

**Appendix 1:** Meteorological data for the Sampling periods.

| YEAR<br>2005      | Phase 1<br>(Jan - Apr.) | AVERAGE<br>MAXIMUM<br>TEMP.°C | AVERAGE<br>MINIMUM<br>TEMP.°C | AVERAGE<br>RELATIVE<br>HUMIDITY % |                    | AVG.<br>RAIN-<br>FALL<br>mm | Phase 2<br>(Sept - Dec) | AVERAGE<br>MAXIMUM<br>TEMP.°C | AVERAGE<br>MINIMUM<br>TEMP.°C | AVERAGE<br>RELATIVE<br>HUMIDITY % |                    | AVG.<br>RAIN-<br>FALL<br>mm |
|-------------------|-------------------------|-------------------------------|-------------------------------|-----------------------------------|--------------------|-----------------------------|-------------------------|-------------------------------|-------------------------------|-----------------------------------|--------------------|-----------------------------|
|                   |                         |                               |                               | AT<br>8.30<br>Hrs                 | At<br>17.30<br>Hrs |                             |                         |                               |                               | AT<br>8.30<br>Hrs                 | At<br>17.30<br>Hrs |                             |
| Sampling period 1 | 1 Jan - 31 Jan          | 27.4                          | 13.1                          | 59                                | 35                 | 0                           | 1 Sept- 30 Sept         | 31.1                          | 29.2                          | 39.6                              | 45.3               | 29.4                        |
| Sampling period 2 | 1 Feb - 28 Feb          | 30.1                          | 15.8                          | 59.6                              | 45.3               | 0                           | 1 Oct - 31 Oct          | 35.9                          | 28.8                          | 37.2                              | 36.5               | 0                           |
| Sampling period 3 | 1 Mar- 31 Mar           | 36                            | 21                            | 55                                | 29.3               | 0                           | 1 Nov. - 30 Nov.        | 36.1                          | 33.2                          | 33.9                              | 33.5               | 0                           |
| Sampling period 4 | 1 Apr - 30 Apr          | 40.2                          | 23.1                          | 47.3                              | 36.3               | 0                           | 1 Dec. - 31 Dec.        | 33                            | 30.4                          | 31.6                              | 31.8               | 0                           |

| YEAR<br>2006      | Phase 1<br>(Jan - Apr.) | AVERAGE<br>MAXIMUM<br>TEMP.°C | AVERAGE<br>MINIMUM<br>TEMP.°C | AVERAGE<br>RELATIVE<br>HUMIDITY % |                    | AVG.<br>RAIN-<br>FALL<br>mm | Phase 2<br>(Sept - Dec) | AVG<br>MAXIMU<br>M<br>TEMP.°C | AVG<br>MINIMUM<br>TEMP.°C | AVERAGE<br>RELATIVE<br>HUMIDITY % |                    | AVG.<br>RAIN-<br>FALL<br>mm |
|-------------------|-------------------------|-------------------------------|-------------------------------|-----------------------------------|--------------------|-----------------------------|-------------------------|-------------------------------|---------------------------|-----------------------------------|--------------------|-----------------------------|
|                   |                         |                               |                               | AT<br>8.30<br>Hrs                 | At<br>17.30<br>Hrs |                             |                         |                               |                           | AT<br>8.30<br>Hrs                 | At<br>17.30<br>Hrs |                             |
| Sampling period 1 | 1 Jan - 31 Jan          | 30                            | 21                            | 27.9                              | 29.2               | 0                           | 1 Sept- 30 Sept         | 35.7                          | 49.6                      | 53.5                              | 55.2               | 54.3                        |
| Sampling period 2 | 1 Feb - 28 Feb          | 30.7                          | 28.4                          | 29.4                              | 29.1               | 0                           | 1 Oct - 31 Oct          | 35.9                          | 29.6                      | 40.1                              | 41.6               | 0                           |
| Sampling period 3 | 1 Mar- 31 Mar           | 35.9                          | 27.4                          | 29.3                              | 28.5               | 0                           | 1 Nov. - 30 Nov.        | 39.5                          | 35.1                      | 37.1                              | 37.3               | 0                           |
| Sampling period 4 | 1 Apr - 30 Apr          | 38.9                          | 31.3                          | 33.8                              | 31.5               | 0                           | 1 Dec. - 31 Dec.        | 31                            | 23.5                      | 32.4                              | 35.5               | 0                           |

| YEAR<br>2007         |                   | AVERAGE<br>MAXIMUM<br>TEMP.°C | AVERAGE<br>MINIMUM<br>TEMP.°C | AVERAGE<br>RELATIVE<br>HUMIDITY % |                    | AVG.<br>RAIN-<br>FALL<br>mm | Phase 2<br>(Sept -<br>Dec) | AVERAGE<br>MAXIMUM<br>TEMP.°C | AVERAGE<br>MINIMUM<br>TEMP.°C | AVERAGE<br>RELATIVE<br>HUMIDITY % |                    | AVG.<br>RAIN-<br>FALL<br>mm |
|----------------------|-------------------|-------------------------------|-------------------------------|-----------------------------------|--------------------|-----------------------------|----------------------------|-------------------------------|-------------------------------|-----------------------------------|--------------------|-----------------------------|
|                      |                   |                               |                               | AT<br>8.30<br>Hrs                 | AT<br>17.30<br>Hrs |                             |                            |                               |                               | AT<br>8.30<br>Hrs                 | AT<br>17.30<br>Hrs |                             |
| Sampling<br>period 1 | 1 Jan -<br>31 Jan | 29.4                          | 21.3                          | 28.9                              | 31                 | 0                           | 1 Sept- 30<br>Sept         | 33                            | 25.1                          | 75.8                              | 70.3               | 25.4                        |
| Sampling<br>period 2 | 1 Feb -<br>28 Feb | 33.1                          | 17.5                          | 45.1                              | 34.2               | 0                           | 1 Oct - 31<br>Oct          | 34.6                          | 21.8                          | 49                                | 36                 | 0                           |
| Sampling<br>period 3 | 1 Mar-<br>31 Mar  | 36.1                          | 19.1                          | 36.1                              | 25.7               | 0                           | 1 Nov. -<br>30 Nov.        | 33.1                          | 18.1                          | 45.3                              | 35.2               | 0                           |
| Sampling<br>period 4 | 1 Apr -<br>30 Apr | 40.4                          | 24.2                          | 36                                | 31                 | 0                           | 1 Dec. -<br>31 Dec.        | 26.3                          | 23.9                          | 43.4                              | 39.5               | 0                           |

Source: Department of Physics, The M.S.University of Baroda, Vadodara, GUJARAT.

**Appendix 2:** Ant abundance (species occurrences) recorded from Urban ecosystems (U)

| SUBFAMILY  | SPECIES                                         | U Site1 | U Site2 | U Site3 | U Site4 |
|------------|-------------------------------------------------|---------|---------|---------|---------|
| Dorylinae  | <i>Dorylus labiatus</i> Shuckard, 1840          | 19      | 17      | 35      | 56      |
| Formicinae | <i>Camponotus compressus</i> Fabricius,1787     | 177     | 165     | 156     | 168     |
|            | <i>Camponotus sericeus</i> Mayr,1879            | 0       | 0       | 0       | 0       |
|            | <i>Camponotus</i> sp. 2                         | 0       | 0       | 0       | 0       |
|            | <i>Formica</i> sp. 1                            | 151     | 140     | 104     | 92      |
|            | <i>Formica</i> sp. 2                            | 0       | 0       | 0       | 0       |
|            | <i>Paratrechina longicornis</i> Latreille, 1802 | 0       | 0       | 0       | 0       |
|            | <i>Polyrhachis lacteipennis</i> Smith,1858      | 0       | 0       | 0       | 0       |
|            | <i>Oecophylla smaragdina</i> Fabricius,1775     | 110     | 107     | 95      | 110     |
|            | <i>Prenolepis</i> sp. 1 Myrmicinae              | 155     | 122     | 71      | 36      |
| Myrmicinae | <i>Crematogaster soror</i> Forel,1902           | 0       | 0       | 0       | 0       |
|            | <i>Monomorium</i> sp. 1                         | 162     | 148     | 126     | 119     |
|            | <i>Monomorium</i> sp. 2                         | 78      | 109     | 41      | 54      |
|            | <i>Pheidole</i> sp. 1                           | 148     | 141     | 90      | 112     |
|            | <i>Pheidole</i> sp. 2                           | 125     | 132     | 109     | 83      |
|            | <i>Pheidole</i> sp. 3                           | 119     | 117     | 70      | 102     |

|                  |                                          |     |     |     |     |
|------------------|------------------------------------------|-----|-----|-----|-----|
|                  | <i>Pheidole</i> sp. 4                    | 103 | 78  | 70  | 69  |
|                  | <i>Solenopsis</i> sp. 1                  | 167 | 168 | 114 | 133 |
|                  | <i>Solenopsis</i> sp. 2                  | 96  | 68  | 96  | 55  |
|                  | <i>Solenopsis</i> sp. 3                  | 90  | 68  | 63  | 61  |
| Ponerinae        | <i>Leptogenys chinensis</i> Mayr,1870    | 0   | 0   | 0   | 0   |
| Pseudomyrmecinae | <i>Tetraponera rufonigra</i> Jerdon,1851 | 151 | 156 | 124 | 118 |

**Appendix 3:** Ant abundance (species occurrences) from Agricultural ecosystems (A)

| SUBFAMILY  | SPECIES                                         | A SITE 1 | A SITE 2 | A SITE 3 | A SITE 4 |
|------------|-------------------------------------------------|----------|----------|----------|----------|
| Dorylinae  | <i>Dorylus labiatus</i> Shuckard, 1840          | 0        | 0        | 0        | 0        |
| Formicinae | <i>Camponotus compressus</i> Fabricius,1787     | 141      | 163      | 165      | 150      |
|            | <i>Camponotus sericeus</i> Mayr,1879            | 160      | 187      | 184      | 164      |
|            | <i>Camponotus</i> sp. 2                         | 95       | 64       | 0        | 0        |
|            | <i>Formica</i> sp. 1                            | 0        | 0        | 80       | 86       |
|            | <i>Formica</i> sp. 2                            | 102      | 131      | 100      | 0        |
|            | <i>Oecophylla smaragdina</i> Fabricius,1775     | 0        | 110      | 78       | 0        |
|            | <i>Paratrechina longicornis</i> Latreille, 1802 | 143      | 141      | 100      | 142      |
|            | <i>Polyrhachis lacteipennis</i> Smith,1858      | 73       | 67       | 151      | 82       |
|            | <i>Prenolepis</i> sp. 1                         | 139      | 0        | 98       | 0        |
| Myrmicinae | <i>Crematogaster soror</i> Forel,1902           | 44       | 153      | 130      | 121      |
|            | <i>Monomorium</i> sp. 1                         | 0        | 0        | 0        | 0        |
|            | <i>Monomorium</i> sp. 2                         | 0        | 0        | 0        | 0        |
|            | <i>Pheidole</i> sp. 1                           | 111      | 161      | 131      | 159      |
|            | <i>Pheidole</i> sp. 2                           | 126      | 115      | 142      | 100      |
|            | <i>Pheidole</i> sp. 3                           | 116      | 110      | 87       | 143      |

|                  |                                          |     |     |     |     |
|------------------|------------------------------------------|-----|-----|-----|-----|
|                  | <i>Pheidole</i> sp. 4                    | 0   | 0   | 0   | 0   |
|                  | <i>Solenopsis</i> sp. 1                  | 108 | 172 | 143 | 142 |
|                  | <i>Solenopsis</i> sp. 2                  | 130 | 86  | 121 | 169 |
|                  | <i>Solenopsis</i> sp. 3                  | 0   | 0   | 0   | 0   |
| Ponerinae        | <i>Leptogenys chinensis</i> Mayr,1870    | 48  | 108 | 102 | 95  |
| Pseudomyrmecinae | <i>Tetraponera rufonigra</i> Jerdon,1851 | 0   | 0   | 0   | 0   |

#### Appendix 4: Classic Sorensen and Bray Curtis Similarity Index for Agricultural Sites

| First Sample | Second Sample | Sobs First Sample | Sobs Second Sample | Shared Species Observed | Sorensen Classic | Bray-Curtis |
|--------------|---------------|-------------------|--------------------|-------------------------|------------------|-------------|
| 1            | 2             | 14                | 14                 | 13                      | 0.929            | 0.785       |
| 1            | 3             | 14                | 15                 | 13                      | 0.897            | 0.787       |
| 1            | 4             | 14                | 12                 | 11                      | 0.846            | 0.759       |
| 2            | 3             | 14                | 15                 | 13                      | 0.897            | 0.83        |
| 3            | 4             | 15                | 12                 | 12                      | 0.889            | 0.816       |
| 2            | 4             | 14                | 12                 | 11                      | 0.789            | 0.804       |

**Appendix 5:** Classic Sorensen and Bray Curtis Similarity Index for Urban Sites

| First Sample | Second Sample | Sobs First Sample | Sobs Second Sample | Shared Species Observed | Sorensen Classic | Bray-Curtis |
|--------------|---------------|-------------------|--------------------|-------------------------|------------------|-------------|
| 1            | 2             | 15                | 15                 | 15                      | 1                | 0.943       |
| 1            | 3             | 15                | 15                 | 15                      | 1                | 0.839       |
| 1            | 4             | 15                | 15                 | 15                      | 1                | 0.827       |
| 2            | 4             | 15                | 15                 | 15                      | 1                | 0.852       |
| 2            | 3             | 15                | 15                 | 15                      | 1                | 0.85        |
| 3            | 4             | 15                | 15                 | 15                      | 1                | 0.903       |