**Major NRM issues :**

**AESR 4.1:** The region is hot semi-arid ESR with deep loamy alluvium-derived soils (occasional saline and sodic phases), medium AWC and LGP 90-120 days in a year.

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| **Districts** | **Land degradation** | **Soil health & fertility** | **Water related constraints** | **Environmental constraints** |
| Agra | Exclusively water erosion | Low in OC, Soil deficient in N, P, Zn, Fe & Mn | Saline GW Contaminated with F & NO3 | Highly prone to Drought |
| Aligarh | Exclusively water erosion | Low in OC, Soil deficient in N, P & B | Saline GW Contaminated with F & NO3 | **-** |
| Baghpat | **-** | Low in OC, Soil deficient in N, P, Zn & S | GW Contaminated with NO3 | **-** |
| Bulandsahar | Exclusively water erosion | Low in OC, Soil deficient in N, P, Zn, Fe & S | GW Contaminated with F & NO3 | Moderately prone to Drought |
| Etah | Exclusively water erosion & Exclusively sodic soils | Low in OC, Soil deficient in N & P | GW Contaminated with F & NO3 | Moderately prone to Drought |
| Firozabad | Exclusively water erosion | Low in OC, Soil deficient in N, P, Zn & B | Saline GW Contaminated with F & NO3 | **-** |
| Gautambudhnagar | **-** | Low in OC, Soil deficient in N & P | - | **-** |
| Ghaziabad | Exclusively water erosion | Low in OC, Soil deficient in N, P, Zn, Mn & S | GW Contaminated with F, NO3 & heavy metals | Moderately prone to Flood & Drought |
| Jyotibaphule Nagar | Exclusively water erosion | **-** | GW Contaminated with NO3 | **-** |
| Kanshiramnagar | Exclusively water erosion | **-** | Saline GW Contaminated with F & NO3 | Highly prone to Flood & Drought |
| Mahamayanagar | Exclusively water erosion | Low in OC, Soil deficient in N & P | - | **-** |
| Mainpuri | Exclusively water erosion | Low in OC, Soil deficient in N, P, Fe & B | GW Contaminated with F | Moderately prone to Drought |
| Mathura | Exclusively water erosion | Low in OC, Soil deficient in N, P & S | Saline GW Contaminated with F, NO3 & heavy metals | **-** |
| Meerut | Exclusively water erosion | Low in OC, Soil deficient in N, P & Fe | GW Contaminated with NO3 & As | **-** |
| Moradabad | Exclusively water erosion | Low in OC, Soil deficient in N & P | GW Contaminated with NO3, As & heavy metals | **-** |
| Muzafarnagar | Exclusively water erosion | Low in OC, Soil deficient in N, P & S | GW Contaminated with NO3 & heavy metals | **-** |

**AESR 4.3:** The region is hot moist semi-arid ESR with deep, loamy alluvium-derived soils (sodic phase inclusion), medium to high AWC and LGP 120-150 days in a year.

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| **Districts** | **Land degradation** | **Soil health & fertility** | **Water related constraints** | **Environmental constraints** |
| Allahabad | Exclusively water erosion | Low in OC, Soil deficient in N & P | GW Contaminated with F & NO3 | **-** |
| Amethi | Exclusively water erosion | Low in OC, Soil deficient in N, P, Fe, Cu, B & S | - | **-** |
| Auraiya | Exclusively sodic soils | Low in OC, Soil deficient in N, P & B | GW Contaminated with F & NO3 | Highly prone to Flood & Drought |
| Badaun | Exclusively water erosion | Low in OC, Soil deficient in N, P, Fe & S | - | **-** |
| Etawah | Exclusively water erosion | Low in OC, Soil deficient in N, P & B | GW Contaminated with F & Fe | Moderately prone to Drought |
| Farrukhabad | Exclusively water erosion | Low in OC, Soil deficient in N & P | GW Contaminated with F | Moderately prone to Drought |
| Fatehpur | Exclusively water erosion | Low in OC, Soil deficient in N & P | GW Contaminated with F, NO3 & Fe | Moderately prone to Drought |
| Hardoi | Exclusively water erosion | Low in OC, Soil deficient in N & P | GW Contaminated with F, NO3 & Fe | Highly prone to Drought |
| Jalaun | Exclusively water erosion | Low in OC, Soil deficient in N, P, Zn & Fe | - | Very highly prone to Drought |
| Jaunpur | Exclusively water erosion & Eroded sodic soils | Low in OC, Soil deficient in N, P, Zn, Fe, B & S | GW Contaminated with F, NO3 & heavy metals | Moderately prone to Drought |
| Kannauj | Exclusively water erosion | Low in OC, Soil deficient in N, P, Fe & S | GW Contaminated with F & NO3 | **-** |
| Kanpur | Exclusively water erosion | Low in OC, Soil deficient in N & P | Saline GW Contaminated with F, NO3, Fe & heavy metals | Moderately prone to Drought |
| Kanpur Dehat | Exclusively water erosion | Low in OC, Soil deficient in N, P & S | Saline GW Contaminated with NO3 , Fe & heavy metals | **-** |
| Kaushambi | Exclusively water erosion | Low in OC, Soil deficient in N & P | Saline GW Contaminated with NO3 & As | Moderately prone to Drought |
| Lucknow | Exclusively water erosion, salinity & sodicity. | Low in OC, Soil deficient in N & P | - | **-** |
| Pratapgarh | Exclusively water erosion & Eroded sodic soils | Low in OC, Soil deficient in N & P | GW Contaminated with F | Moderately prone to Drought |
| Raibeareli | Exclusively water erosion | Low in OC, Soil deficient in N, P & S | Saline GW Contaminated with F, NO3 & heavy metals | **-** |
| Santravidasnagar | Exclusively water erosion | Low in OC, Soil deficient in N, P & S | GW Contaminated with NO3 & As | **-** |
| Shahjahanpur | Exclusively water erosion | Low in OC, Soil deficient in N , P , K & S | GW Contaminated with F, NO3 & As | **-** |
| Unnao | Exclusively water erosion, salinity & sodicity. | Low in OC, Soil deficient in N, P & B | GW Contaminated with F, NO3, As, Fe & heavy metals | Moderately prone to Drought |
| Varanasi | Exclusively water erosion | Low in OC, Soil deficient in N, P, Fe, Mn & S | GW Contaminated with F, NO3 & heavy metals | **-** |

**AESR 4.4:** The region is hot moist semi-arid ESR with Deep loamy and clayey mixed Red and Black soils, medium to high AWC and LGP 90-120 days in a year.

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| **Districts** | **Land degradation** | **Soil health & fertility** | **Water related constraints** | **Environmental constraints** |
| Banda | Exclusively water erosion | Low in OC, Soil deficient in N, P, Fe, Mn & B | GW Contaminated with F & NO3 | Moderately prone to Drought |
| Chitrakoot | Exclusively water erosion | Low in OC, Soil deficient in N, P,, Zn, Fe & B | GW Contaminated with NO3 | **-** |
| Hamirpur | Exclusively water erosion | Low in OC, Soil deficient in N, P & B | Saline GW Contaminated with F & NO3 | Moderately prone to Flood & Drought |
| Jhansi | Exclusively water erosion | Low in OC, Soil deficient in N, P & Fe | Saline GW Contaminated with NO3 & As | Highly prone to Drought |
| Lalitpur | Exclusively water erosion | Low in OC, Soil deficient in N, P, Zn & S | GW Contaminated with F,NO3 & Fe | **-** |
| Mahoba | Exclusively water erosion | Low in OC, Soil deficient in N, P, Zn, Fe, Mn, B & S | GW Contaminated with F & NO3 | Moderately prone to Drought |

**AESR 9.1:** The region is hot dry/moist subhumid transitional ESR with deep, loamy to clayey alluvium-derived (inclusion of saline and sodic phases) soils, medium AWC and LGP 120-150 days in a year.

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| **Districts** | **Land degradation** | **Soil health & fertility** | **Water related constraints** | **Environmental constraints** |
| Bijnor | Exclusively water erosion | Low in OC, Soil deficient in N, P, Fe & B | GW Contaminated with NO3 & As | Very highly prone to Drought |
| Jyotibaphule Nagar | Exclusively water erosion |  | GW Contaminated with NO3 & As | **-** |
| Moradabad | Exclusively water erosion | Low in OC, Soil deficient in N, P & S | GW Contaminated with NO3, As & heavy metals | **-** |
| Muzafarnagar | Exclusively water erosion | Low in OC, Soil deficient in N, P & K | GW Contaminated with NO3 & heavy metals | **-** |
| Sharanpur | Exclusively water erosion | Low in OC, Soil deficient in N, P & K | GW Contaminated with NO3 | **-** |

**AESR 9.2:** The region is hot dry subhumid ESR with deep loamy alluvium-derived soils, medium to high AWC and LGP 150-180 days in a year.

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| **Districts** | **Land degradation** | **Soil health & fertility** | **Water related constraints** | **Environmental constraints** |
| Ambedkar nagar | Exclusively water erosion | Low in OC, Soil deficient in N & P | GW Contaminated with NO3 | **-** |
| Amethi | **-** | Low in OC, Soil deficient in N & P | - |  |
| Azamgarh | Exclusively water erosion, sodicity. | Low in OC, Soil deficient in N & P | GW Contaminated with NO3, As & Fe | Moderately prone to Flood & Drought |
| Ballia | Exclusively water erosion, salinity & sodicity. | Low in OC, Soil deficient in N & P | GW Contaminated with NO3, As & Fe | Moderately prone to Flood & Drought |
| Barabanki | Exclusively water erosion | Low in OC, Soil deficient in N , P & K | GW Contaminated with NO3 | Highly prone to Flood |
| Bareilly | **-** | Low in OC, Soil deficient in N & P | GW Contaminated with F, NO3  & As | **-** |
| Chandauli | Exclusively water erosion & Water erosion under open forest | Low in OC, Soil deficient in N & P | GW Contaminated with F & As | **-** |
| Faizabad | Exclusively water erosion | Low in OC, Soil deficient in N & P | GW Contaminated with F, NO3 & Fe | **-** |
| Gazipur | Exclusively water erosion | Low in OC, Soil deficient in N & P | GW Contaminated with F, NO3 & heavy metals | **-** |
| Hardoi | Exclusively water erosion | Low in OC, Soil deficient in N & P | - | Highly prone to Drought |
| Jaunpur | Exclusively water erosion, Exclusively sodic soils & Eroded sodic soils | Low in OC, Soil deficient in N & P | GW Contaminated with NO3 | Moderately prone to Drought |
| Kheri | Exclusively water erosion | Low in OC, Soil deficient in N & P | GW Contaminated with NO3 & Fe | **-** |
| Lucknow | Exclusively water erosion | Low in OC, Soil deficient in N & P | GW Contaminated with As | **-** |
| Mau | Exclusively water erosion | Low in OC, Soil deficient in N & P | - | Moderately prone to Drought |
| Pilhibhit | Exclusively water erosion | Low in OC, Soil deficient in N , P & K | GW Contaminated with F, NO3 & As | Highly prone to Flood & Drought |
| Rampur | Exclusively water erosion | Low in OC, Soil deficient in N & P | GW Contaminated with F & NO3 | **-** |
| Shahjahanpur | Exclusively water erosion | Low in OC, Soil deficient in N & P | GW Contaminated with F & NO3 | **-** |
| Sitapur | Exclusively water erosion | Low in OC, Soil deficient in N & P | GW Contaminated with F, NO3 & heavy metals | **-** |
| Sultanpur | Exclusively water erosion & Eroded sodic soils | Low in OC, Soil deficient in N & P | GW Contaminated with F, NO3 & Fe | **-** |
| Varanasi | Exclusively water erosion | Low in OC, Soil deficient in N & P | GW Contaminated with F, NO3 & heavy metals | **-** |

**AESR 11:** The region is hot moist/dry subhumid transitional ESR with deep loamy lto clayey Red and Yellow soils, medium AWC and LGP 150-180 days in a year.

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| **Districts** | **Land degradation** | **Soil health & fertility** | **Water related constraints** | **Environmental constraints** |
| Mirzapur | Exclusively water erosion & Water erosion under open forest | Low in OC, Soil deficient in N & P | GW Contaminated with NO3 & As | **-** |
| Sonbhadra | Exclusively water erosion & Water erosion under open forest | Low in OC, Soil deficient in N & P | GW Contaminated with F, NO3 & heavy metals | **-** |
| Varanasi | Exclusively water erosion | Low in OC, Soil deficient in N & P | GW Contaminated with F, NO3 & heavy metals | **-** |

**AESR 13.1:** The region is hot dry to moist subhumid transitional ESR with deep, loamy alluvium-derived soils, low to medium AWC and LGP 180-210 days in a year.

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| **Districts** | **Land degradation** | **Soil health & fertility** | **Water related constraints** | **Environmental constraints** |
| Ambedkarnagar | Exclusively water erosion |  | GW Contaminated with NO3 | **-** |
| Bahraich | Exclusively water erosion | Low in OC, Soil deficient in N , P & K | GW Contaminated with As | Moderately prone to flood |
| Balrampur | Exclusively water erosion | Low in OC, Soil deficient in N & P | GW Contaminated with NO3, As & Fe | **-** |
| Basti | Exclusively water erosion | Low in OC, Soil deficient in N & P | GW Contaminated with NO3 &As | **-** |
| Deoria | Exclusively water erosion | Low in OC, Soil deficient in N & P | GW Contaminated with As | **-** |
| Gonda | Exclusively water erosion | Low in OC, Soil deficient in N, P & K | GW Contaminated with F, As & Fe | **-** |
| Gorakhpur | Exclusively water erosion | Low in OC, Soil deficient in N & P | GW Contaminated with As | Moderately prone to Flood |
| Kushinagar | Exclusively water erosion | Low in OC, Soil deficient in N & P | GW Contaminated with As | Highly prone to Flood & Drought |
| Maharajganj | Exclusively water erosion | Low in OC, Soil deficient in N & P | - | **-** |
| Santkabirnagar | Exclusively water erosion | Low in OC & Soil deficient in N | - | **-** |
| Shrawasti | Exclusively water erosion | Low in OC, Soil deficient in N & P | GW Contaminated with NO3 | **-** |
| Siddharthnagar | Exclusively water erosion | Low in OC, Soil deficient in N & P | GW Contaminated with NO3 , As & Fe | **-** |

**AESR 13.2:** The region is warm to hot moist subhumid ESR with deep loamy to clayey Tarai soils, high AWC and LGP 180-210 days in a year.

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| **Districts** | **Land degradation** | **Soil health & fertility** | **Water related constraints** | **Environmental constraints** |
| Bahraich | Exclusively water erosion | Low in OC, Soil deficient in N ,P & K | GW Contaminated with As | Moderately prone to Flood |
| Balrampur | Exclusively water erosion | Low in OC, Soil deficient in N & P | GW Contaminated with NO3 , As & Fe | **-** |
| Kheri | Exclusively water erosion | Low in OC, Soil deficient in N & P | - | **-** |
| Maharajganj | Exclusively water erosion | Low in OC, Soil deficient in N & P | - | **-** |
| Shrawasti | Exclusively water erosion | Low in OC, Soil deficient in N & P | GW Contaminated with NO3 | **-** |
| Siddharthnagar | Exclusively water erosion | Low in OC, Soil deficient in N & P | GW Contaminated with NO3 , As & Fe | **-** |