

Table 1: Seasonal concentration of PAHs (ng/m<sup>3</sup>) and PM<sub>2.5</sub> recorded at three different stations in CNP

| PAHs                                       | ADP                |                     | SKI                |                    | MGO                 |                    |
|--|--------------------|---------------------|--------------------|--------------------|---------------------|--------------------|
|  | Winter             | summer              | winter             | Summer             | Winter              | Summer             |
| <b>Nap</b>                                 | 9.69±2.67          | 5.82±2.99           | 12.23±2.70         | 8.16±1.34          | 12.69±1.91          | 7.92±1.92          |
| <b>Acy</b>                                 | 6.19±1.71          | 4.94±1.40           | 12.04±3.17         | 8.58±1.7           | 10.93±2.37          | 10.89±2.47         |
| <b>Ace</b>                                 | 3.06±1.72          | 3.64±1.42           | 5.37±1.70          | 4.66±1.77          | 6.10±1.44           | 4.79±1.47          |
| <b>Flu</b>                                 | 10.58±2.26         | 9.74±2.41           | 12.33±1.82         | 9.97±1.90          | 10.41±2.89          | 12.33±3.28         |
| <b>Phe</b>                                 | 15.09±1.66         | 9.15±1.62           | 16.09±3.48         | 10.72±1.85         | 12.80±3.02          | 8.76±1.26          |
| <b>Ant</b>                                 | 14.62±1.76         | 8.79±1.89           | 16.11±3.02         | 10.61±1.02         | 14.55±2.10          | 15.16±2.96         |
| <b>Flua</b>                                | 13.80±2.06         | 10.42±1.92          | 11.52±1.94         | 9.61±2.58          | 12.91±1.52          | 8.43±1.14          |
| <b>Pyr</b>                                 | 13.83±1.61         | 9.82±2.41           | 14.20±2.12         | 10.80±2.34         | 16.37±2.12          | 9.97±1.26          |
| <b>BaA</b>                                 | 5.30±2.72          | 6.61±1.45           | 6.45±2.46          | 4.51±2.50          | 7.74±1.24           | 4.42±1.38          |
| <b>Chr</b>                                 | 8.38±2.99          | 6.27±1.51           | 10.85±2.32         | 8.37±1.20          | 13.49±2.84          | 8.70±1.10          |
| <b>BbF</b>                                 | 2.69±1.14          | 6.10±2.56           | 6.81±1.38          | 5.96±1.35          | 9.06±1.59           | 5.49±1.74          |
| <b>BkF</b>                                 | 7.58±1.66          | 4.53±2.23           | 10.06±1.98         | 7.93±1.01          | 12.07±3.61          | 9.38±1.21          |
| <b>BaP</b>                                 | 10.11±0.59         | 5.82±1.57           | 11.08±2.16         | 8.81±0.78          | 11.62±1.10          | 9.30±2.26          |
| <b>DBahA</b>                               | 12.14±1.93         | 10.39±1.04          | 14.51±3.88         | 10.44±1.99         | 13.08±2.21          | 10.86±2.37         |
| <b>B(ghi)P</b>                             | 15.41±2.91         | 11.67±1.36          | 16.64±2.75         | 9.08±0.91          | 16.70±2.68          | 13.68±4.64         |
| <b>IcP</b>                                 | 11.94±3.69         | 8.86±3.89           | 14.41±2.08         | 8.72±1.27          | 14.26±3.88          | 8.38±1.81          |
| <b>∑PAHs</b>                               | <b>160.40±13.3</b> | <b>122.56±11.13</b> | <b>190.70±16.5</b> | <b>136.90±7.36</b> | <b>194.77±12.30</b> | <b>148.44±9.81</b> |
|  | <b>4</b>           |                     | <b>8</b>           |                    |                     |                    |
| <b>PM<sub>2.5</sub> (μg/m<sup>3</sup>)</b> | <b>80.27±6.62</b>  | <b>55.55±5.44</b>   | <b>90.80±8.46</b>  | <b>68.61±6.28</b>  | <b>121.95±8.20</b>  | <b>84.45±12.01</b> |

**Table 2:** The value of TEFs and TEQ based on PAHS concentrations

| PAHs         | TEFs <sup>a</sup> | ADP                              |                              |            | SKI                              |                              |            | MGO                              |                              |            |
|--------------|-------------------|----------------------------------|------------------------------|------------|----------------------------------|------------------------------|------------|----------------------------------|------------------------------|------------|
|              |                   | Ambient<br>(ng m <sup>-3</sup> ) | TEQ<br>(ng m <sup>-3</sup> ) | TEQ<br>(%) | Ambient<br>(ng m <sup>-3</sup> ) | TEQ<br>(ng m <sup>-3</sup> ) | TEQ<br>(%) | Ambient<br>(ng m <sup>-3</sup> ) | TEQ<br>(ng m <sup>-3</sup> ) | TEQ<br>(%) |
| Nap          | 0.001             | 7.75                             | 0.01                         | 0.03       | 10.19                            | 0.01                         | 0.04       | 10.30                            | 0.01                         | 0.04       |
| Acy          | 0.001             | 5.56                             | 0.01                         | 0.02       | 10.31                            | 0.01                         | 0.04       | 10.91                            | 0.01                         | 0.04       |
| Ace          | 0.001             | 3.35                             | 0.00                         | 0.02       | 5.01                             | 0.01                         | 0.02       | 5.44                             | 0.01                         | 0.02       |
| Flu          | 0.001             | 10.16                            | 0.01                         | 0.05       | 11.15                            | 0.01                         | 0.04       | 11.37                            | 0.01                         | 0.04       |
| Phe          | 0.001             | 12.12                            | 0.01                         | 0.05       | 13.41                            | 0.01                         | 0.05       | 10.78                            | 0.01                         | 0.04       |
| Ant          | 0.01              | 11.70                            | 0.12                         | 0.52       | 13.36                            | 0.13                         | 0.51       | 14.85                            | 0.15                         | 0.56       |
| Flua         | 0.001             | 12.11                            | 0.01                         | 0.05       | 10.57                            | 0.01                         | 0.04       | 10.67                            | 0.01                         | 0.04       |
| Pyr          | 0.001             | 11.82                            | 0.01                         | 0.05       | 12.50                            | 0.01                         | 0.05       | 13.17                            | 0.01                         | 0.05       |
| BaA          | 0.1               | 5.95                             | 0.60                         | 2.67       | 5.48                             | 0.55                         | 2.10       | 6.08                             | 0.61                         | 2.30       |
| Chr          | 0.01              | 7.32                             | 0.07                         | 0.33       | 9.61                             | 0.10                         | 0.37       | 11.10                            | 0.11                         | 0.42       |
| BbF          | 0.1               | 4.39                             | 0.44                         | 1.97       | 6.38                             | 0.64                         | 2.45       | 7.27                             | 0.73                         | 2.75       |
| BkF          | 0.1               | 6.05                             | 0.61                         | 2.71       | 8.99                             | 0.90                         | 3.45       | 10.72                            | 1.07                         | 4.05       |
| BaP          | 1                 | 7.97                             | 7.97                         | 35.72      | 9.94                             | 9.94                         | 38.11      | 10.46                            | 10.46                        | 39.54      |
| DBahA        | 1                 | 11.27                            | 11.27                        | 50.52      | 12.47                            | 12.47                        | 47.82      | 11.97                            | 11.97                        | 45.25      |
| B(ghi)P      | 0.01              | 13.54                            | 0.14                         | 0.61       | 12.86                            | 0.13                         | 0.49       | 15.19                            | 0.15                         | 0.57       |
| IcP          | 0.1               | 10.40                            | 1.04                         | 4.66       | 11.56                            | 1.16                         | 4.43       | 11.32                            | 1.13                         | 4.28       |
| <b>Total</b> |                   | 141.48                           | 22.30                        |            | 163.80                           | 26.09                        |            | 171.60                           | 26.46                        |            |

Table 3: Health risk assessment due to PAHs exposure to children and adults in the study area

| Site       | LADD (mg kg <sup>-1</sup> day <sup>-1</sup> ) |                         | ILCR                    |                          |
|------------|---|-------------------------|-------------------------|--------------------------|
|            | Child   | Adult                   | Child                   | Adult                    |
| <b>ADP</b> | 1.06 x 10 <sup>-6</sup>                       | 2.54 x 10 <sup>-6</sup> | 4.08 x 10 <sup>-6</sup> | 9.81 x 10 <sup>-6</sup>  |
| <b>SKI</b> | 1.24 x 10 <sup>-6</sup>                       | 2.98 x 10 <sup>-6</sup> | 4.78 x 10 <sup>-6</sup> | 11.39 x 10 <sup>-6</sup> |
| <b>MGO</b> | 1.26 x 10 <sup>-6</sup>                       | 3.02 x 10 <sup>-6</sup> | 4.85 x 10 <sup>-6</sup> | 11.64 x 10 <sup>-6</sup> |