

# Supplementary Material

Tables and captions:

**Table S1.** Population change in six provinces in arid and semi-arid China.

| Province       | Years | Urban ( $\times 10^4$ ) | Rural ( $\times 10^4$ ) | Total ( $\times 10^4$ ) |
|----------------|-------|-------------------------|-------------------------|-------------------------|
| Gansu          | 1982  | 300.19                  | 1656.74                 | 1956.92                 |
|                | 1990  | 493.06                  | 1744.05                 | 2237.11                 |
|                | 2000  | 603.23                  | 1909.20                 | 2512.43                 |
|                | 2010  | 923.66                  | 1633.87                 | 2557.53                 |
|                | 2015  | 1123                    | 1477                    | 2600                    |
| Qinghai        | 1982  | 79.79                   | 309.78                  | 389.57                  |
|                | 1990  | 121.88                  | 323.81                  | 445.69                  |
|                | 2000  | 180.09                  | 338.06                  | 518.16                  |
|                | 2010  | 251.63                  | 311.05                  | 562.67                  |
|                | 2015  | 296                     | 292                     | 588                     |
| Inner Mongolia | 1982  | 556.13                  | 1371.29                 | 1927.43                 |
|                | 1990  | 779.69                  | 1365.96                 | 2145.65                 |
|                | 2000  | 1013.88                 | 1361.66                 | 2375.54                 |
|                | 2010  | 1372.02                 | 1098.61                 | 2470.63                 |
|                | 2015  | 1514                    | 997                     | 2511                    |
| Xinjiang       | 1982  | 371.48                  | 936.67                  | 1308.15                 |
|                | 1990  | 508.30                  | 1007.39                 | 1515.69                 |
|                | 2000  | 623.10                  | 1223.16                 | 1846.26                 |
|                | 2010  | 901.53                  | 1279.80                 | 2181.33                 |
|                | 2015  | 1115                    | 1245                    | 2360                    |
| Shaanxi        | 1982  | 549.05                  | 2341.39                 | 2890.44                 |
|                | 1990  | 706.77                  | 2581.47                 | 3288.24                 |
|                | 2000  | 1162.88                 | 2441.89                 | 3604.77                 |
|                | 2010  | 1705.86                 | 2026.88                 | 3732.74                 |
|                | 2015  | 2045                    | 1748                    | 3793                    |
| Ningxia        | 1982  | 87.59                   | 301.96                  | 389.56                  |
|                | 1990  | 119.75                  | 345.79                  | 465.54                  |
|                | 2000  | 180.39                  | 368.25                  | 548.64                  |
|                | 2010  | 301.83                  | 328.30                  | 630.14                  |
|                | 2015  | 369                     | 299                     | 668                     |