**Major NRM issues :**

**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 day in a year.

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| **Districts** | ***Land degradation*** | ***Soil health & fertility*** | ***Water related constraints*** | ***Environmental constraints*** |
| Bhind | Exclusively water erosion & Ravine | Low in OC, Soil deficient in Zn, N & P | GW Saline, Contaminated with F, NO3 & Fe | **-** |

**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*** |
| Datia | Exclusively water erosion | Soil deficient in N | GW Contaminated with F, NO3, Fe & heavy metals | **-** |
| Gwalior | Exclusively water erosion & Ravine | Soil deficient in Zn & N | GW Saline, Contaminated with F, NO3, Fe & heavy metals | **-** |
| Morena | Exclusively water erosion & Ravine | Low in OC, Soil deficient in N & S | GW Saline, Contaminated with F & NO3 | **-** |
| Sheopur | Exclusively water erosion | Soil deficient in N, P & S | GW Saline, Contaminated with F & NO3 | Highly prone to Flood, Drought & Cyclone |
| Shivpuri | Exclusively water erosion , Water erosion under open forest & Ravine | Soil deficient in N | GW Saline, Contaminated with F, NO3, Fe & heavy metals | Moderately prone to drought |

**AESR 5.2:** The region is hot moist semi-arid ESR with medium and deep, clayey Black soils (shallow black soils as inclusions), 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*** |
| Alirajpur | Exclusively water erosion | Soil deficient in N, P, Mn & Fe | GW Saline, Contaminated with F & NO3 | **-** |
| Barwani | Exclusively water erosion | Soil deficient in N, P & Fe | GW Contaminated with F, NO3, Fe & heavy metals | **-** |
| Burhanpur | Exclusively water erosion | Soil deficient in N , P, Zn, Fe & S | GW Contaminated with NO3 & As | **-** |
| Dewas | Exclusively water erosion & Water erosion under open forest | Soil deficient in N, P, C | GW Contaminated with F, NO3, Fe & heavy metals | Moderately prone to drought |
| Dhar | Exclusively water erosion & Water erosion under open forest | Soil deficient in N, P, Zn & Fe | GW Contaminated with F, NO3, As, Fe & heavy metals | **-** |
| East Nimar | Exclusively water erosion | Soil deficient in N & P | - | **-** |
| Indore | Exclusively water erosion | Low in OC, Soil deficient in N, P & S | Saline GW Contaminated with F, NO3 & Fe | **-** |
| Jhabua | Exclusively water erosion | Soil deficient in N & P | Saline GW Contaminated with F, NO3 & Fe | **-** |
| Mandsaur | Exclusively water erosion & Water erosion under open forest | Soil deficient in N, P, Fe & Mn | GW Contaminated with F, NO3,As & Fe | **-** |
| Nimach | Exclusively water erosion | Soil deficient in N, P, Mn, B & S | Saline GW Contaminated with F, NO3, As& Fe | **-** |
| Ratlam | Exclusively water erosion | Low in OC, Soil deficient in N & P | Saline GW Contaminated with F, NO3 & Fe | Moderately prone to drought |
| Shajapur | Exclusively water erosion | Soil deficient in N, Zn & B | GW Contaminated with F, NO3, Fe & heavy metals | **-** |
| Ujjan | Exclusively water erosion | Soil deficient in N, Zn, Fe & S | Saline GW Contaminated with NO3 & Fe | **-** |
| West Nimar | Exclusively water erosion | Soil deficient in N & P | - | **-** |

**AESR 10.1:** The region hot dry subhumid ESR with medium and deep clayey Black soils (shallow loamy Black soils as inclusion), 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*** |
| Ashok nagar | Exclusively water erosion | Soil deficient in N, P, Zn, B & S | GW Contaminated with NO3 | **-** |
| Bhopal | Exclusively water erosion | Soil deficient in N, P & Fe | GW Contaminated with F, NO3 & Fe | Highly prone to flood |
| Damoh | Exclusively water erosion & Water erosion under open forest | Soil deficient in P, | GW Contaminated with NO3 , Fe & heavy metals | - |
| Dewas | Exclusively water erosion & Water erosion under open forest | Soil deficient in N, P, Zn & B | GW Contaminated with F, NO3 , Fe & heavy metals | Moderately prone to drought |
| Guna | Exclusively water erosion & Water erosion under open forest | Soil deficient in N, P, Zn & B | GW Contaminated with F, NO3 , Fe & heavy metals | - |
| Harda | Exclusively water erosion | Soil deficient in N | GW Contaminated with F & NO3 | - |
| Hoshangabad | Exclusively water erosion | Low in OC & Soil deficient in N, Zn, B & S | GW Contaminated with F & NO3 | **-** |
| Jabalpur | Exclusively water erosion | Soil deficient in N & P | GW Contaminated with F, NO3 & Fe | **-** |
| Katni | Exclusively water erosion | Soil deficient in N& Zn | GW Contaminated with F & NO3 | **-** |
| Narshimapura | Exclusively water erosion | Soil deficient in N, P, Zn & Fe | GW Contaminated with F | **-** |
| Raisen | Exclusively water erosion | Soil deficient in N, P & Zn | GW Contaminated with F, NO3 , Fe & heavy metals | **-** |
| Rajgarh | Exclusively water erosion | Low in OC, Soil deficient in N, P, Zn & B | GW Contaminated with F, NO3 , Fe & heavy metals | **-** |
| Sagar | Exclusively water erosion | Soil deficient in P, Zn & S | GW Contaminated with F, NO3 & Fe | **-** |
| Sehore | Exclusively water erosion | Soil deficient in N, S & P | Saline GW Contaminated with F, NO3 , Fe & heavy metals | **-** |
| Shajapur | Exclusively water erosion | Soil deficient in N, Zn & B | GW Contaminated with F, NO3 , Fe & heavy metals | **-** |
| Vidisha | Exclusively water erosion | Soil deficient in N & P | GW Contaminated with F, NO3 , Fe & heavy metals | **-** |

**AESR 10.2:** The region is hot dry subhumid ESR with shallow and medium loamy to clayey Black soils (deep clayey Black soils as inclusion), 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*** |
| Betul | Exclusively water erosion | Low in OC, Soil deficient in N, P, Zn, B & S | GW Contaminated with F, NO3 , As & Fe | **-** |

**AESR 10.3:** The region is hot dry subhumid ESR with deep loamy to clayey mixed Red and Black 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*** |
| Anuppur | Exclusively water erosion | Soil deficient in N , Zn & B | GW Contaminated with F & NO3 | **-** |
| Chhatarpur | Exclusively water erosion | Low in OC & Soil deficient in N, Zn, Mn, B & S | Saline GW Contaminated with F, NO3 & Fe | **-** |
| Panna | Exclusively water erosion & Water erosion under open forest | Soil deficient in N, P & Zn | GW Contaminated with F, NO3 & Fe | Moderately prone to drought |
| Rewa | Exclusively water erosion | Soil deficient in N, P, Zn & Fe | Saline GW Contaminated with NO3 & Fe | **-** |
| Satna | Exclusively water erosion & Water erosion under open forest | Soil deficient in N, Zn, B & S | Saline GW Contaminated with F, NO3 & Fe | **-** |
| Shahdol | Exclusively water erosion | Soil deficient in N & P & Zn | Saline GW Contaminated with F, Fe & heavy metals | Moderately prone to drought |
| Sidhi | Exclusively water erosion | Soil deficient in N, Zn, B & S | GW Contaminated with F, NO3 & Fe | Highly prone to drought |
| Singrauli | Exclusively water erosion | Low in OC, Soil deficient in N & Fe | GW Contaminated with F & NO3 | **-** |
| Tikamgarh | Exclusively water erosion | Soil deficient in N & P | GW Contaminated with F, NO3 & Fe | Moderately prone to flood |
| Umaria | - | Soil deficient in N,P & Zn | GW Contaminated with NO3 , As & Fe | Moderately prone to drought |

**AESR 10.4:** The region is hot moist subhumid ESR with shallow to deep loamy to clayey mixed Red and Black 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*** |
| Balaghat | Exclusively water erosion & Acid soils under water erosion | Soil deficient in Zn | Saline GW Contaminated with F, NO3,  Fe & heavy metals | **-** |
| Chhindwara | Exclusively water erosion & Water erosion under open forest | Soil deficient in N & P | GW Contaminated with F, NO3,  As & Fe | **-** |
| Dindori | Exclusively water erosion | Soil deficient in P | GW Contaminated with F, NO3,  Fe & heavy metals | **-** |
| Jabalpur | Exclusively water erosion | Soil deficient in N & P | GW Contaminated with F, NO3 & Fe | **-** |
| Mandla | Exclusively water erosion & Acid soils under water erosion | Soil deficient in N, P, Zn & B | GW Contaminated with F, NO3 & Fe | **-** |
| Seoni | Exclusively water erosion & Water erosion under open forest | Soil deficient in N & P | GW Contaminated with F, NO3 & Fe | **-** |