**Haryana**

Haryana comprises three of Agro Ecological Region (AER) 2, 4 and 9.

**Agro-Eco Region 2 :** AER 2 in Haryana comprises of Bhiwani, Fatehabad, Hisar, Mahendergarh and Sirsa districts of Eastern Plateau under Agro Ecological Sub Region (AESR) 2.3.

**Agro-Eco Region 4 :** AER 4 in Haryana comprises of districts Gurgaon, Jhajjar, Jind, Kaithal, Karnal, Kurukshetra, Panipat, Palwal, Rewari, Rohtak, Sonipat, Faridabad and Mewat of Northern Plain and Central Highlands including Aravallis under Agro Ecological Sub Region (AESR) 4.1.

**Agro-Eco Region 9:** AER 9 in Haryana comprises of Ambala, Panchkula and Yamunanagar districts of Northern Plain under Agro Ecological Sub Region (AESR) 9.1.

**AESR 2.3 :** The region warm hot typic- arid ESR with deep, loamy desert soils (inclusion of saline phase), low AWC and LGP 60-90 days in a year.

**Major NRM issues :**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Districts** | ***Land degradation*** | ***Soil health & fertility*** | ***Water related constraints*** | ***Environmental constraints*** |
| Bhiwani | Waterlogged | Low in OC, Soil deficient in N, P, Zn & Fe | Saline, GW Contaminated with F, NO3, As, Fe & heavy metals | Extreme Drought |
| Fatehabad | - | Low in OC, Soil deficient in N, P, K, S, Fe , B & Mn | Saline, GW Contaminated with F, NO3, As, Fe & heavy metals | **-** |
| Hisar | Waterlogged | Low in OC, Soil deficient in N, P, K, Fe & Mn | Saline, GW Contaminated with F, NO3, As, Fe & heavy metals | **-** |
| Mahendergarh | **-** | Low in OC, Soil deficient in N, P, S, Zn & Fe | Saline, GW Contaminated with F, NO3, As, Fe & heavy metals | **-** |
| Sirsa | **-** | Low in OC, Soil deficient in N, P, B & Fe | Saline, GW Contaminated with F, NO3, As, Fe & heavy metals | **-** |

**AESR 4.1 :** The region 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.

**Major NRM issues :**

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| --- | --- | --- | --- | --- |
| **Districts** | ***Land degradation*** | ***Soil health & fertility*** | ***Water related constraints*** | ***Environmental constraints*** |
| Faridabad | **-** | Low in OC, Soil deficient in N, K, B & P | Saline, GW Contaminated with F, NO3, As, Fe & heavy metals | **-** |
| Gurgram | **-** | Low in OC, Soil deficient in N & P | Saline, GW Contaminated with F, NO3, Fe & heavy metals | **-** |
| Jhajjar | Waterlogged | Low in OC, Soil deficient in N & P | Saline, GW Contaminated with F, NO3, As, Fe & heavy metals | **-** |
| Jind | **-** | Low in OC, Soil deficient in N & P | Saline, GW Contaminated with F, NO3, As, Fe & heavy metals | **-** |
| Kaithal | **-** | Low in OC, Soil deficient in N & P | Saline, GW Contaminated with F, NO3, Fe & heavy metals | **-** |
| Karnal | **-** | Low in OC, Soil deficient in N, P & Mn | Saline, GW Contaminated with F, NO3, As, Fe & heavy metals | **-** |
| Kurukshetra | **-** | Low in OC, Soil deficient in N, P & S | GW Contaminated with F, NO3 &Fe | **-** |
| Mewat | **-** | Low in OC, Soil deficient in N & P | Saline, GW Contaminated with F & NO3 | **-** |
| Palwal | **-** | Low in OC, Soil deficient in N, P & S | Saline, GW Contaminated with F, NO3 & As | **-** |
| Panipat | **-** | Low in OC, Soil deficient in N & P | Saline, GW Contaminated with F, NO3, As, Fe & heavy metals | **-** |
| Rewari | **-** | Low in OC, Soil deficient in N, P, K & S | Saline, GW Contaminated with F, NO3 & heavy metals | **-** |
| Rohtak | **-** | Low in OC, Soil deficient in N, P, S & Fe | Saline, GW Contaminated with F, NO3, As, Fe & heavy metals | **-** |
| Sonipat | **-** | Low in OC, Soil deficient in N & P | Saline, GW Contaminated with F, NO3, As, Fe & heavy metals | **-** |

**AESR 9.1:** The region loamy to clayey alluvium-derived (inclusion of saline and sodic phases) soils, medium AWC and LGP 120-150 days in a year.

**Major NRM issues :**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Districts** | ***Land degradation*** | ***Soil health & fertility*** | ***Water related constraints*** | ***Environmental constraints*** |
| Ambala | **-** | Low in OC, Soil deficient in N, K, P & S | Saline, GW Contaminated with F, NO3, As, Fe & heavy metals | **-** |
| Panchkula | Exclusively water erosion | Low in OC, Soil deficient in N, P & B | GW Contaminated with F, NO3, As, Fe & heavy metals | **-** |
| Yamunanagar | Waterlogged | Low in OC, Soil deficient in N, K & P | GW Contaminated with F & NO3 | **-** |

**Himachal Pradesh**

Himachal Pradesh comprises of one Agro Ecological Regions (AER) namely 14.

**Agro-Eco Region 14 :** AER 14 in Himachal Pradesh comprises of Bilaspur, Chamba, Hamirpur , Kangra, Kinnaur, Kullu, Lahul & Spiti, Mandi, Shimla, Sirmaur, Solan and Una districts of Western Himalayas under Agro Ecological Sub Regions (AESR) 14.1, 14.2 and 14.3.

**AESR 14.1 :** The region cold and warm by dry semi-arid/dry subhumid ESR with shallow to medium deep loamy Brown Forest and Podzolic soils, low to medium AWC and LGP 90-120 days in a year.

**Major NRM issues :**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Districts** | ***Land degradation*** | ***Soil health & fertility*** | ***Water related constraints*** | ***Environmental constraints*** |
| Chamba | **-** | Soil deficient in N | - | Extreme Drought |
| Hamirpur | - | Soil deficient in P, K & Zn | GW Contaminated with NO3 | **-** |
| Kinnaur | **-** | Soil deficient in N & K | **-** | **-** |
| Kullu | **-** | Soil deficient in N | GW Contaminated with NO3 | Extreme Drought |
| Lahul & Spiti | **-** | Soil deficient in N & K | **-** | **-** |

**AESR 14.2 :** The region warm moist to dry subhumid transitional ESR with medium to deep loamy to clayey Brown Forest and Podzolic soils, medium AWC and LGP 150-210 days in a year.

**Major NRM issues :**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Districts** | ***Land degradation*** | ***Soil health & fertility*** | ***Water related constraints*** | ***Environmental constraints*** |
| Bilaspur | **-** | **-** | - | **-** |
| Chamba | - | Soil deficient in N | - | Extreme Drought |
| Hamirpur | **-** | Soil deficient in P, K & Zn | GW Contaminated with NO3 | **-** |
| Kullu | **-** | Soil deficient in N | GW Contaminated with NO3 | Extreme Drought |
| Lahul & Spiti | **-** | Soil deficient in N & K | **-** | **-** |
| Shimla | **-** | Soil deficient in P | **-** | Extreme Drought |
| Sirmaur | **-** | Soil deficient in N | **-** | Extreme Drought |
| Solan | **-** | **-** | GW Contaminated with NO3 | Extreme Drought |
| Una | Waterlogged | Soil deficient in P, K & Zn | GW Contaminated with NO3 | **-** |

**AESR 14.3 :** The region warm humid to perhumid transitional ESR with shallow to medium deep loamy brown forest and podzolic soils, low to medium AWC and LGP 270-300+ days in a year.

**Major NRM issues :**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Districts** | ***Land degradation*** | ***Soil health & fertility*** | ***Water related constraints*** | ***Environmental constraints*** |
| Hamirpur | **-** | Soil deficient in P, K & Zn | GW Contaminated with NO3 | **-** |
| Kangra | Waterlogged | Soil deficient in K | GW Contaminated with NO3 | Extreme Drought |
| Mandi | **-** | Soil deficient in N | GW Contaminated with NO3 | Extreme Drought |
| Shimla | **-** | Soil deficient in P | **-** | Extreme Drought |