

Assam, Meghalaya And West Bengal States

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ASSAM STATE

Figure 5(G) gives the Map of India highlighting Assam State and Figure 5(H) gives the Map of Assam State highlighting the Districts where the MAAR was above 36.2 /100,000. These were: Kamrup, Dibrugarh, Darrang and Jorhat.

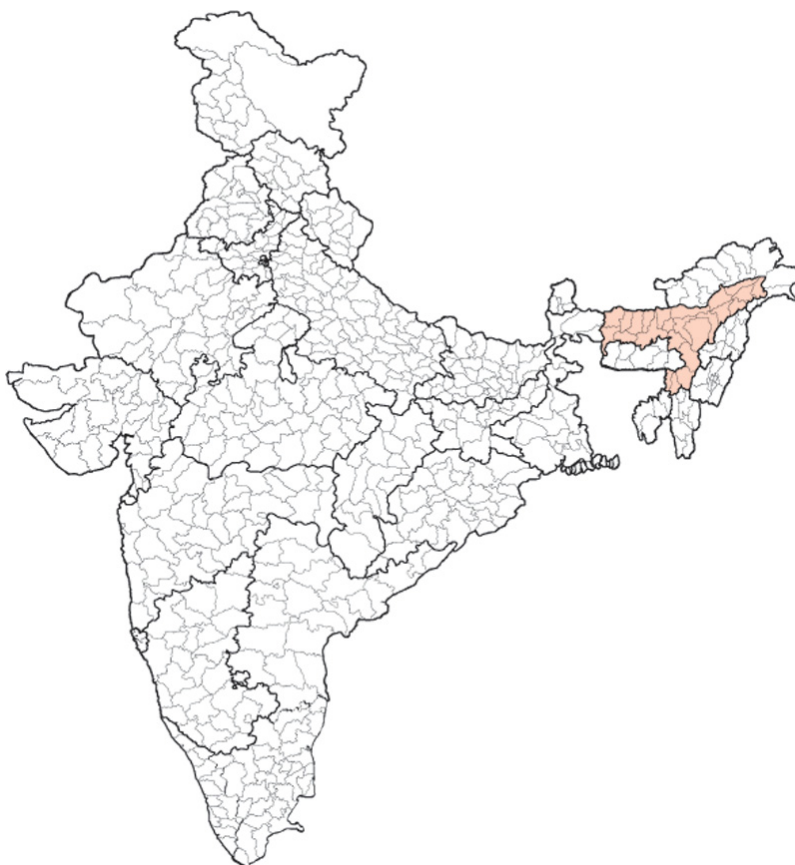


FIGURE 5(G) : Map of India highlighting Assam State

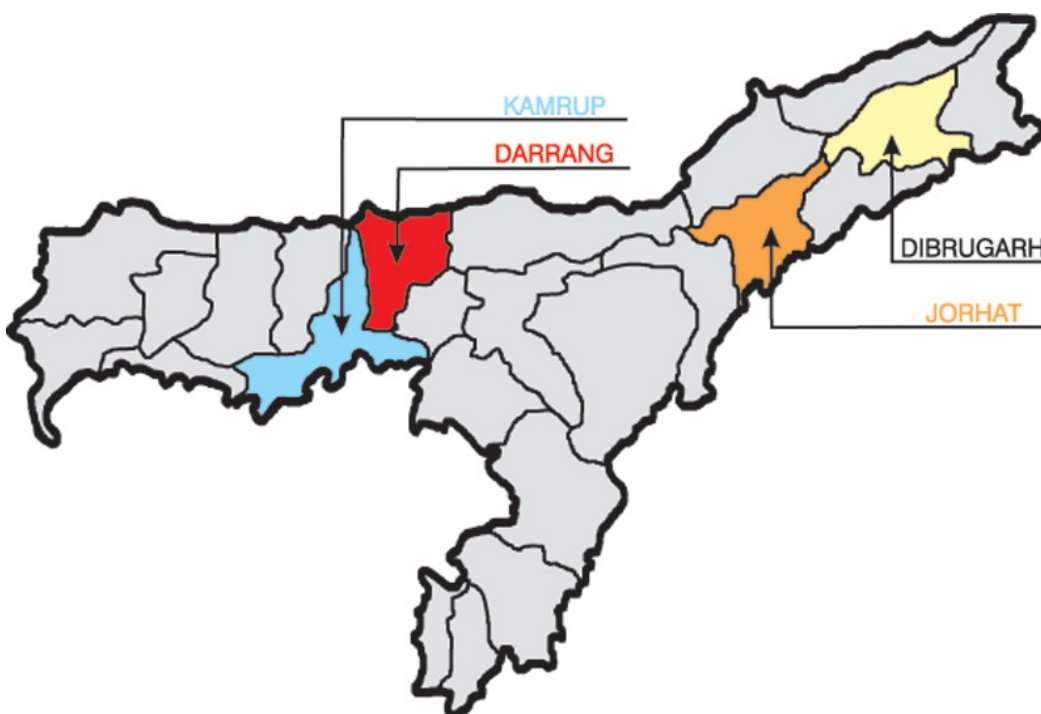


FIGURE 5(H) : Map of Assam State highlighting the districts with MAAR above 36.2 per 100,000

Kamrup District: The first eight leading sites of cancer among males in Kamrup district were sites of cancer associated with use of tobacco. These, in the order of the leading sites were: oesophagus, hypopharynx, mouth, lung, tongue, oropharynx, larynx and tonsil. They accounted for 64.3% of all cancers in males. Among females, cancers of the breast and cervix, were followed by that of oesophagus, mouth and ovary. [Fig. 5.18(c)]. The Dr. Borooah Cancer Institute, Guwahati was the main source accounting for over three fourths of all cancers reported from this district. [Table 5.18(b)].

Dibrugarh District: Eight of the ten leading sites of cancer in males were those sites associated with use of tobacco, with cancer of the hypopharynx being the leading site accounting for nearly twenty percent (19.9%) of all cancers in males. Cancer of the stomach and rectum were the other cancers that were among the top ten leading sites of cancer in males in this district. In females cancer of the cervix was followed by cancer of the oesophagus, mouth and breast. [Fig. 5.19(c)].

Darrang District : As in Kamrup, Darrang district also showed that the first eight leading sites (oesophagus, hypopharynx, tonsil, tongue, mouth larynx, lung and pharynx unspecified) were those shown to be associated with use of tobacco. In females also cancer of the oesophagus is the leading site (not seen in data elsewhere in India) accounting for 25.3% of all cancers in females. Cancer of the breast and cervix followed this site of cancer as the leading sites. Over 90% of cancers from this district were reported from Dr B. Borooah Cancer Institute at Guwahati. [Fig. 5.20(c)].

Jorhat District: As in the above three districts in Assam the TRCs comprised eight of the ten leading sites of cancer in males. Like in Dibrugarh, hypopharynx, oesophagus and mouth in that order, were the first three leading sites in males. Cancer of the rectum and cancer of the stomach were respectively, the fourth and sixth leading sites of cancer. In females, cancer of the breast was the leading site and included 24.2% of all cancers in females. This site of cancer was followed by cancer of oesophagus and cervix.

MEGHALAYA STATE

East Khasi Hills was the only district in Meghalaya State that had sufficient numbers and rates to describe the patterns of cancer. Cancer of the oesophagus was the leading site of cancer in both males and females comprising 26.4% and 32.1% of all cancers respectively. In males, this site of cancer was followed by cancer of the hypopharynx and stomach. In females, cancer of the cervix and breast were second and third followed by cancer of the stomach.

WEST BENGAL STATE

Kolkata District

Kolkata district that constitutes part of the city of Kolkata had lung as the leading site of cancer in males. The next five leading sites were also those associated with the use of tobacco, viz., mouth, tongue, hypopharynx, larynx and oesophagus. In females, cancer of the breast and cervix were the first two leading sites of cancer followed by that of gall bladder.[Fig. 5.23(c)]. Chittaranjan National Cancer Institute and Cancer Centre and Welfare Home, Kolkata accounted for 80-85% of cancers from Kolkata district.[Table 5.23(b)]

OTHER EASTERN STATES

There were several participating centres in the State of Orissa, and some centres in Bihar as well, but the incidence rates derived were not sufficient to provide a description on reliable patterns of cancer in any of the districts under these states. There were no participating centres from the newer States of Jharkhand and Chattisgarh.

5.18. KAMRUP DISTRICT, Assam State

(Code 1806)

TABLE 5.18(a) : Profile of Kamrup District (2001 Census)

| | |
|------------------------------------|---------|
| Area (in sq. kms.) | 4,345.0 |
| Decadal Growth Rate (1991-2001) | 25.75% |
| Literacy Rate | |
| Males | 81.24% |
| Females | 67.31% |
| Sex Ratio (females per 1000 males) | 894 |
| Density (persons per sq. km) | 579 |

Source: NCRP, Bangalore

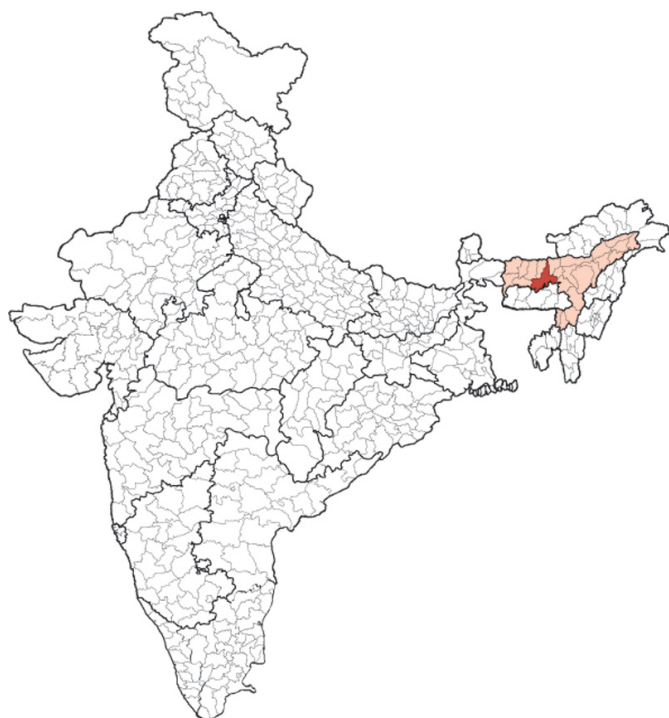


FIGURE 5.18(a) : Map of India highlighting Assam State



FIGURE 5.18(b) : Map of Assam State highlighting Kamrup District

TABLE 5.18(b) : Centrewise Distribution of Cancers
Number (#) and Relative Proportion (%)

| Year | 2001 | | 2002 | | 2001 - 2002 | |
|--|------------|--------------|------------|--------------|-------------|--------------|
| | # | % | # | % | # | % |
| Centre (with code in parentheses) | | | | | | |
| Dr. B B Cancer Institute, Guwahati (49) | 468 | 73.5 | 591 | 77.2 | 1059 | 75.5 |
| HBCR - Mumbai (1008) | 114 | 17.9 | 106 | 13.8 | 220 | 15.7 |
| HBCR - Chennai (1009) | 34 | 5.3 | 43 | 5.6 | 77 | 5.5 |
| PBCR - Mumbai (1002) | 15 | 2.4 | 6 | 0.8 | 21 | 1.5 |
| All Other Centres | 6 | 0.9 | 20 | 2.6 | 26 | 1.9 |
| Total Cancers | 637 | 100.0 | 766 | 100.0 | 1403 | 100.0 |

Source: NCRP, Bangalore

TABLE 5.18(c) : Salient features of Cancer Incidence

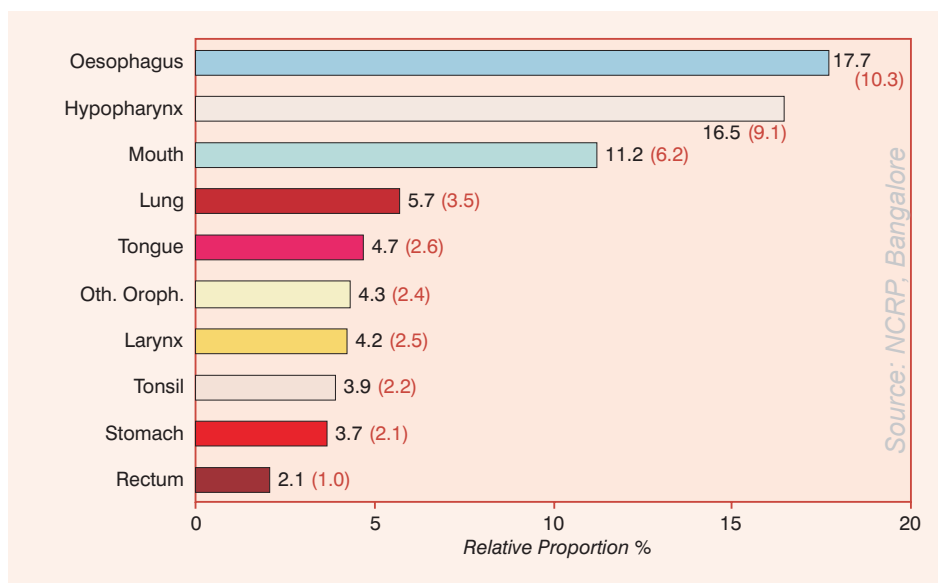
| Year | 2001 | | 2002 | | 2001 - 2002 | |
|---------------------------|-----------|-----------|-----------|-----------|-------------|-----------|
| | Males | Females | Males | Females | Males | Females |
| Estimated Population | 13,29,536 | 11,90,153 | 13,55,706 | 12,15,227 | 26,85,242 | 24,05,380 |
| Total Cancers (All sites) | 404 | 233 | 471 | 295 | 875 | 528 |
| Min. Crude IR | 30.4 | 19.6 | 34.7 | 24.3 | 32.6 | 22.0 |
| Min. Age Adjusted IR | 50.4 | 33.3 | 60.3 | 43.3 | 55.4 | 38.3 |
| Min. Truncated IR | 105.5 | 76.9 | 119.3 | 95.0 | 112.3 | 86.3 |

Source: NCRP, Bangalore

Min. = Minimum IR = Incidence Rate / 100,000

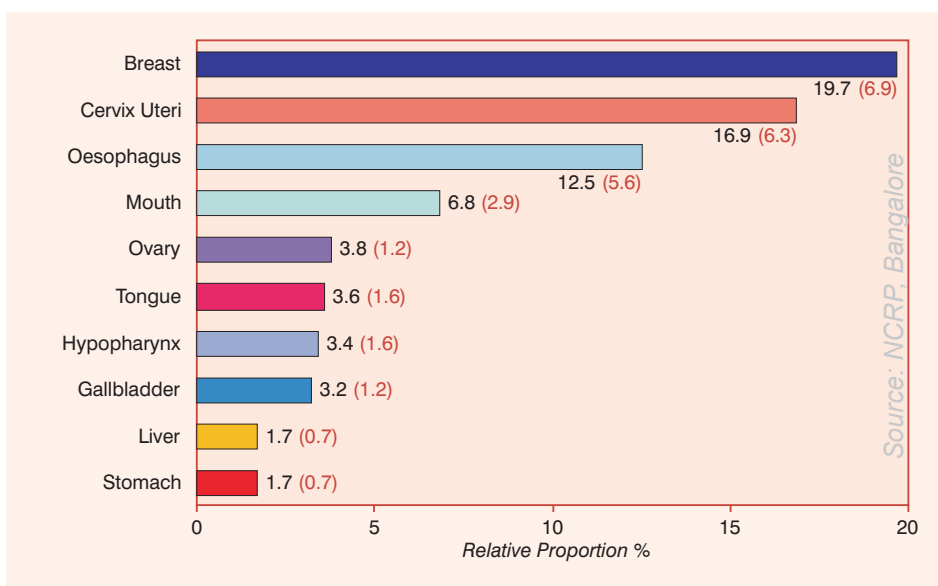
FIGURE 5.18(c) : Ten Leading Sites of Cancer (2001 - 2002)
 (Minimum Age Adjusted Incidence Rates given in parentheses)

Males



Source: NCRP, Bangalore

Females



Source: NCRP, Bangalore

5.19. DIBRUGARH DISTRICT, Assam State

(Code 1815)

TABLE 5.19(a) : Profile of Dibrugarh District (2001 Census)

| | |
|------------------------------------|---------|
| Area (in sq. kms.) | 3,381.0 |
| Decadal Growth Rate (1991-2001) | 12.43% |
| Literacy Rate | |
| Males | 79.58% |
| Females | 62.10% |
| Sex Ratio (females per 1000 males) | 923 |
| Density (persons per sq. km) | 347 |

Source: NCRP, Bangalore

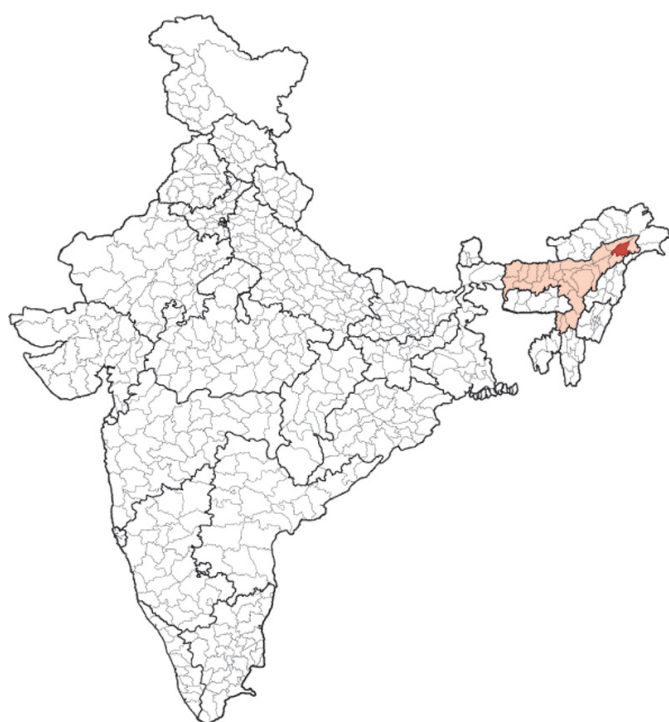


FIGURE 5.19(a) : Map of India highlighting Assam State



FIGURE 5.19(b) : Map of Assam State highlighting Dibrugarh District

TABLE 5.19(b) : Centrewise Distribution of Cancers
Number (#) and Relative Proportion (%)

| Year | 2001 | | 2002 | | 2001 - 2002 | |
|--|------------|--------------|-----------|--------------|-------------|--------------|
| | # | % | # | % | # | % |
| Centre (with code in parentheses) | | | | | | |
| HBCR - Dibrugarh (1003) | 222 | 79.9 | 0 | 0.0 | 222 | 61.8 |
| HBCR - Mumbai (1008) | 31 | 11.2 | 49 | 60.5 | 80 | 22.3 |
| Dr. BB Cancer Institute, Guwahati (49) | 13 | 4.7 | 13 | 16.0 | 26 | 7.2 |
| PBCR - Mumbai (1002) | 7 | 2.5 | 5 | 6.2 | 12 | 3.3 |
| CCWH, Kolkata (105) | 2 | 0.7 | 7 | 8.6 | 9 | 2.5 |
| PBCR - Chennai (1004) | 0 | 0.0 | 4 | 4.9 | 4 | 1.1 |
| All Other Centres | 3 | 1.1 | 3 | 3.7 | 6 | 1.7 |
| Total Cancers | 278 | 100.0 | 81 | 100.0 | 359 | 100.0 |

Source: NCRP, Bangalore

TABLE 5.19(c) : Salient features of Cancer Incidence

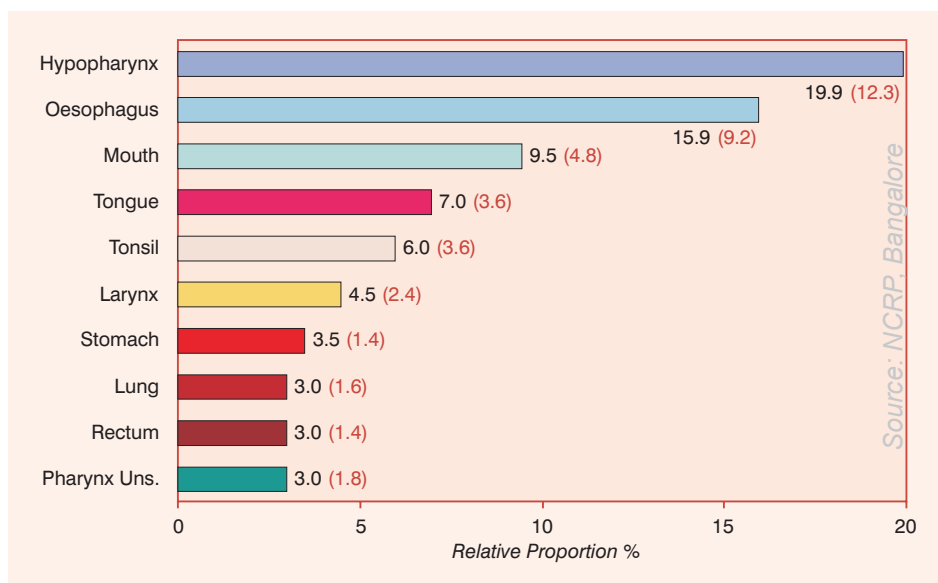
| Year | 2001 | | 2002 | | 2001 - 2002 | |
|---------------------------|----------|----------|----------|----------|-------------|-----------|
| | Males | Females | Males | Females | Males | Females |
| Estimated Population | 6,08,061 | 5,61,870 | 6,14,247 | 5,68,576 | 12,22,308 | 11,30,446 |
| Total Cancers (All sites) | 201 | 77 | 57 | 24 | 258 | 101 |
| Min. Crude IR | 33.1 | 13.7 | 9.3 | 4.2 | 21.1 | 8.9 |
| Min. Age Adjusted IR | 53.9 | 24.3 | 15.0 | 7.6 | 34.4 | 15.9 |
| Min. Truncated IR | 107.1 | 49.4 | 31.0 | 13.6 | 68.8 | 31.3 |

Source: NCRP, Bangalore

Min. = Minimum IR = Incidence Rate / 100,000

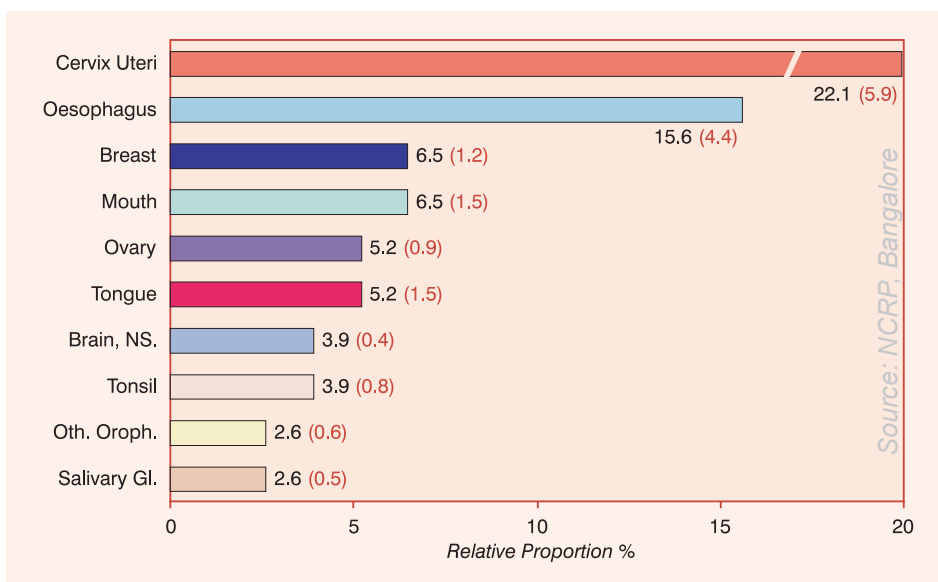
FIGURE 5.19(c) : Ten Leading Sites of Cancer (2001)
(Minimum Age Adjusted Incidence Rates given in parentheses)

Males



Source: NCRP, Bangalore

Females



Source: NCRP, Bangalore

5.20. DARRANG DISTRICT, Assam State

(Code 1808)

TABLE 5.20(a) : Profile of Darrang District (2001 Census)

| | |
|------------------------------------|---------|
| Area (in sq. kms.) | 3,481.0 |
| Decadal Growth Rate (1991-2001) | 15.79% |
| Literacy Rate | |
| Males | 64.32% |
| Females | 46.95% |
| Sex Ratio (females per 1000 males) | 943 |
| Density (persons per sq. km) | 432 |

Source: NCRP, Bangalore

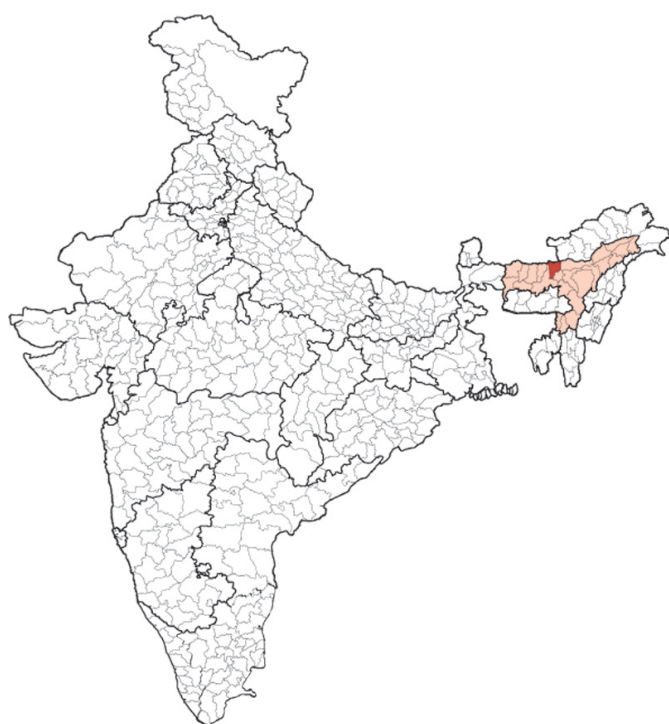


FIGURE 5.20(a) : Map of India highlighting Assam State



FIGURE 5.20(b) : Map of Assam State highlighting Darrang District

TABLE 5.20(b) : Centrewise Distribution of Cancers
Number (#) and Relative Proportion (%)

| Year | 2001 | | 2002 | | 2001 - 2002 | |
|--|------------|--------------|------------|--------------|-------------|--------------|
| | # | % | # | % | # | % |
| Centre (with code in parentheses) | | | | | | |
| Dr. BB Cancer Institute, Guwahati (49) | 197 | 95.2 | 253 | 94.8 | 450 | 94.9 |
| HBCR - Mumbai (1008) | 9 | 4.3 | 8 | 3.0 | 17 | 3.6 |
| All Other Centres | 1 | 0.5 | 3 | 1.1 | 4 | 0.8 |
| Total Cancers | 207 | 100.0 | 267 | 100.0 | 474 | 100.0 |

Source: NCRP, Bangalore

TABLE 5.20(c) : Salient features of Cancer Incidence

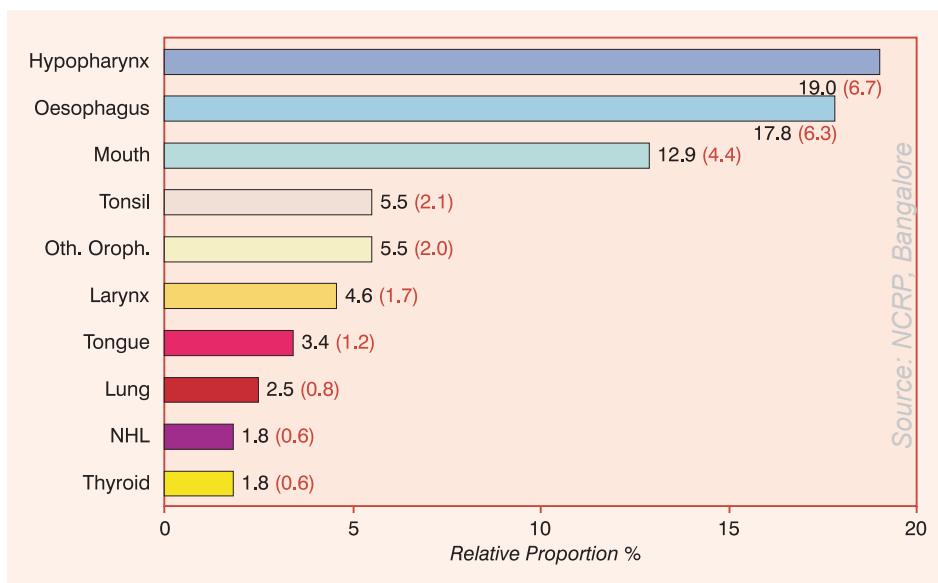
| Year | 2001 | | 2002 | | 2001 - 2002 | |
|---------------------------|----------|----------|----------|----------|-------------|-----------|
| | Males | Females | Males | Females | Males | Females |
| Estimated Population | 7,75,842 | 7,31,955 | 7,86,195 | 7,42,069 | 15,62,037 | 14,74,024 |
| Total Cancers (All sites) | 142 | 65 | 184 | 83 | 326 | 148 |
| Min. Crude IR | 18.3 | 8.9 | 23.4 | 11.2 | 20.9 | 10.0 |
| Min. Age Adjusted IR | 30.2 | 16.9 | 37.9 | 21.4 | 34.1 | 19.2 |
| Min. Truncated IR | 61.5 | 40.2 | 79.4 | 52.3 | 70.5 | 46.3 |

Source: NCRP, Bangalore

Min. = Minimum IR = Incidence Rate / 100,000

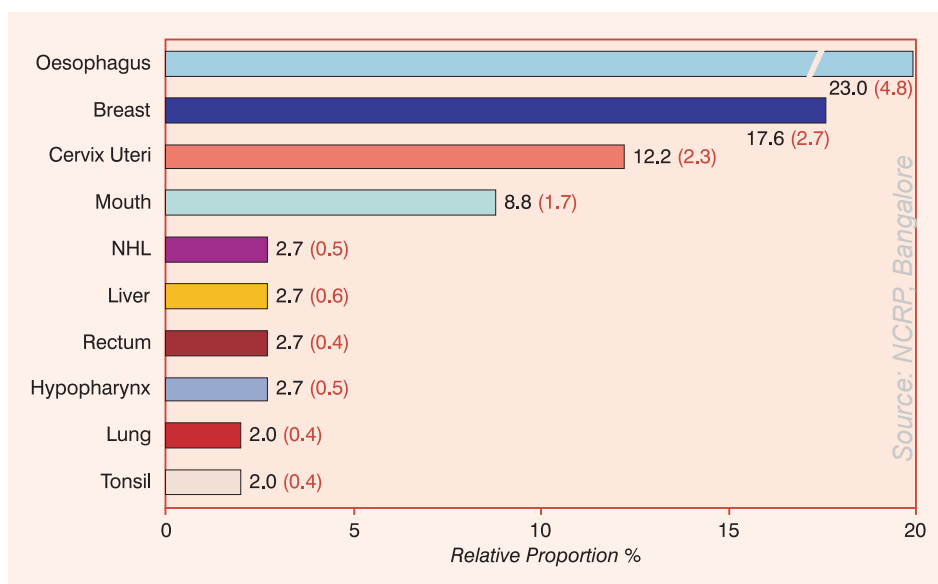
FIGURE 5.20(c) : Ten Leading Sites of Cancer (2001 - 2002)
 (Minimum Age Adjusted Incidence Rates given in parentheses)

Males



Source: NCRP, Bangalore

Females



Source: NCRP, Bangalore

5.21. JORHAT DISTRICT, Assam State

(Code 1817)

TABLE 5.21(a) : Profile of Jorhat District (2001 Census)

| | | |
|------------------------------------|-------------------------|---------|
| Area (in sq. kms.) | Source: NCRP, Bangalore | 2,851.0 |
| Decadal Growth Rate (1991-2001) | | 15.84% |
| Literacy Rate | | |
| Males | | 82.76% |
| Females | | 72.54% |
| Sex Ratio (females per 1000 males) | | 903 |
| Density (persons per sq. km) | | 354 |

TABLE 5.21(b) : Centrewise Distribution of Cancers
Number (#) and Relative Proportion (%)

| Year Centre (with code in parentheses) | 2001 | | 2002 | | 2001 - 2002 | |
|---|------------|--------------|-----------|--------------|-------------|--------------|
| | # | % | # | % | # | % |
| Dr. BB Cancer Institute, Guwahati (49) | 53 | 28.8 | 64 | 67.4 | 117 | 41.9 |
| HBCR - Dibrugarh (1003) | 97 | 52.7 | 0 | 0.0 | 97 | 34.8 |
| HBCR - Mumbai (1008) | 26 | 14.1 | 21 | 22.1 | 47 | 16.8 |
| HBCR - Chennai (1009) | 3 | 1.6 | 3 | 3.2 | 6 | 2.2 |
| PBCR - Mumbai (1002) | 3 | 1.6 | 2 | 2.1 | 5 | 1.8 |
| CCWH, Kolkata (105) | 1 | 0.5 | 2 | 2.1 | 3 | 1.1 |
| All Other Centres | 1 | 0.5 | 3 | 3.2 | 4 | 1.4 |
| Total Cancers | 184 | 100.0 | 95 | 100.0 | 279 | 100.0 |

TABLE 5.21(c) : Salient features of Cancer Incidence

| Year | 2001 | | 2002 | | 2001 - 2002 | |
|---------------------------|----------|----------|----------|----------|-------------|----------|
| | Males | Females | Males | Females | Males | Females |
| Estimated Population | 5,30,431 | 4,79,159 | 5,37,871 | 4,85,462 | 10,68,302 | 9,64,621 |
| Total Cancers (All sites) | 127 | 57 | 61 | 34 | 188 | 91 |
| Min. Crude IR | 23.94 | 11.90 | 11.34 | 7.00 | 17.60 | 9.43 |
| Min. Age Adjusted IR | 36.47 | 20.31 | 18.26 | 12.55 | 27.30 | 16.40 |
| Min. Truncated IR | 76.93 | 47.93 | 31.81 | 20.75 | 54.28 | 34.17 |

Min. = Minimum IR = Incidence Rate / 100,000

5.22. EAST KHASI HILLS DISTRICT, Meghalaya State

(Code 1706)

TABLE 5.22(a) : Profile of East Khasi Hills District (2001 Census)

| | |
|------------------------------------|---------|
| Area (in sq. kms.) | 2,820.0 |
| Decadal Growth Rate (1991-2001) | 22.88% |
| Literacy Rate | |
| Males | 78.12% |
| Females | 75.82% |
| Sex Ratio (females per 1000 males) | 984 |
| Density (persons per sq. km) | 234 |

Source: NCRP, Bangalore

TABLE 5.22(b) : Centrewise Distribution of Cancers
Number (#) and Relative Proportion (%)

| Year Centre (with code in parentheses) | 2001 | | 2002 | | 2001 - 2002 | |
|---|------------|--------------|------------|--------------|-------------|--------------|
| | # | % | # | % | # | % |
| Dr. BB Cancer Institute, Guwahati (49) | 21 | 17.1 | 77 | 73.3 | 98 | 43.0 |
| Babina Diagnostic Centre, Imphal (112) | 74 | 60.2 | 0 | 0.0 | 74 | 32.5 |
| HBCR - Mumbai (1008) | 16 | 13.0 | 17 | 16.2 | 33 | 14.5 |
| CCWH, Kolkata (105) | 8 | 6.5 | 4 | 3.8 | 12 | 5.3 |
| PBCR - Chennai (1004) | 0 | 0.0 | 3 | 2.9 | 3 | 1.3 |
| All Other Centres | 4 | 3.3 | 4 | 3.8 | 8 | 3.5 |
| Total Cancers | 123 | 100.0 | 105 | 100.0 | 228 | 100.0 |

Source: NCRP, Bangalore

TABLE 5.22(c) : Salient features of Cancer Incidence

| Year | 2001 | | 2002 | | 2001 - 2002 | |
|---------------------------|----------|----------|----------|----------|-------------|----------|
| | Males | Females | Males | Females | Males | Females |
| Estimated Population | 3,32,321 | 3,27,161 | 3,39,262 | 3,34,698 | 6,71,583 | 6,61,859 |
| Total Cancers (All sites) | 71 | 52 | 73 | 32 | 144 | 84 |
| Min. Crude IR | 21.4 | 15.9 | 21.5 | 9.6 | 21.4 | 12.7 |
| Min. Age Adjusted IR | 35.5 | 26.0 | 36.2 | 17.4 | 35.8 | 21.7 |
| Min. Truncated IR | 71.7 | 53.4 | 73.5 | 39.7 | 72.6 | 46.4 |

Source: NCRP, Bangalore

Min. = Minimum IR = Incidence Rate / 100,000

5.23. KOLKATA DISTRICT, West Bengal State

(Code 1917)

TABLE 5.23(a) : Profile of Kolkata District (2001 Census)

| | |
|------------------------------------|--------|
| Area (in sq. kms.) | 185 |
| Decadal Growth Rate (1991-2001) | 4.11% |
| Literacy Rate | |
| Males | 84.07% |
| Females | 77.95% |
| Sex Ratio (females per 1000 males) | 828 |
| Density (persons per sq. km) | 24,760 |

Source: NCRP, Bangalore

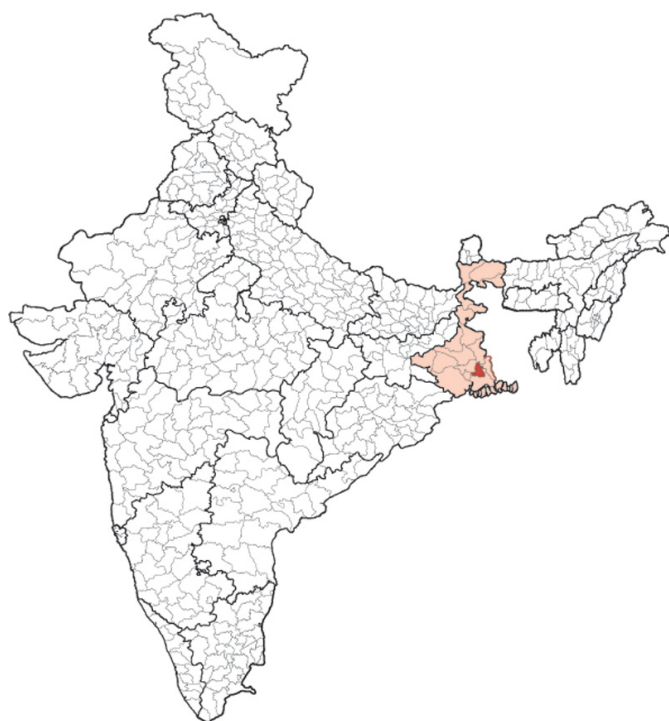


FIGURE 5.23(a) : Map of India highlighting West Bengal State

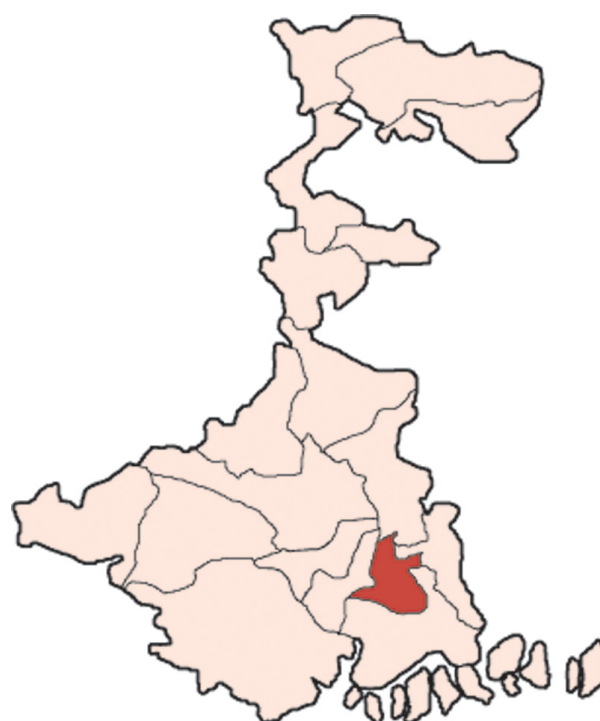


FIGURE 5.23(b) : Map of West Bengal State highlighting Kolkata District

TABLE 5.23(b) : Centrewise Distribution of Cancers
Number (#) and Relative Proportion (%)

| Year | 2001 | | 2002 | | 2001 - 2002 | |
|---|-------------|--------------|-------------|--------------|-------------|--------------|
| | # | % | # | % | # | % |
| Centre (with code in parentheses) | | | | | | |
| CNCI, Kolkata (65) | 744 | 39.5 | 986 | 50.5 | 1730 | 45.1 |
| Cancer Centre Welfare Home, Kolkata (105) | 796 | 42.2 | 650 | 33.3 | 1446 | 37.7 |
| HBCR - Mumbai (1008) | 207 | 11.0 | 232 | 11.9 | 439 | 11.4 |
| PBCR - Mumbai (1002) | 118 | 6.3 | 61 | 3.1 | 179 | 4.7 |
| All Other Centres | 20 | 1.1 | 24 | 1.2 | 44 | 1.1 |
| Total Cancers | 1885 | 100.0 | 1953 | 100.0 | 3838 | 100.0 |

Source: NCRP, Bangalore

TABLE 5.23(c) : Salient features of Cancer Incidence

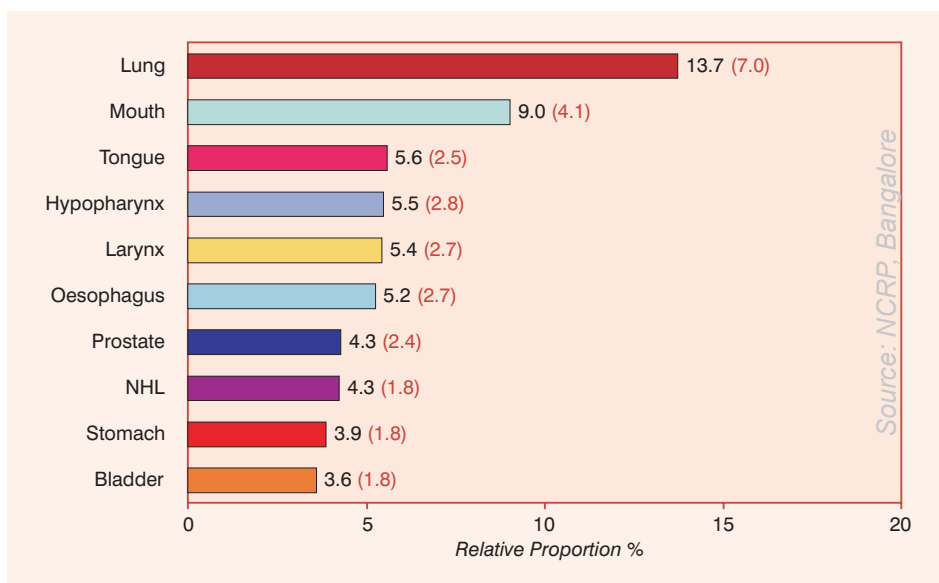
| Year | 2001 | | 2002 | | 2001 - 2002 | |
|---------------------------|-----------|-----------|-----------|-----------|-------------|-----------|
| | Males | Females | Males | Females | Males | Females |
| Estimated Population | 25,00,721 | 20,72,278 | 25,06,774 | 20,84,242 | 50,07,495 | 41,56,520 |
| Total Cancers (All sites) | 941 | 944 | 990 | 963 | 1931 | 1907 |
| Min. Crude IR | 37.6 | 45.6 | 39.5 | 46.2 | 38.6 | 45.9 |
| Min. Age Adjusted IR | 45.6 | 54.9 | 49.2 | 56.2 | 47.4 | 55.6 |
| Min. Truncated IR | 78.1 | 121.4 | 78.5 | 122.9 | 78.2 | 122.4 |

Source: NCRP, Bangalore

Min. = Minimum IR = Incidence Rate / 100,000

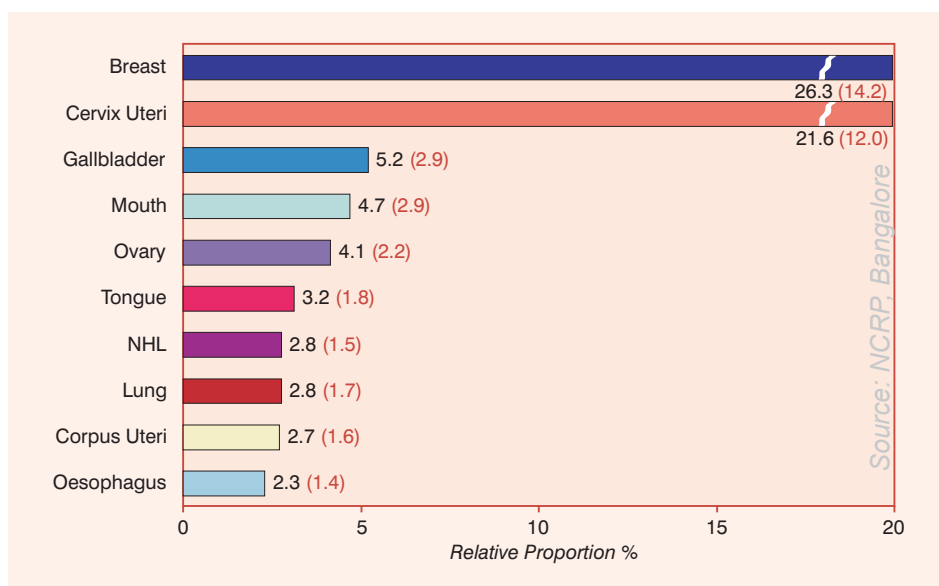
FIGURE 5.23(c) : Ten Leading Sites of Cancer (2001 - 2002)
 (Minimum Age Adjusted Incidence Rates given in parentheses)

Males



Source: NCRP, Bangalore

Females



Source: NCRP, Bangalore