 462 | 158,190 | 131,870 | 616 | 158,190 |
| 5. | | 107 | 140,280 | 1,311 | 6,710 | 140,280 | 1,311 | 6,710 |
| 6. | | 431 | 102,490 | 238 | 14,260 | 174,240 | 404 | 14,260 |
| 7. | | 527 | 123,070 | 234 | 23,910 | 200,660 | 381 | 23,910 |
| 8. | | 1,156 | 167,490 | 145 | 31,340 | 347,490 | 301 | 31,340 |
| 9. | | 92 | 42,540 | 462 | 16,860 | 64,200 | 698 | 16,860 |
| 10. | | 239 | 247,370 | 1,035 | 36,430 | 247,370 | 1,035 | 36,430 |
| 11. | | 351 | 49,400 | 141 | 53,230 | 74,560 | 212 | 53,230 |
| 12. | | 920 | 186,210 | 202 | 56,890 | 281,070 | 306 | 56,890 |
| 13. | | 270 | 90,750 | 336 | 55,260 | 111,950 | 415 | 55,260 |
| 14. | | 218 | 129,130 | 592 | 28,360 | 159,270 | 731 | 28,360 |
| 15. | | 349 | 16,630 | 48 | 68,620 | 20,510 | 59 | 68,620 |
| 16. | | 264 | 60,500 | 229 | 91,170 | 74,260 | 281 | 91,170 |
| 17. | | 289 | 80,760 | 279 | 162,360 | 99,120 | 343 | 162,360 |
| 18. | | 759 | 169,270 | 223 | 46,180 | 169,270 | 223 | 46,180 |
| 19. | | 862 | 98,260 | 114 | 14,690 | 98,260 | 114 | 14,690 |
| 20. | | 404 | 40,100 | 99 | 15,530 | 63,460 | 157 | 15,530 |
| 21. | | 1,666 | 82,480 | 50 | 44,560 | 155,620 | 93 | 44,560 |
| 22. | | 570 | 25,140 | 44 | 49,890 | 36,750 | 64 | 49,890 |
| 23. | | 1,807 | 190,940 | 106 | 9,020 | 266,250 | 147 | 9,020 |
| 24. | | 3,291 | 169,330 | 51 | 79,410 | 246,730 | 75 | 79,410 |
| 25. | | 5,979 | 116,490 | 19 | 16,030 | 190,180 | 32 | 16,030 |
| 26. | | 7,661 | 147,210 | 19 | 17,280 | 178,370 | 23 | 17,280 |
| 27. | | 3,048 | 66,590 | 22 | 6,010 | 113,810 | 37 | 6,010 |
| 28. | | 3,244 | 120,240 | 37 | 27,810 | 179,480 | 55 | 27,810 |
| 29. | | 5,308 | 58,830 | 11 | 10,570 | 122,580 | 23 | 10,570 |
| 30. | | 1,682 | 15,180 | 9 | 1,740 | 15,180 | 9 | 1,740 |
| 31. | | 1,646 | 32,020 | 19 | 25,400 | 47,090 | 29 | 25,400 |
| 32. | | 413 | 50,080 | 121 | 34,650 | 50,080 | 121 | 34,650 |
| 33. | | 375 | 48,120 | 128 | 47,850 | 48,120 | 128 | 47,850 |
| 34. | | 627 | 74,870 | 119 | 20,280 | 96,130 | 153 | 20,280 |

| Zone No. | Zone Name | Area (ha) | 1982 | | | 2000 | | |
|----------|--------------|-----------|------------------------|---------------------------------|---------------------------------|------------------------|---------------------------------|---------------------------------|
| | | | Residential Population | Population Density (persons/Ha) | Employed Persons at Work Places | Residential Population | Population Density (Persons/Ha) | Employed Persons at Work Places |
| 35. | | 203 | 22,370 | 110 | 11,910 | 28,710 | 141 | 22,480 |
| 36. | | 662 | 81,380 | 123 | 31,730 | 81,380 | 123 | 46,090 |
| 37. | | 1,954 | 67,390 | 34 | 4,350 | 67,400 | 34 | 11,920 |
| 38. | | 4,592 | 151,090 | 33 | 55,800 | 205,350 | 45 | 55,800 |
| 39. | | 2,742 | 29,660 | 11 | 7,070 | 86,600 | 32 | 16,270 |
| 40. | | 2,785 | 37,910 | 14 | 2,750 | 45,420 | 16 | 7,810 |
| 41. | | 17,433 | 60,560 | 3 | 16,170 | 88,230 | 5 | 33,450 |
| 42. | | 12,386 | 45,960 | 4 | 18,380 | 60,980 | 5 | 54,670 |
| 43. | | 23,625 | 53,210 | 2 | 18,300 | 66,800 | 3 | 24,180 |
| 44. | | 1,279 | 142,580 | 111 | 33,340 | 189,090 | 148 | 75,530 |
| 45. | | 1,052 | 252,630 | 240 | 17,870 | 288,910 | 275 | 30,880 |
| 46. | | 618 | 104,720 | 169 | 20,980 | 134,710 | 218 | 39,470 |
| 47. | | 204 | 65,770 | 322 | 20,060 | 65,770 | 322 | 20,060 |
| 48. | | 401 | 72,690 | 181 | 16,640 | 125,060 | 312 | 36,600 |
| 49. | | 148 | 53,330 | 360 | 10,210 | 61,930 | 418 | 25,030 |
| 50. | | 335 | 107,150 | 320 | 22,110 | 144,030 | 430 | 38,920 |
| 51. | | 380 | 112,730 | 297 | 17,080 | 170,180 | 448 | 34,200 |
| 52. | | 4,287 | 125,410 | 29 | 57,240 | 190,530 | 44 | 57,240 |
| 53. | | 18,116 | 222,630 | 12 | 54,010 | 281,350 | 16 | 54,010 |
| 54. | | 10,223 | 247,520 | 24 | 73,010 | 309,330 | 30 | 73,010 |
| 55. | | 7,970 | 73,720 | 9 | 8,220 | 96,630 | 12 | 10,550 |
| | Bangkok | 156,842 | 5,457,970 | 35 | 2,148,400 | 7,365,030 | 47 | 3,063,000 |
| 56. | | 4,086 | 91,740 | 22 | 14,370 | 190,150 | 47 | 14,370 |
| 57. | | 10,090 | 53,050 | 5 | 23,880 | 78,280 | 8 | 23,880 |
| 58. | | 2,472 | 57,110 | 23 | 19,070 | 145,600 | 59 | 29,630 |
| 59. | | 18,092 | 215,210 | 12 | 61,900 | 430,350 | 24 | 165,290 |
| 60. | | 25,118 | 68,160 | 3 | 18,720 | 58,080 | 2 | 36,360 |
| 61. | | 8,336 | 16,320 | 2 | 6,920 | 12,640 | 2 | 12,260 |
| 62. | | 22,900 | 66,440 | 3 | 21,440 | 20,390 | 1 | 25,560 |
| | Samut Prakan | 91,094 | 568,030 | 6 | 166,300 | 935,490 | 10 | 307,350 |
| 63. | | 1,379 | 28,510 | 21 | 4,380 | 13,320 | 10 | 4,380 |

| Zone No. | Zone Name | Area (ha) | 1982 | | | 2000 | | |
|----------|------------|-----------|------------------------|---------------------------------|---------------------------------|------------------------|---------------------------------|---------------------------------|
| | | | Residential Population | Population Density (persons/Ha) | Employed Persons at Work Places | Residential Population | Population Density (Persons/Ha) | Employed Persons at Work Places |
| 64. | | 4,669 | 26,980 | 6 | 3,800 | 26,980 | 6 | 3,800 |
| 65. | | 3,850 | 138,880 | 36 | 27,970 | 193,390 | 50 | 32,000 |
| 66. | | 8,239 | 57,060 | 7 | 8,790 | 86,650 | 11 | 8,790 |
| 67. | | 4,504 | 50,010 | 11 | 15,060 | 50,010 | 11 | 15,060 |
| 68. | | 42,820 | 104,410 | 2 | 36,300 | 55,190 | 1 | 41,500 |
| | Nonthaburi | 65,461 | 405,850 | 6 | 96,300 | 425,540 | 7 | 106,000 |
| | The GBA | 313,397 | 6,431,850 | 21 | 2,411,000 | 8,726,060 | 28 | 3,476,000 |

APPENDIX 3.1 POPULATION AND EMPLOYMENT IN THE GBA AND THE ZONES

3.1.1 Population

TCP provided Tambon-wise population forecast for 1986, which was used for the 5th 5-Year Plan. Using the data together with the population in 1980, the annual average growth rate from 1980 to 1986 in each Tambon is calculated. It is used to determine the population in 1982 which in turn is reclassified into the population of traffic zones. The zonal population in 1982 is shown in Appendix Table 3-10.

The population forecast by Amphoe in 2000 was provided by TCP likewise. The zones designated as the core district were assumed not to change its percent share to the population of the total zones. The percent shares of these zones in 1982 were used to estimate those in 2000.

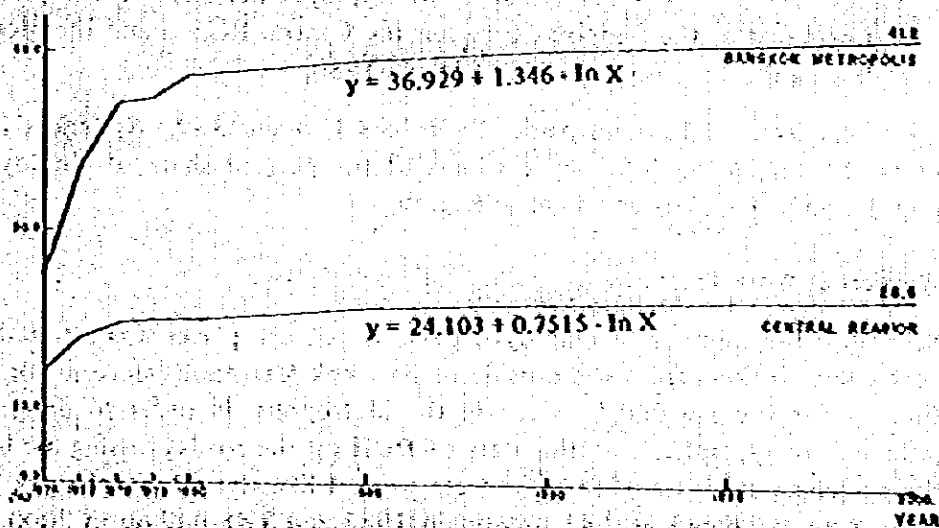
In the zones outside the core area, different population density was assumed for each unit area of classified land uses. They were determined by studying the available data. The assumed densities are shown in Appendix Table 3-11. These densities, classified areas (Appendix Table 3-2) and Amphoe-wise population in 2000 were used to determine the zonal population in 2000. The resultant population figures are shown in Appendix Table 3-10. Figs. 3-4 and 3-5 of the main report indicate the population density by zone in 1982 and 2000, respectively.

3.1.2 Employed Persons

(1) Workers at Residential Places

In order to distribute the employment figures among the zones in 2000, for following forecasts were undertaken: firstly, those in residential places were determined for Bangkok, Nonthaburi and Samut Prakan by using the forecasted trends in Bangkok and Central Region.

- Bangkok: A regression analysis and its extrapolation were applied as in Appendix Fig. 3-3. The parameters were estimated as follows:



Appendix Fig. 3-3 PROJECTION OF EMPLOYMENT RATE

APPENDIX TABLE 3-11 POPULATION DENSITY BY LAND UTILIZATION, 2000

| | (Persons/ha) | | |
|---------------------------------|----------------------|-------------------|----------------|
| | Inner Urban District | Suburban District | Rural District |
| Residential High Density | 800 | 240 | — |
| Residential Medium | 400 | 120 | — |
| Residential Low | 200 | 60 | 40 |
| Commercial | 400 | 120 | 80 |
| Industrial | 200 | 60 | 40 |
| Government Institutes Utilities | 50 | 10 | 5 |
| Religions | 50 | 10 | 5 |
| Park & Open | 50 | 10 | 1 |
| Agricultural Belt & Rural | 10 | 5 | 1 |
| Satellite Town | — | 120 | 80 |

Central Region

$$Y = 24.103 + 0.7515 \ln X ; (r = 0.949)$$

Bangkok

$$Y = 36.929 + 1.346 \ln X ; (r = 0.879)$$

where Y : Employed persons living

X : Years in number : 1977 = 0, 1978 = 1, etc.

r : Relative coefficient

— Nonthaburi; The percent share of employed persons to the population of the Central Region was considered applicable to the Nonthaburi case by reviewing the data in the period of 1976-1980.

— Samut Prakan; The percent share of employed persons to the population in 2000 was assumed at the midpoint between the Central Region and the Metropolis after reviewing the data in the period of 1976-1980.

These results are shown in Appendix Tables 3-8 and 3-9. Appendix Fig. 3-3 presents the forecasted long range trends of the percent share of employment to the population of Bangkok and Central Region.

(2) **Workers at Work Places**

Secondly, the number of employed persons at work places was estimated by adding net inflow workers from the outside of Bangkok Metropolis since major work opportunities for them would be given in the Metropolis. In order to determine the net inflow workers, traffic counting data of DOLL on the roads crossing the boundary and the passenger statistics of railways were studied likewise. Those at work places in the GBA were estimated at 2.41 million in 1982 and 3.48 million in 2000, as shown in

Appendix Tables 3-8 and 3-9. These overall employment opportunities were divided into major categories of industries. In the agriculture sector, employed persons were determined by the unit figure of 1.41 ha per worker (0.71 persons per ha), which was taken from the classified land area of Bangkok in 1980 (Table 3-1) and from the labour statistics of 1980.

By deducting the workers in agriculture from the total workers in each province, those in the secondary and tertiary workers could be estimated. They are shown in Appendix Table 3-12.

(3) Zonal Employment at Work Place in 1982

Zonal distribution of workers at work place in 1982 was estimated by the classified areas in ha (Appendix Table 3-1) and the Tambon-wise result of labour survey in 1978¹⁾

The surveys indicated that a half of government officers were within the Pranakorn District in 1978. The same percentage was used for 1982. The remaining half was assumed to be distributed among the zones in proportion to that of population in 1982.

The workers except the government officers were assumed to be located among the zones at the same percentage with that of 1978. The workers in agriculture was estimated by using 1.41 ha per person.

(4) Zonal Employment at Work Place in 2000

The classified areas in ha (Appendix Table 3-2) and unit figures in the following statement were used to estimate the workers at work places by zone in 2000.

- Agriculture; Area in ha and 0.71 persons per ha were applied. (same as in 1982)
- Manufacturing; Employees in the manufacturing industry were determined at 200 m² per worker for 2000 by reviewing the plans of three industrial estates (Bang Chan, Lat Krabang and Bang Poo). The figure was assumed to cover those in the secondary and service sectors on the classified land use.
- Service Sectors; Employed persons in commercial areas for 2000 were determined by applying the figures in Appendix Table 3-13 to the area classified. They were assumed empirically and by field observation.

APPENDIX TABLE 3-12 EMPLOYMENT AT WORK PLACES IN MAJOR INDUSTRIES : 2000

| Item | ('000) | | |
|--------------|-------------|----------------------|---------|
| | Agriculture | Secondary & Tertiary | Total |
| Bangkok | 64.6 | 2,998.4 | 3,063.0 |
| Samut Prakan | 49.4 | 258.0 | 307.4 |
| Nonthaburi | 37.0 | 69.0 | 106.0 |
| Total | 151.0 | 3,325.4 | 3,476.4 |

1) Tech. Planning Div. Labor Dept., Industrial Labor Survey 1978.

APPENDIX TABLE 3-13 EMPLOYED PERSONS ON COMMERCIAL AREAS

| Item | Net Com & Buss. area % | Building coverage % | No. of floors f | Com & Bus floor % | Building floor per person m ² | Employed persons per ha |
|-------------|------------------------|---------------------|-----------------|-------------------|--|-------------------------|
| Inner core | 60 | 80 | 4 | 80 | 15 | 1,024 |
| Core area | 60 | 80 | 2 | 70 | 15 | 672 |
| Inner urban | 60 | 70 | 2 | 70 | 15 | 392 |
| Suburban | 60 | 60 | 1 | 70 | 15 | 168 |
| Rural | 60 | 50 | 1 | 70 | 15 | 140 |

- Residential Areas; Employed persons in residential areas were distributed among the zones by the area in ha of residential uses. In the high density residential area 8 persons per ha were assumed, while 4 persons in the medium density area and 1 person in the low density and in satellite town areas.
- Government Officers; They were assumed to increase at the same rate with the population (a ratio of 1.357 from 1982 to 2000) and distributed among the zones in accordance with the growth of population.
- Don Muang Airport; Total employment opportunities are said at 10,000 persons currently. This figure was applied also to the year 2000 and to the new international airport in 2000 either in the process of construction or completion.
- Other Specific Locations; Ports, industrial zones, transport terminals, etc. were assumed to be included in the estimate of workers in the respective zones.