Supplementary materials

TableS1 Land Use Transfer Matrix from 2000 to 2020

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 2000 | 2020 | | | | | | | |
| Cultivated lsnd | Green land | Grass | Wetland | Water | Artificial surface | Bare land | Area in 2000 |
| Cultivated lsnd | 16870.95 | 430.82 | 162.82 | 7.41 | 455.61 | 1102.13 | 1.78 | 19031.51 |
| Green land | 470.26 | 17460.96 | 403.34 | 3.98 | 227.27 | 187.12 | 0.77 | 18753.70 |
| Grass | 229.80 | 387.10 | 2133.85 | 5.26 | 180.45 | 186.21 | 1.02 | 3123.69 |
| Wetland | 67.24 | 6.15 | 13.31 | 125.47 | 1919.99 | 9.03 | 1.28 | 2142.47 |
| Water | 124.22 | 18.87 | 9.60 | 9.51 | 2941.51 | 41.12 | 10.69 | 3155.51 |
| Artificial surface | 51.43 | 3.57 | 2.37 | 0.31 | 8.59 | 967.36 | 0.06 | 1033.69 |
| Bare land | 15.64 | 0.34 | 11.68 | 2.93 | 83.28 | 3.75 | 47.33 | 164.96 |
| Area in 2020 | 17829.53 | 18307.81 | 2736.96 | 154.88 | 5816.70 | 2496.72 | 62.93 | 47405.53 |
| Area of variation | -1201.98 | -723.70 | -386.73 | -1987.59 | 2661.18 | 1463.02 | -102.03 |  |

Table S2 Carbon Density Data

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| lucode | LULC\_Name | C\_above | C\_below | C\_soil | C\_dead |
| 1 | Cultivated lsnd | 4.7 | 0.47 | 54.5 | 0 |
| 2 | Green land | 60.16 | 12.41 | 63.73 | 3.83 |
| 3 | Grass | 2.23 | 5.4 | 22.57 | 3.14 |
| 4 | Wetland | 2.75 | 0 | 0.5 | 0 |
| 5 | Water | 2.3 | 0.2 | 0.5 | 0 |
| 6 | Artificial surface | 0 | 0 | 0 | 0 |
| 7 | Bare land | 0 | 0 | 25.5 | 0 |

Table S3 Weights of stressors in the study area

|  |  |  |  |
| --- | --- | --- | --- |
| Stress factor | Maximum impact distance | Weight | Decline correlation |
| Cultivated lsnd | 2.6 | 0.26 | Exponential decay |
| Artificial surface | 5.8 | 0.73 | Linear regression |
| Bare land | 2 | 0.25 | Exponential decay |

Table S4 Sensitivity of land types in the study area

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| LUCC | Habitat suitability | Cultivated lsnd | Artificial surface | Bare land |
| Cultivated lsnd | 0.25 | 0.3 | 0.5 | 0.4 |
| Green land | 1 | 0.8 | 0.8 | 0.5 |
| Grass | 0.8 | 0.4 | 0.6 | 0.5 |
| Wetland | 0.75 | 0.7 | 0.6 | 0.4 |
| Water | 0.9 | 0.65 | 0.5 | 0.4 |
| Artificial surface | 0 | 0 | 0 | 0 |
| Bare land | 0.1 | 0.1 | 0.1 | 0.2 |