**Table 1. Details about study area**

|  |  |  |  |
| --- | --- | --- | --- |
| District | TGA | Rainfall | Blocks |
| Mewat | 1860 sq km | 577 mm | Nuh, Nagina, Punahna, F. Jirka, Taoru |
| Palwal | 1359 sq km  | 567 mm | Palwal, Hathin, Hodal  |
| Gurgaon | 1253 sq km | 596 mm | [Pataudi](http://en.wikipedia.org/wiki/Pataudi), [Sohna](http://en.wikipedia.org/wiki/Sohna), [Gurgaon](http://en.wikipedia.org/wiki/Gurgaon) and [Farrukhnagar](http://en.wikipedia.org/wiki/Farrukhnagar). |
| Faridabad | 1792 sq km | 537.1 mm | Faridabad and Ballabgarh |

**Table 2. Details of digital satellite data**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Satellite | Sensor | Path/Row | Types | Period | To be used for |
| IRS P6 | LISS-III |  | Digital data | March 2010 | Vegetation crop inventory and crop parameter |
| IRS P6 | LISS III |  | Digital data | May 2011 | Salinity and water logging  |

**Table 3. Location of soil samples in study area (Mewat and Gurugram districts)**

|  |  |  |  |
| --- | --- | --- | --- |
| Longitude | Latitude | Village Name | No of samples |
| 77°4'27.273"E | 28°11'12.529"N | Badelaki | 2 |
| 77°4'30.694"E | 28°11'12.177"N | Badelaki | 2 |
| 77°4'14.187"E | 28°11'7.688"N | Badelaki | 2 |
| 77°1'41.406"E | 28°7'54.474"N | Chandeni | 3 |
| 77°1'0.635"E | 28°8'46.449"N | Chandeni | 4 |
| 77°0'37.104"E | 28°9'2.033"N | Sadain | 4 |
| 77°2'13.299"E | 28°8'18.925"N | Chandeni | 1 |
| 77°7'13.735"E | 28°11'21.793"N | Radka | 3 |
| 77°7'15.585"E | 28°11'39.594"N | Radka | 3 |
| 77°7'31.096"E | 28°12'16.909"N | Hilalpur | 3 |
| 77°7'59.686"E | 28°11'50.289"N | Hilalpur | 3 |
| 77°6'58.839"E | 28°8'54.077"N | Gangoli | 3 |
| 77°4'51.475"E | 28°5'35.638"N | Bajarka | 3 |
| 77°5'19.8"E | 28°2'49.218"N | Ujina | 3 |
| 77°5'11.361"E | 28°1'45.402"N | Ujina | 3 |
| 77°6'55.837"E | 28°1'44.603"N | Chalawali | 4 |
| 77°5'39.269"E | 28°0'11.458"N | Sultanpur | 3 |
| 77°3'37.012"E | 27°56'26.297"N | Patakpur | 4 |
| 76°57'54.61"E | 27°56'5.725"N | Karaira | 4 |
| 76°59'27.876"E | 27°59'3.438"N | Sikandrabad | 4 |
| 76°59'47.883"E | 28°3'18.137"N | Marora | 3 |

**Table 4. Ground truth and soil samples from Palwal and Gurugram districts**

|  |  |  |  |
| --- | --- | --- | --- |
| Longitude | Latitude | Village Name | No of samples |
| 76° 49 24.4 | 28° 28 03.0 | Faruk nagar,  | 4 |
| 76° 49 24.6 | 28° 28 46.8  | Mubarakpur | 4 |
| 76°49 22.4 | 28° 28 47.5 | Mubarakpur | 4 |
| 76° 49 22.35 | 28° 28 45.6  | Mubarakpur | 4 |
| 76° 51 30.03 | 28° 27 42.14 | Sultanpur | 4 |
| 76° 51 35.48 | 28° 27 40.82  | Sultanpur | 4 |
| 77°15 45.4 | 27° 57 42.1 | Bahin | 5 |
| 77° 15 45.8 | 27° 57 45.3  | Bahin | 4 |
| 77° 16 12.82 | 27° 57 36.93 | Bahin | 5 |
| 77° 18 27.7 | 27° 55 38.9 | Sundarnagar | 5 |
| 77° 20 01.2 | 27° 54 40.9 | Soundh | 5 |
| 77° 20 7.3 | 27° 52 50.6 | Barraka | 4 |
| 77° 16 46.29 | 27° 52 25.57 | Khaika | 4 |
| 77° 16 35.615 | 27° 52 37.99  | Khaika | 4 |
| 77° 14 10.9 | 27° 56 30.0 | Pavsar | 4 |
| 77° 15 12.3 | 27° 58 04.5 | Pahari | 4 |
| 77° 14 30.0 | 27° 58 59.0 | Pahari | 4 |
| 77° 12 18.8 | 28° 00 20.7  | Purrakha | 4 |
| 77° 13 36.3 | 28° 01 38.8 | Pachanka | 4 |
| 77° 08 10.8 | 28° 08 21.6 | Gangoli | 4 |
| 77° 10 40.3 | 28° 06 33.6 | Madnaka | 4 |
| 77 09 29.5 | 28° 07 15.3 | Riber | 3 |
| 77 08 14.1 | 28° 06 05.9 | Akbarpur | 4 |
| 77 09 20.1 | 28° 05 18.2 | Bhagwali | 4 |
| 77 09 22.4 | 28° 03 41.8 | Matepur | 4 |
| 77 10 59.5 | 28° 02 55.0 | Khri Brahman | 4 |
| 77 18 48.1 | 28° 13 09.1 | Baghola | 4 |
| 77 19 42.3 | 28° 13 54.5 | Devali | 4 |
| 77 20 16.9 | 28° 13 35.3 | Devali | 5 |
| 77 20 44.1 | 28° 13 21.6 | Mandkaul | 5 |
| 77 20 55.1 | 28° 10 44.0 | Janauli | 4 |

**Table 5. Ground truth and soil samples from salt affected area of Faridabad district**

|  |  |  |  |
| --- | --- | --- | --- |
| **Longitude** | **Latitude** | **Village**  | **No of Samples** |
| 77° 18 12.0 | 28° 16 39.1 | Sahapur Khurd | 4 |
| 77° 19 57.6 | 28° 15 49.0 | Sagarpur | 2 |
| 77° 20 5.2 | 28° 15 45.9 | Sagarpur | 4 |
| 77° 15 44.5 | 28° 15 51.2 | Harphalli | 4 |
| 77° 16 18.9 | 28° 15 56.9 | Harphalla | 4 |
| 77° 23 42.9 | 28° 21 4.5 | Tigaon | 4 |
| 77° 22 28.3 | 28° 19 43.6 | Machghar | 4 |
| 77° 22 28.8 | 28° 19 25.3  | Machghar | 4 |
| 77° 22 32.7 | 28° 18 25.6 | Dayalpur | 4 |
| 77° 22 31.7 | 28° 17 56.5  | Dayalpur road | 3 |
| 77° 22 0.9 | 28° 17 19.5 | Sotai | 4 |
| 77° 21 28.4 | 28° 17 11.0  | Sahapur kalan | 4 |
| 77° 22 6.0 | 28° 16 0.2 | Ladhauli | 4 |
| 77° 20 50.9 | 28° 16 50.2 | Sunped | 4 |
| 77° 20 3.7 | 28° 15 22.8 | Asaoti | 4 |
| 77° 18 39.0 | 28° 13 1.6 | Baghola | 4 |
| 77° 17 46.4 | 28° 13 36.9 | Pirthala | 4 |
| 77° 15 34.1 | 28° 19 59.0  | Maladpur | 4 |
| 77° 14 44.4 | 28° 20 8.2 | Qureshipur | 4 |
| 77° 14 30.2 | 28° 19 20.8 | firozpur kalan | 4 |
| 77° 15 2.6 | 28° 18 29.0 | Sikrona | 4 |
| 77° 14 43.3 | 28° 17 49.9 | Kabulpur bangar | 4 |

**Table 6. Soil properties of samples collected from Mewat and Gurugram districts**

|  |  |  |
| --- | --- | --- |
| village name |  Soil depth, cm | Parameters |
| pH2 | ECe | Na | K | Ca+Mg | HCO3 | Cl | SO4 |
| Badelaki1 | 0-15 | 7.20  | 87.6 | 991.3 | 0.7 | 500.0 | 1.4 | 1420.0 | 55.2 |
|   | 15-30 | 7.50  | 32.1 | 289.1 | 0.2 | 180.0 | 1.0 | 400.0 | 27.5 |
| Badelaki2 | 0-15 |  7.0 | 28.8 | 270.4 | 0.5 | 180.0 | 1.2 | 390.0 | 23.9 |
|   | 15-30 | 7.27  | 20.8 | 218.3 | 0.4 | 190.0 | 0.8 | 360.0 | 16.6 |
| Badelaki3 | 0-15 |  6.95 | 39.3 | 358.7 | 0.7 | 320.0 | 0.6 | 640.0 | 33.3 |
|   | 15-30 |  7.18 | 37.1 | 244.6 | 0.4 | 290.0 | 0.8 | 460.0 | 19.9 |
| Chandeni1 | 0-15 |  7.75 | 5.8 | 53.8 | 0.2 | 40.0 | 1.2 | 64.0 | 16.4 |
|   | 15-30 |  7.05 | 5.3 | 40.4 | 0.2 | 47.5 | 1.0 | 60.0 | 14.5 |
|   | 30-60 |  7.10 | 18.3 | 167.4 | 0.6 | 135.0 | 1.0 | 250.0 | 28.4 |
| Chandeni2 | 0-5 |  8.40 | 125.0 | 1500.0 | 0.8 | 820.0 | 3.0 | 1970.0 | 74.5 |
|   | 0-15 |  8.15 | 37.4 | 235.7 | 0.3 | 300.0 | 0.8 | 460.0 | 60.0 |
|   | 15-30 |  8.17 | 21.7 | 220.9 | 0.2 | 100.0 | 1.2 | 260.0 | 38.4 |
|   | 30-60 | 8.45  | 16.4 | 193.5 | 0.2 | 80.0 | 1.0 | 218.0 | 34.2 |
| Sadain | 0-5 |  8.40 | 132.8 | 1717.4 | 0.4 | 500.0 | 3.8 | 2140.0 | 65.1 |
|   | 0-15 | 8.38  | 42.7 | 473.9 | 0.9 | 144.0 | 0.4 | 540.0 | 48.2 |
|   | 15-30 |  8.28 | 33.3 | 417.0 | 0.9 | 115.0 | 0.6 | 470.0 | 46.3 |
|   | 30-60 | 8.18  | 28.6 | 307.0 | 0.8 | 110.0 | 1.2 | 360.0 | 44.5 |
| Chandeni3 | 0-15 | 6.75  | 7.7 | 69.8 | 0.7 | 62.5 | 0.6 | 100.0 | 30.3 |
| Radka 1 | 0-15 | 7.14  | 4.0 | 46.3 | 0.2 | 30.0 | 1.0 | 50.0 | 19.0 |
|   | 15-30 | 7.65  | 3.0 | 44.2 | 0.1 | 25.0 | 0.8 | 50.0 | 16.5 |
|   | 30-60 | 7.80  | 2.4 | 19.5 | 0.1 | 12.5 | 1.0 | 20.0 | 11.7 |
| Radka2 | 0-15 |  6.90 | 60.9 | 845.7 | 0.3 | 250.0 | 0.6 | 1040.0 | 41.4 |
|   | 15-30 |  7.25 | 34.3 | 426.1 | 0.5 | 160.0 | 0.8 | 542.0 | 32.0 |
|   | 30-60 |  7.58 | 28.6 | 280.4 | 0.4 | 125.0 | 0.6 | 370.0 | 28.7 |
| Hilalpur 1 | 0-15 |  7.99 | 46.4 | 647.8 | 0.7 | 98.0 | 0.4 | 690.0 | 43.4 |
|   | 15-30 |  8.25 | 27.7 | 345.7 | 0.4 | 75.0 | 0.8 | 372.0 | 38.4 |
|   | 30-60 | 7.98  | 28.2 | 323.9 | 0.3 | 70.0 | 1.4 | 350.0 | 34.5 |
| Hilalpur 2 | 0-15 | 7.05  | 45.2 | 589.1 | 0.5 | 150.0 | 1.0 | 700.0 | 38.2 |
|   | 15-30 | 7.18  | 26.7 | 317.4 | 0.4 | 90.0 | 1.2 | 360.0 | 33.2 |
|   | 30-60 |  7.19 | 18.7 | 271.7 | 0.2 | 60.0 | 0.4 | 300.0 | 26.1 |
| Gangoli | 0-15 | 7.10  | 2.6 | 21.2 | 0.2 | 7.5 | 0.6 | 25.0 | 2.3 |
|   | 15-30 | 7.13  | 1.7 | 14.6 | 0.0 | 7.5 | 0.4 | 19.0 | 2.0 |
|   | 30-60 | 7.60  | 1.2 | 9.2 | 0.0 | 5.0 | 1.2 | 10.0 | 1.9 |
| Bajarka  | 0-15 |  7.58 | 3.7 | 20.1 | 0.1 | 22.5 | 0.9 | 30.0 | 21.2 |
|   | 15-30 |  8.0 | 2.2 | 14.7 | 0.0 | 12.5 | 0.6 | 23.0 | 18.0 |
|   | 30-60 |  8.49 | 5.5 | 55.9 | 0.0 | 10.0 | 2.0 | 50.0 | 15.6 |
| Ujina 1 | 0-15 |  7.98 | 16.6 | 156.0 | 0.6 | 80.0 | 3.8 | 220.0 | 14.9 |
|   | 15-30 |  8.08 | 7.2 | 67.4 | 0.2 | 12.5 | 2.0 | 55.0 | 20.7 |
|   | 30-60 |  7.95 | 6.0 | 63.3 | 0.1 | 10.0 | 1.2 | 48.0 | 18.0 |
| Ujina 2 | 0-15 | 10.34  | 32.2 | 497.8 | 0.2 | 80.0 | 3.6 | 560.0 | 15.7 |
|   | 15-30 |  10.22 | 7.7 | 95.9 | 0.1 | 50.0 | 3.4 | 90.0 | 39.9 |
|   | 30-60 |  10.12 | 3.4 | 45.8 | 0.1 | 40.0 | 2.4 | 40.0 | 35.0 |
| Chalawali  | 0-5 |  8.05 | 84.8 | 1485.7 | 0.7 | 275.0 | 3.2 | 1720.0 | 34.2 |
|   | 0-15 |  8.17 | 21.6 | 331.0 | 0.3 | 145.0 | 2.0 | 440.0 | 30.4 |
|   | 15-30 | 7.89  | 13.4 | 95.3 | 0.2 | 100.0 | 1.6 | 164.0 | 23.0 |
|   | 30-60 | 7.98  | 10.7 | 64.7 | 0.2 | 40.0 | 1.0 | 84.0 | 18.8 |
| Sultanpur | 0-15 |  8.15 | 5.1 | 47.0 | 0.2 | 35.0 | 2.4 | 70.0 | 7.9 |
|   | 15-30 |  8.12 | 3.5 | 31.9 | 0.2 | 24.0 | 1.4 | 50.0 | 4.1 |
|   | 30-60 |  8.03 | 2.4 | 21.4 | 0.1 | 25.0 | 1.0 | 40.0 | 3.4 |
| Patakpur  | 0-5 |  7.74 | 48.1 | 410.7 | 0.4 | 345.0 | 5.0 | 720.0 | 29.6 |
|   | 0-15 |  7.89 | 16.2 | 201.7 | 0.1 | 68.0 | 4.0 | 240.0 | 21.0 |
|   | 15-30 |  7.98 | 8.1 | 62.4 | 0.2 | 43.0 | 3.2 | 80.0 | 17.6 |
|   | 30-60 |  7.95 | 5.3 | 42.6 | 0.1 | 18.0 | 1.4 | 40.0 | 18.1 |
| Karaira  | 0-5 |  8.09 | 105.6 | 1187.0 | 0.6 | 440.0 | 3.8 | 1600.0 | 21.8 |
|   | 0-15 |  7.65 | 36.9 | 445.7 | 0.3 | 55.0 | 1.8 | 480.0 | 17.6 |
|   | 15-30 |  7.88 | 16.4 | 187.8 | 0.1 | 75.0 | 1.6 | 240.0 | 18.8 |
|   | 30-60 |  8.09 | 15.5 | 69.8 | 0.1 | 68.0 | 1.2 | 120.0 | 15.9 |
| Sikandrabad  | 0-5 |  7.63 | 138.9 | 1964.3 | 0.5 | 410.0 | 1.8 | 2320.0 | 45.5 |
|   | 0-15 |  7.50 | 52.6 | 513.0 | 0.4 | 290.0 | 1.2 | 760.0 | 35.1 |
|   | 15-30 |  7.59 | 33.6 | 380.9 | 0.3 | 160.0 | 0.8 | 500.0 | 31.9 |
|   | 30-60 |  7.67 | 24.5 | 293.5 | 0.2 | 75.0 | 0.4 | 332.0 | 29.5 |
| Marora  | 0-15 |  6.95 | 21.9 | 198.4 | 0.3 | 73.0 | 0.6 | 260.0 | 16.5 |
|   | 15-30 |  7.22 | 7.6 | 19.1 | 0.1 | 45.0 | 0.4 | 48.0 | 14.4 |
|   | 30-60 |  7.75 | 4.2 | 29.6 | 0.0 | 25.0 | 0.4 | 44.0 | 9.2 |

**Table 7. Physico-chemical properties of salt affected soils in Palwal and Gurugram districts**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Village Name | Depth, cm | ECe | pHs | Na+ | K+ | Ca++ | Mg++ | Cl- | CO3-- | HCO3- |
| Faruk nagar    | 0-15 | 3.80 | 7.00 | 3.76 | 0.06 | 0.80 | 2.80 | 2.00 | 0.00 | 1.60 |
| 15-30 | 2.00 | 7.20 | 3.02 | 0.05 | 0.80 | 2.20 | 1.80 | 0.00 | 1.20 |
| 30-60 | 1.78 | 7.96 | 2.22 | 0.05 | 0.60 | 2.40 | 1.40 | 0.00 | 1.00 |
| 60-90 | 2.00 | 8.10 | 1.46 | 0.03 | 0.60 | 2.00 | 1.00 | 0.00 | 0.60 |
| Faruk nagar    | 0-15 | 1.63 | 7.90 | 0.90 | 0.16 | 1.60 | 1.40 | 3.00 | 0.00 | 1.60 |
| 15-30 | 0.58 | 7.98 | 2.50 | 0.08 | 0.80 | 1.60 | 2.00 | 0.00 | 1.40 |
| 30-60 | 1.40 | 8.01 | 2.36 | 0.08 | 0.60 | 1.20 | 2.40 | 0.00 | 1.20 |
| 60-90 | 0.88 | 8.45 | 1.96 | 0.06 | 0.40 | 1.40 | 1.40 | 0.00 | 1.20 |
| Mubarakpur    | 0-15 | 0.55 | 8.10 | 0.31 | 0.65 | 2.80 | 1.40 | 2.20 | 0.00 | 2.20 |
| 15-30 | 1.90 | 8.20 | 2.10 | 0.11 | 1.60 | 1.00 | 2.00 | 0.00 | 1.40 |
| 30-60 | 1.60 | 8.20 | 1.80 | 0.09 | 1.20 | 1.20 | 1.80 | 0.00 | 1.40 |
| 60-90 | 0.91 | 7.96 | 0.55 | 0.08 | 0.80 | 1.60 | 1.40 | 0.00 | 1.40 |
| Mubarakpur | 0-15 | 1.80 | 7.99 | 0.59 | 0.62 | 2.20 | 0.80 | 1.40 | 0.00 | 1.40 |
| Mubarakpur    | 0-15 | 2.25 | 7.56 | 8.40 | 1.39 | 16.40 | 15.00 | 1.60 | 0.00 | 1.00 |
| 15-30 | 23.90 | 7.56 | 21.51 | 1.64 | 13.20 | 18.00 | 97.40 | 0.00 | 0.80 |
| 30-60 | 43.10 | 7.20 | 26.55 | 1.04 | 12.00 | 18.00 | 105.00 | 0.00 | 1.00 |
| 60-90 | 31.10 | 7.25 | 23.41 | 0.54 | 11.80 | 18.20 | 99.40 | 0.00 | 1.40 |
| Sultanpur    | 0-15 | 2.66 | 8.10 | 2.22 | 1.04 | 3.80 | 2.60 | 3.80 | 0.00 | 1.40 |
| 15-30 | 1.46 | 8.20 | 1.95 | 0.51 | 2.40 | 3.20 | 3.80 | 0.00 | 1.20 |
| 30-60 | 1.04 | 8.26 | 1.58 | 0.35 | 2.20 | 3.40 | 3.00 | 0.00 | 1.20 |
| 60-90 | 0.94 | 8.23 | 0.94 | 0.16 | 1.80 | 2.40 | 2.60 | 0.00 | 0.80 |
| Sultanpur    | 0-15 | 0.55 | 8.60 | 2.22 | 0.35 | 2.20 | 1.80 | 3.80 | 0.00 | 2.20 |
| 15-30 | 1.40 | 8.96 | 1.96 | 0.16 | 0.60 | 1.20 | 2.80 | 0.00 | 1.60 |
| 30-60 | 1.00 | 9.10 | 1.46 | 0.14 | 0.60 | 1.20 | 2.80 | 0.00 | 1.40 |
| 60-90 | 1.20 | 9.20 | 0.94 | 0.14 | 0.60 | 0.40 | 2.80 | 0.00 | 1.40 |
| Bahin     | 0-5 | 35.90 | 8.00 | 15.04 | 1.31 | 22.00 | 3.00 | 134.40 | 0.00 | 1.20 |
| 0-15 | 9.71 | 8.12 | 14.34 | 0.54 | 11.20 | 16.00 | 58.20 | 0.00 | 1.00 |
| 15-30 | 6.60 | 8.32 | 13.66 | 0.45 | 10.00 | 17.00 | 32.20 | 0.00 | 1.00 |
| 30-60 | 5.40 | 8.52 | 9.42 | 0.35 | 6.20 | 19.80 | 24.80 | 0.00 | 0.80 |
| 60-90 | 3.99 | 7.95 | 0.75 | 0.21 | 1.80 | 16.40 | 15.40 | 0.00 | 0.80 |
| Bahin    | 0-15 | 2.17 | 7.50 | 12.06 | 0.45 | 12.20 | 8.80 | 3.80 | 0.00 | 2.00 |
| 15-30 | 1.72 | 7.47 | 12.06 | 0.35 | 11.00 | 10.80 | 3.00 | 0.00 | 1.40 |
| 30-60 | 1.70 | 7.55 | 2.22 | 0.31 | 6.60 | 15.20 | 2.80 | 0.00 | 1.20 |
| 60-90 | 1.65 | 7.90 | 1.96 | 0.29 | 6.00 | 15.60 | 2.80 | 0.00 | 1.20 |
| Bahin     | 0-5 | 20.90 | 7.02 | 18.87 | 3.17 | 38.40 | 60.60 | 97.80 | 0.00 | 3.00 |
| 0-15 | 11.00 | 7.20 | 18.05 | 2.93 | 30.40 | 47.80 | 88.40 | 0.00 | 1.80 |
| 15-30 | 5.80 | 7.80 | 12.06 | 0.54 | 26.20 | 50.00 | 44.20 | 0.00 | 1.60 |
| 30-60 | 4.72 | 8.01 | 9.42 | 1.04 | 20.00 | 40.20 | 24.00 | 0.00 | 1.40 |
| 60-90 | 5.13 | 8.05 | 10.55 | 0.70 | 14.20 | 25.80 | 26.20 | 0.00 | 1.40 |
| Sundarnagar     | 0-5 | 3.85 | 7.70 | 4.72 | 0.86 | 14.80 | 20.20 | 7.00 | 0.00 | 1.80 |
| 0-15 | 17.06 | 7.25 | 4.32 | 0.37 | 14.80 | 67.40 | 72.00 | 0.00 | 1.00 |
| 15-30 | 11.06 | 7.20 | 4.51 | 0.27 | 13.80 | 66.20 | 48.20 | 0.00 | 1.00 |
| 30-60 | 5.43 | 7.90 | 3.76 | 0.23 | 11.00 | 59.20 | 28.00 | 0.00 | 0.80 |
| 60-90 | 5.15 | 7.95 | 3.58 | 0.16 | 9.80 | 32.00 | 19.40 | 0.00 | 1.00 |
| Soundh     | 0-5 | 4.55 | 7.00 | 3.76 | 0.54 | 5.80 | 24.80 | 13.80 | 0.00 | 2.00 |
| 0-15 | 0.63 | 7.50 | 3.58 | 0.06 | 2.00 | 2.40 | 3.80 | 0.00 | 2.00 |
| 15-30 | 0.78 | 7.95 | 3.02 | 0.05 | 1.80 | 2.00 | 4.00 | 0.00 | 2.00 |
| 30-60 | 0.76 | 8.30 | 2.64 | 0.05 | 1.40 | 2.20 | 3.20 | 0.00 | 1.60 |
| 60-90 | 0.48 | 8.25 | 1.58 | 0.05 | 1.00 | 1.00 | 1.40 | 0.00 | 1.60 |
| Barraka    | 0-15 | 1.83 | 8.00 | 4.72 | 0.05 | 1.80 | 4.60 | 6.40 | 0.00 | 1.20 |
| 15-30 | 2.17 | 8.05 | 4.51 | 0.04 | 1.40 | 4.40 | 6.40 | 0.00 | 2.80 |
| 30-60 | 2.48 | 7.50 | 4.51 | 0.03 | 1.40 | 3.60 | 6.60 | 0.00 | 1.80 |
| 60-90 | 2.01 | 7.75 | 3.76 | 0.03 | 0.80 | 3.20 | 5.80 | 0.00 | 1.80 |
| Khaika    | 0-15 | 2.47 | 8.05 | 5.85 | 0.05 | 1.80 | 6.00 | 8.40 | 0.00 | 1.60 |
| 15-30 | 1.50 | 9.00 | 3.76 | 0.03 | 1.40 | 0.40 | 2.40 | 0.00 | 1.40 |
| 30-60 | 1.24 | 8.10 | 3.76 | 0.03 | 0.80 | 0.80 | 2.40 | 0.00 | 1.80 |
| 60-90 | 1.18 | 8.50 | 4.32 | 0.01 | 0.80 | 0.60 | 2.20 | 0.00 | 1.80 |
| Khaika    | 0-15 | 8.47 | 7.35 | 23.43 | 0.27 | 25.00 | 23.40 | 29.60 | 0.00 | 1.40 |
| 15-30 | 4.98 | 7.55 | 21.51 | 0.25 | 11.80 | 16.60 | 31.00 | 0.00 | 1.40 |
| 30-60 | 6.52 | 7.60 | 22.45 | 0.14 | 8.00 | 22.00 | 32.80 | 0.00 | 1.60 |
| 60-90 | 5.15 | 7.20 | 18.87 | 0.08 | 7.80 | 21.40 | 28.20 | 0.00 | 1.60 |
| Pavsar    | 0-15 | 13.58 | 7.50 | 28.80 | 0.08 | 11.80 | 53.00 | 55.80 | 0.00 | 1.00 |
| 15-30 | 3.76 | 8.20 | 7.20 | 0.06 | 9.60 | 7.20 | 19.80 | 0.00 | 0.80 |
| 30-60 | 3.86 | 8.10 | 5.85 | 0.05 | 6.20 | 10.20 | 20.00 | 0.00 | 1.00 |
| 60-90 | 3.94 | 7.90 | 4.71 | 0.03 | 2.20 | 13.80 | 17.80 | 0.00 | 0.80 |
| Pahari    | 0-15 | 0.96 | 9.00 | 5.85 | 0.08 | 0.60 | 1.20 | 5.80 | 0.00 | 1.60 |
| 15-30 | 4.98 | 9.25 | 7.20 | 0.08 | 0.60 | 0.60 | 5.20 | 0.00 | 1.20 |
| 30-60 | 1.52 | 9.40 | 4.71 | 0.06 | 0.60 | 0.60 | 5.00 | 0.00 | 1.00 |
| 60-90 | 1.15 | 9.60 | 2.64 | 0.05 | 0.60 | 0.20 | 5.20 | 0.00 | 1.00 |
| Pahari    | 0-15 | 1.20 | 8.57 | 3.76 | 0.06 | 0.40 | 2.40 | 2.90 | 0.00 | 1.20 |
| 15-30 | 0.86 | 8.28 | 3.02 | 0.05 | 0.40 | 1.60 | 2.60 | 0.00 | 1.00 |
| 30-60 | 0.56 | 8.39 | 2.35 | 0.05 | 0.40 | 1.40 | 2.40 | 0.00 | 1.00 |
| 60-90 | 0.80 | 8.45 | 2.63 | 0.03 | 0.40 | 1.40 | 2.60 | 0.00 | 1.20 |
| Purrakha    | 0-15 | 1.90 | 8.40 | 3.76 | 0.05 | 0.40 | 1.20 | 2.20 | 0.00 | 1.40 |
| 15-30 | 0.96 | 8.60 | 2.22 | 0.03 | 0.40 | 0.60 | 2.00 | 0.00 | 1.20 |
| 30-60 | 0.92 | 8.62 | 1.96 | 0.03 | 0.40 | 1.00 | 2.00 | 0.00 | 1.20 |
| 60-90 | 1.25 | 8.48 | 3.02 | 0.05 | 0.40 | 0.60 | 2.20 | 0.00 | 1.00 |
| Pachanka    | 0-15 | 0.90 | 8.42 | 3.02 | 0.09 | 0.80 | 2.60 | 2.80 | 0.00 | 1.40 |
| 15-30 | 4.18 | 8.00 | 4.51 | 0.39 | 0.90 | 16.50 | 12.80 | 0.00 | 1.00 |
| 30-60 | 6.08 | 8.61 | 4.93 | 0.20 | 1.10 | 14.30 | 13.00 | 0.00 | 1.00 |
| 60-90 | 5.39 | 7.60 | 2.22 | 0.16 | 1.00 | 12.80 | 13.00 | 0.00 | 0.80 |
| Gangoli    | 0-15 | 17.20 | 7.00 | 12.06 | 0.57 | 10.00 | 2.40 | 82.00 | 0.00 | 1.00 |
| 15-30 | 4.63 | 7.10 | 40.27 | 0.13 | 18.20 | 14.20 | 28.40 | 0.00 | 0.60 |
| 30-60 | 2.83 | 7.20 | 3.16 | 0.13 | 4.40 | 19.80 | 18.20 | 0.00 | 0.80 |
| 60-90 | 1.30 | 7.25 | 1.93 | 0.13 | 1.80 | 13.60 | 10.00 | 0.00 | 0.60 |
| Madnaka    | 0-15 | 9.07 | 7.55 | 8.88 | 0.25 | 17.00 | 39.40 | 33.00 | 0.00 | 1.00 |
| 15-30 | 3.27 | 8.05 | 6.32 | 0.13 | 7.40 | 21.20 | 10.00 | 0.00 | 1.00 |
| 30-60 | 3.51 | 7.90 | 5.84 | 0.13 | 7.20 | 19.00 | 10.00 | 0.00 | 1.00 |
| 60-90 | 2.75 | 7.95 | 2.74 | 0.09 | 2.20 | 20.00 | 8.20 | 0.00 | 0.60 |
| Riber   | 0-5 | 27.09 | 7.58 | 23.42 | 1.23 | 40.40 | 106.00 | 137.60 | 0.00 | 2.00 |
| 0-15 | 6.36 | 7.67 | 2.74 | 0.21 | 21.80 | 26.60 | 39.00 | 0.00 | 1.20 |
| 15-30 | 4.18 | 7.77 | 3.76 | 0.21 | 7.80 | 26.40 | 22.20 | 0.00 | 1.20 |
| Akbarpur    | 0-15 | 9.46 | 8.20 | 18.87 | 0.21 | 9.00 | 59.40 | 35.80 | 0.00 | 2.20 |
| 15-30 | 2.18 | 9.10 | 8.88 | 0.06 | 6.20 | 10.00 | 10.00 | 0.00 | 1.40 |
| 30-60 | 3.02 | 9.00 | 9.42 | 0.05 | 2.20 | 12.20 | 10.20 | 0.00 | 1.20 |
| 60-90 | 2.52 | 7.99 | 2.78 | 0.05 | 1.00 | 9.20 | 8.20 | 0.00 | 1.20 |
| Bhagwali   | 0-15 | 4.95 | 7.95 | 17.26 | 0.86 | 13.00 | 22.60 | 37.00 | 0.00 | 1.20 |
| 15-30 | 3.92 | 7.88 | 12.37 | 0.43 | 13.80 | 15.40 | 24.00 | 0.00 | 0.80 |
| 30-60 | 4.70 | 7.65 | 13.66 | 0.35 | 8.20 | 20.00 | 24.40 | 0.00 | 0.80 |
| Matepur    | 0-5 | 14.40 | 7.96 | 23.43 | 0.35 | 20.60 | 76.20 | 105.00 | 0.00 | 2.80 |
| 0-15 | 8.55 | 7.99 | 18.87 | 0.14 | 15.80 | 26.60 | 35.80 | 0.00 | 1.20 |
| 15-30 | 2.66 | 8.26 | 8.88 | 0.13 | 8.00 | 10.20 | 12.20 | 0.00 | 1.00 |
| 30-60 | 1.62 | 7.99 | 0.58 | 0.13 | 2.20 | 12.00 | 8.60 | 0.00 | 0.80 |
| Khri Brahman    | 0-15 | 0.94 | 8.24 | 3.76 | 0.05 | 0.80 | 3.00 | 3.80 | 0.00 | 1.60 |
| 15-30 | 0.95 | 8.36 | 2.22 | 0.03 | 0.80 | 0.80 | 2.00 | 0.00 | 1.00 |
| 30-60 | 3.90 | 7.29 | 2.63 | 0.03 | 0.60 | 1.40 | 1.40 | 0.00 | 1.00 |
| 60-90 | 5.35 | 7.55 | 3.02 | 0.05 | 0.60 | 2.40 | 2.20 | 0.00 | 0.80 |
| Baghola    | 0-15 | 7.40 | 7.95 | 6.11 | 0.08 | 6.40 | 18.40 | 21.60 | 0.00 | 1.40 |
| 15-30 | 8.19 | 8.00 | 6.64 | 0.05 | 6.40 | 20.60 | 22.00 | 0.00 | 0.80 |
| 30-60 | 10.32 | 7.50 | 6.92 | 0.05 | 4.20 | 22.60 | 23.40 | 0.00 | 1.00 |
| 60-90 | 10.62 | 7.90 | 7.20 | 0.03 | 2.20 | 24.40 | 23.80 | 0.00 | 1.00 |
| Devali    | 0-15 | 0.62 | 8.00 | 3.76 | 0.03 | 0.60 | 1.60 | 2.00 | 0.00 | 1.00 |
| 15-30 | 0.26 | 8.30 | 0.48 | 0.05 | 0.60 | 1.20 | 2.00 | 0.00 | 1.00 |
| 30-60 | 0.90 | 8.20 | 0.58 | 0.05 | 0.40 | 1.00 | 2.00 | 0.00 | 0.80 |
| 60-90 | 1.25 | 8.00 | 0.79 | 0.03 | 0.40 | 1.00 | 2.20 | 0.00 | 0.60 |
| Devali     | 0-5 | 59.90 | 9.80 | 60.16 | 1.90 | 21.00 | 280.80 | 100.00 | 48.50 | 60.00 |
| 0-15 | 25.70 | 10.00 | 60.16 | 0.55 | 3.00 | 4.00 | 18.30 | 13.80 | 17.50 |
| 15-30 | 2.70 | 9.90 | 35.51 | 0.55 | 2.00 | 2.20 | 2.80 | 1.00 | 1.40 |
| 30-60 | 0.93 | 9.80 | 0.58 | 0.37 | 1.00 | 0.80 | 2.00 | 0.40 | 1.20 |
| 60-90 | 3.21 | 9.70 | 0.79 | 0.35 | 0.60 | 2.80 | 1.80 | 0.40 | 0.80 |
| Mandkaula     | 0-5 | 33.50 | 10.00 | 58.81 | 4.15 | 0.60 | 1.80 | 45.00 | 28.00 | 34.00 |
| 0-15 | 1.97 | 9.95 | 35.51 | 0.16 | 0.60 | 1.20 | 4.20 | 0.80 | 1.20 |
| 15-30 | 0.90 | 9.20 | 9.34 | 0.16 | 0.80 | 0.80 | 2.40 | 0.00 | 0.80 |
| 30-60 | 1.02 | 9.50 | 10.99 | 0.14 | 0.40 | 1.40 | 2.80 | 0.00 | 1.80 |
| 60-90 | 1.32 | 8.70 | 12.66 | 0.14 | 0.40 | 1.60 | 2.60 | 0.00 | 0.60 |
| Janauli    | 0-15 | 20.30 | 8.28 | 60.16 | 0.57 | 2.20 | 10.80 | 66.00 | 0.00 | 1.00 |
| 15-30 | 9.49 | 8.26 | 54.67 | 0.37 | 1.80 | 8.60 | 36.00 | 0.00 | 0.80 |
| 30-60 | 5.16 | 8.20 | 37.70 | 0.35 | 1.80 | 6.40 | 24.20 | 0.00 | 0.80 |
| 60-90 | 4.41 | 8.21 | 27.36 | 0.31 | 0.80 | 7.60 | 11.80 | 0.00 | 1.00 |
| Max |  | 59.90 | 10.0 | 60.16 | 4.15 | 40.40 | 280.8 | 137.60 | 48.50 | 60.00 |
| Min |  | 0.26 | 7.00 | 0.31 | 0.01 | 0.40 | 0.20 | 1.00 | 0.00 | 0.60 |
| Mean |  | 5.87 | 8.14 | 9.95 | 0.34 | 6.02 | 15.45 | 20.21 | 0.72 | 2.09 |
| SD |  | 8.934 | 0.68 | 13.03 | 0.58 | 7.841 | 29.62 | 28.966 | 5.048 | 6.073 |

**Table 8. Organic carbon, macro and micronutrients status of soils from Palwal district**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Soil depth, cm | Village Name | OC, % | Av. N2, Kg/ha | Av. K kg/ha | Zn, ppm | Cu, ppm | Fe, ppm | Mn, ppm |
| 0-15 | Faruknagar | 0.27 | 91.00 | 101.25 | 1.10 | 0.37 | 4.3 | 6.85 |
| 15-30 |   | 0.25 | 91.00 | 93.41 | 0.83 | 0.36 | 4.19 | 2.87 |
| 30-60 |   | 0.19 | 70.00 | 70.22 | 0.55 | 0.33 | 3.66 | 3.95 |
| 60-90 |   | 0.21 | 52.50 | 62.72 | 0.69 | 0.23 | 2.49 | 2.6 |
| 0-15 | Faruknagar | 0.42 | 101.50 | 346.55 | 0.53 | 0.94 | 2.11 | 1.94 |
| 15-30 |   | 0.42 | 98.00 | 307.51 | 0.52 | 0.81 | 1.68 | 2.93 |
| 30-60 |   | 0.39 | 70.00 | 238.71 | 0.52 | 0.67 | 1.17 | 2.62 |
| 60-90 |   | 0.37 | 66.50 | 142.98 | 1.14 | 0.63 | 1.33 | 4.05 |
| 0-15 | Mubarakpur | 0.39 | 129.50 | 38.82 | 0.82 | 0.5 | 1.48 | 1.63 |
| 15-30 |   | 0.39 | 105.00 | 320.12 | 0.69 | 0.48 | 1.36 | 2.87 |
| 30-60 |   | 0.40 | 108.50 | 283.35 | 0.41 | 0.69 | 1.74 | 2.15 |
| 60-90 |   | 0.40 | 42.00 | 188.44 | 0.49 | 0.26 | 1.03 | 1.37 |
| 0-15 | Mubarakpur | 0.40 | 101.50 | 606.95 | 0.87 | 0.17 | 2.39 | 1.27 |
| 0-15 | Mubarakpur | 0.48 | 115.50 | 537.51 | 0.56 | 0.21 | 1.14 | 1.02 |
| 15-30 |   | 0.48 | 115.50 | 373.65 | 1.04 | 0.37 | 0.85 | 1.95 |
| 30-60 |   | 0.46 | 105.00 | 295.25 | 0.97 | 0.27 | 0.93 | 1.85 |
| 60-90 |   | 0.39 | 70.00 | 249.46 | 1.02 | 0.24 | 0.74 | 2.59 |
| 0-15 | Sultanpur | 0.76 | 129.50 | 470.36 | 3.30 | 1.99 | 1.4 | 2.11 |
| 15-30 |   | 0.75 | 126.00 | 470.36 | 0.88 | 0.47 | 1.28 | 2.57 |
| 30-60 |   | 0.69 | 105.00 | 438.33 | 0.93 | 0.38 | 1.34 | 1.18 |
| 60-90 |   | 0.67 | 87.50 | 307.51 | 0.55 | 0.32 | 1.2 | 1.16 |
| 0-15 | Sultanpur | 0.31 | 98.00 | 360.44 | 0.71 | 0.88 | 2.67 | 1.96 |
| 15-30 |   | 0.31 | 98.00 | 295.25 | 0.53 | 1.37 | 0.96 | 1.15 |
| 30-60 |   | 0.27 | 87.50 | 249.46 | 0.67 | 1.39 | 1.47 | 2.44 |
| 60-90 |   | 0.19 | 87.50 | 160.66 | 0.60 | 1.33 | 1.6 | 2.13 |
| 0-5 | Bahin | 0.20 | 87.50 | 1181.02 | 1.11 | 1.12 | 0.84 | 2.49 |
| 0-15 |   | 0.40 | 91.00 | 715.99 | 0.54 | 0.87 | 0.82 | 1.51 |
| 15-30 |   | 0.50 | 87.50 | 198.07 | 0.65 | 0.64 | 0.89 | 1.57 |
| 30-60 |   | 0.56 | 70.00 | 151.74 | 0.63 | 0.43 | 0.82 | 1.23 |
| 60-90 |   | 0.54 | 66.50 | 134.38 | 0.44 | 0.37 | 0.77 | 2.33 |
| 0-15 | Bahin | 0.60 | 105.00 | 438.33 | 0.89 | 1.54 | 2.55 | 2.96 |
| 15-30 |   | 0.64 | 108.50 | 360.44 | 0.81 | 1.17 | 0.8 | 7.82 |
| 30-60 |   | 0.62 | 105.00 | 307.51 | 0.39 | 0.54 | 0.81 | 2.38 |
| 60-90 |   | 0.61 | 98.00 | 260.47 | 0.43 | 0.38 | 0.67 | 0.81 |
| 0-5 | Bahin | 0.41 | 108.50 | 997.83 | 3.14 | 1.62 | 2.3 | 5.14 |
| 0-15 |   | 0.42 | 105.00 | 792.29 | 1.15 | 1.11 | 0.95 | 3.74 |
| 15-30 |   | 0.54 | 101.50 | 438.33 | 0.41 | 0.55 | 0.72 | 1.13 |
| 30-60 |   | 0.47 | 73.50 | 360.44 | 0.35 | 0.54 | 0.6 | 1.26 |
| 60-90 |   | 0.42 | 70.00 | 360.44 | 0.45 | 0.38 | 0.41 | 1.53 |
| 0-5 | Sundarnagar | 0.49 | 105.00 | 360.44 | 0.87 | 0.32 | 0.58 | 4.3 |
| 0-15 |   | 0.49 | 105.00 | 360.44 | 0.57 | 0.62 | 0.42 | 3.93 |
| 15-30 |   | 0.51 | 108.50 | 346.55 | 0.34 | 0.68 | 0.3 | 1.94 |
| 30-60 |   | 0.49 | 105.00 | 320.12 | 0.50 | 0.75 | 0.3 | 1.35 |
| 60-90 |   | 0.37 | 94.50 | 295.25 | 0.42 | 0.64 | 0.31 | 8.62 |
| 0-5 | Soundh | 0.69 | 105.00 | 997.83 | 1.22 | 2.36 | 30.76 | 13.64 |
| 0-15 |   | 0.67 | 94.50 | 954.82 | 0.57 | 2.1 | 15.69 | 9.9 |
| 15-30 |   | 0.64 | 98.00 | 474.67 | 0.38 | 1.27 | 5.52 | 5.52 |
| 30-60 |   | 0.66 | 87.50 | 307.51 | 0.40 | 1.37 | 19.36 | 19.36 |
| 60-90 |   | 0.43 | 84.00 | 207.91 | 0.37 | 1.39 | 5.02 | 5.02 |
| 0-15 | Barraka | 0.43 | 101.50 | 179.00 | 1.90 | 0.79 | 5.06 | 5.06 |
| 15-30 |   | 0.43 | 105.00 | 188.44 | 0.79 | 0.87 | 3.48 | 3.48 |
| 30-60 |   | 0.40 | 87.50 | 151.74 | 0.61 | 1.06 | 5.74 | 5.74 |
| 60-90 |   | 0.34 | 38.50 | 117.59 | 0.58 | 0.94 | 4.34 | 4.34 |
| 0-15 | Khaika | 0.15 | 59.50 | 101.35 | 0.33 | 0.24 | 3.78 | 3.78 |
| 15-30 |   | 0.13 | 63.00 | 101.35 | 0.34 | 0.51 | 4.96 | 4.96 |
| 30-60 |   | 0.10 | 59.50 | 93.41 | 0.27 | 0.16 | 2.5 | 2.5 |
| 60-90 |   | 0.19 | 52.50 | 62.83 | 0.26 | 0.08 | 1.93 | 1.93 |
| 0-15 | Khaika | 0.19 | 94.50 | 320.12 | 0.53 | 0.79 | 3.79 | 3.79 |
| 15-30 |   | 0.21 | 98.00 | 307.51 | 0.38 | 0.88 | 4.94 | 4.94 |
| 30-60 |   | 0.19 | 87.50 | 238.71 | 0.29 | 0.57 | 4.09 | 4.09 |
| 60-90 |   | 0.18 | 66.50 | 179.00 | 0.24 | 0.44 | 3.19 | 3.19 |
| 0-15 | Pavsar | 0.25 | 73.50 | 188.44 | 0.31 | 0.55 | 2.8 | 2.8 |
| 15-30 |   | 0.27 | 70.00 | 179.00 | 0.32 | 0.68 | 3.87 | 3.87 |
| 30-60 |   | 0.24 | 73.50 | 160.66 | 0.22 | 0.5 | 2.64 | 2.64 |
| 60-90 |   | 0.19 | 52.50 | 134.38 | 0.30 | 0.46 | 1.95 | 1.95 |
| 0-15 | Pahari | 0.10 | 70.00 | 260.47 | 0.32 | 0.89 | 4.13 | 4.13 |
| 15-30 |   | 0.10 | 66.50 | 249.46 | 0.21 | 0.57 | 2.03 | 2.88 |
| 30-60 |   | 0.09 | 66.50 | 179.00 | 0.27 | 0.47 | 2.39 | 3.83 |
| 60-90 |   | 0.09 | 35.00 | 151.74 | 0.19 | 0.42 | 3.06 | 3.69 |
| 0-15 | Pahari | 0.43 | 112.00 | 249.46 | 0.55 | 1.49 | 3.52 | 3.56 |
| 15-30 |   | 0.45 | 105.00 | 260.47 | 0.39 | 1.42 | 1.98 | 3.65 |
| 30-60 |   | 0.43 | 108.50 | 234.93 | 0.30 | 1.22 | 2.24 | 3.13 |
| 60-90 |   | 0.40 | 98.00 | 160.66 | 0.36 | 1.08 | 1.66 | 4.18 |
| 0-15 | Purrakha | 0.25 | 101.50 | 125.91 | 0.39 | 0.58 | 3.07 | 2.38 |
| 15-30 |   | 0.25 | 101.50 | 125.91 | 0.33 | 0.69 | 2.45 | 3.09 |
| 30-60 |   | 0.24 | 52.50 | 101.35 | 0.22 | 0.57 | 1.42 | 2.79 |
| 60-90 |   | 0.25 | 35.00 | 77.90 | 0.26 | 0.37 | 1.57 | 2.68 |
| 0-15 | Pachanka | 0.13 | 87.50 | 307.51 | 0.43 | 0.61 | 1.1 | 8.04 |
| 15-30 |   | 0.13 | 87.50 | 283.35 | 0.37 | 0.53 | 0.6 | 1.71 |
| 30-60 |   | 0.12 | 70.00 | 260.47 | 0.41 | 0.36 | 0.68 | 1.33 |
| 60-90 |   | 0.13 | 52.50 | 160.66 | 0.40 | 0.27 | 0.87 | 1.56 |
| 0-15 | Gangoli | 0.45 | 119.00 | 283.35 | 0.90 | 1.51 | 10.19 | 8.7 |
| 15-30 |   | 0.45 | 119.00 | 249.46 | 0.36 | 1.01 | 4.15 | 10.45 |
| 30-60 |   | 0.46 | 105.00 | 207.91 | 0.51 | 1.08 | 3.45 | 9.66 |
| 60-90 |   | 0.39 | 66.50 | 142.98 | 0.35 | 0.95 | 3.69 | 5.93 |
| 0-15 | Madnaka | 0.13 | 84.00 | 125.91 | 0.52 | 0.76 | 5.3 | 3.78 |
| 15-30 |   | 0.15 | 84.00 | 134.38 | 0.38 | 0.44 | 2.98 | 2.27 |
| 30-60 |   | 0.12 | 70.00 | 117.59 | 0.39 | 0.38 | 1.77 | 3.38 |
| 60-90 |   | 0.09 | 52.50 | 93.41 | 0.34 | 0.26 | 1.37 | 2.72 |
| 0-5 | Riber | 0.30 | 126.00 | 421.43 | 2.69 | 1.14 | 12.6 | 22.66 |
| 0-15 |   | 0.45 | 126.00 | 405.26 | 1.98 | 1.27 | 12.06 | 11.49 |
| 15-30 |   | 0.50 | 108.50 | 320.12 | 0.64 | 0.76 | 4.76 | 7.21 |
| 0-15 | Akbarpur | 0.12 | 105.00 | 125.91 | 0.50 | 0.62 | 5.94 | 3.07 |
| 15-30 |   | 0.13 | 101.50 | 134.38 | 0.35 | 0.38 | 2.38 | 3.01 |
| 30-60 |   | 0.12 | 87.50 | 109.41 | 0.38 | 0.37 | 1.93 | 3.4 |
| 60-90 |   | 0.10 | 49.00 | 93.41 | 0.38 | 0.38 | 1.91 | 2.15 |
| 0-15 | Bhagwali | 0.21 | 98.00 | 421.43 | 0.71 | 1.5 | 2.95 | 8.72 |
| 15-30 |   | 0.22 | 98.00 | 374.82 | 0.39 | 0.7 | 0.98 | 4.25 |
| 30-60 |   | 0.19 | 63.00 | 333.12 | 0.37 | 0.45 | 0.57 | 2.87 |
| 0-5 | Matepur | 0.18 | 108.50 | 160.66 | 0.67 | 1.35 | 3.32 | 4.19 |
| 0-15 |   | 0.18 | 108.50 | 140.54 | 0.62 | 0.88 | 3.36 | 4.29 |
| 15-30 |   | 0.16 | 87.50 | 125.91 | 0.39 | 0.64 | 1.62 | 3.96 |
| 30-60 |   | 0.18 | 87.50 | 93.41 | 0.32 | 0.38 | 1.15 | 2.1 |
| 0-15 | Khri Brahman | 0.31 | 129.50 | 249.46 | 0.46 | 0.87 | 4.4 | 4.86 |
| 15-30 |   | 0.33 | 126.00 | 238.71 | 0.36 | 0.97 | 3 | 5.27 |
| 30-60 |   | 0.30 | 105.00 | 207.91 | 0.35 | 1.02 | 1.36 | 4.32 |
| 60-90 |   | 0.31 | 73.50 | 93.41 | 0.37 | 0.93 | 1.35 | 4.13 |
| 0-15 | Baghola | 0.09 | 87.50 | 117.59 | 0.57 | 0.55 | 2.9 | 4.32 |
| 15-30 |   | 0.10 | 87.50 | 117.59 | 0.46 | 0.43 | 2.13 | 3.52 |
| 30-60 |   | 0.09 | 70.00 | 101.35 | 0.37 | 0.32 | 1.5 | 4.12 |
| 60-90 |   | 0.10 | 59.50 | 70.31 | 0.38 | 0.32 | 1.46 | 4.02 |
| 0-15 | Devali | 0.28 | 98.00 | 307.51 | 0.76 | 1.58 | 29.82 | 6.75 |
| 15-30 |   | 0.30 | 94.50 | 320.12 | 0.47 | 0.73 | 8.08 | 5 |
| 30-60 |   | 0.28 | 73.50 | 283.35 | 0.36 | 0.57 | 3.6 | 5.52 |
| 60-90 |   | 0.25 | 70.00 | 151.67 | 0.31 | 0.46 | 2.25 | 4.92 |
| 0-5 | Devali | 0.31 | 87.50 | 405.26 | 0.81 | 1.32 | 70.5 | 7.28 |
| 0-15 |   | 0.33 | 87.50 | 421.43 | 0.53 | 1.32 | 22.24 | 7.31 |
| 15-30 |   | 0.33 | 73.50 | 389.74 | 0.35 | 0.91 | 8.37 | 8.48 |
| 30-60 |   | 0.31 | 70.00 | 307.51 | 0.35 | 0.81 | 6.4 | 8.36 |
| 60-90 |   | 0.30 | 59.50 | 198.07 | 0.36 | 8.39 | 6.44 | 7.91 |
| 0-5 | Mandkaula | 0.09 | 91.00 | 537.51 | 1.32 | 2 | 10.68 | 4.4 |
| 0-15 |   | 0.10 | 91.00 | 438.33 | 1.37 | 1.44 | 7.74 | 4.16 |
| 15-30 |   | 0.09 | 87.50 | 421.43 | 0.42 | 0.73 | 3.42 | 3.55 |
| 30-60 |   | 0.10 | 70.00 | 346.55 | 0.38 | 0.75 | 3.01 | 3.74 |
| 60-90 |   | 0.07 | 73.50 | 160.66 | 0.26 | 0.27 | 1.57 | 3.69 |
| 0-15 | Janauli | 0.04 | 59.50 | 470.36 | 0.45 | 0.72 | 2.17 | 3.89 |
| 15-30 |   | 0.06 | 56.00 | 503.64 | 0.72 | 0.91 | 4.47 | 3.62 |
| 30-60 |   | 0.04 | 52.50 | 320.12 | 0.39 | 0.97 | 5.66 | 4.22 |
| 60-90 |   | 0.06 | 38.50 | 179.00 | 0.69 | 0.7 | 3 | 3.97 |
| Max | 0.76 | 129.50 | 1181.02 | 3.3 | 8.39 | 70.5 | 22.66 |
| Min | 0.04 | 35.00 | 38.82 | 0.19 | 0.08 | 0.3 | 0.81 |
| Average | 0.31 | 86.63 | 280.61 | 0.61 | 0.82 | 4.14 | 4.201 |
| Std Deviation | 0.17 | 22.136 | 193.95 | 0.48 | 0.80 | 7.58 | 3.165 |

**Table 9. Composition of groundwater samples from Palwal district**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Name of village | ECw, dS m-1 | pHw | Na, me L-1 | K, me L-1 | Ca+Mg, me L-1 | Cl, me L-1 | HCO3, me L-1 | NO3, mg kg-1 | F, mg kg-1 |
| Yakubpur  | 1.42 | 7.20 | 1.93 | 0.09 | 15.00 | 19.00 | 0.60 | 198.60 | 0.30 |
| Malai  | 1.89 | 7.21 | 8.34 | 0.08 | 12.00 | 17.00 | 0.70 | 4.00 | 0.30 |
| Kot  | 15.43 | 6.88 | 129.50 | 0.35 | 49.00 | 159.00 | 0.80 | 0.50 | 8.50 |
| Sundarnagar | 3.90 | 7.24 | 48.24 | 0.37 | 14.00 | 31.00 | 1.10 | 114.10 | 3.89 |
| Nimka  | 3.40 | 7.34 | 31.16 | 0.08 | 12.00 | 25.00 | 1.00 | 327.10 | 3.47 |
| Madnaka  | 3.09 | 7.05 | 12.37 | 0.23 | 22.00 | 32.00 | 0.50 | 129.30 | 2.45 |
| Akbarpur Natol  | 1.62 | 7.89 | 15.75 | 0.05 | 2.00 | 15.00 | 0.60 | 20.730 | 4.47 |
| Bhigawali  | 1.31 | 7.20 | 7.31 | 0.02 | 9.00 | 18.00 | 0.50 | 24.11 | 0.00 |
| Mathepur  | 4.48 | 7.53 | 37.70 | 0.71 | 10.00 | 45.00 | 0.90 | 0.50 | 4.10 |
| Devali  | 8.55 | 7.25 | 60.16 | 0.45 | 23.00 | 85.00 | 1.00 | 9.00 | 7.98 |
| Devali  | 5.79 | 7.10 | 44.59 | 0.89 | 14.00 | 57.00 | 0.80 | 29.31 | 9.00 |
| Janauli  | 2.81 | 7.54 | 31.29 | 0.19 | 4.00 | 26.00 | 1.30 | 3.03 | 8.85 |
| Maheshpur  | 2.57 | 7.02 | 18.05 | 0.03 | 9.00 | 24.00 | 0.80 | 56.13 | 0.30 |

**Table 10. Physico-chemical properties of soil samples from Faridabad districts**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Village  | Depth, cm | pHs | ECe, dS/m | OC, % | CaCO3, % | Na, me/l | K, me/l | Ca+Mg, me/l | CO3, me/l | HCO3, me/l | Cl, me/l |
| Sahapur Khurd | 0-15 | 7.99 | 28.3 | 0.54 | 1.32 | 513 | 0.22 | 79.0 | 0 | 0 | 245.0 |
|  | 15-30 | 8.11 | 18.36 | 0.45 | 1.47 | 110 | 0.1 | 45.0 | 0 | 0 | 154.0 |
|  | 30-60 | 8.15 | 14.7 | 0.41 | 1.63 | 88.3 | 0.08 | 39.0 | 0 | 0 | 95.0 |
|  | 60-90 | 8.35 | 11.12 | 0.32 | 2.0 | 84 | 0.05 | 32.0 | 0 | 0 | 64.0 |
| Sagarpur | 0-15 | 8.78 | 1.24 | 0.47 | 4.7 | 9.7 | 0.04 | 8.0 | 0 | 0 | 8.0 |
|  | 15-30 | 8.75 | 2.09 | 0.44 | 9.9 | 9.6 | 0.06 | 7.0 | 0 | 0 | 9.0 |
| Sagarpur | 0-15 | 8.78 | 0.902 | 0.47 | 4.5 | 9.0 | 0.13 | 6.0 | 0 | 0 | 7.0 |
|  | 15-30 | 8.79 | 1.09 | 0.44 | 5.8 | 9.2 | 0.06 | 5.0 | 0 | 0 | 7.0 |
|  | 30-60 | 8.7 | 1.42 | 0.39 | 1.1 | 13.3 | 0.02 | 5.0 | 0 | 0 | 7.0 |
|  | 60-90 | 8.8 | 1.47 | 0.36 | 1.1 | 13.8 | 0.08 | 5.0 | 0 | 0 | 7.0 |
| Harphalli | 0-15 | 8.69 | 1.41 | 0.45 | 0.6 | 16.7 | 0.14 | 5.0 | 0 | 0 | 10.0 |
|  | 15-30 | 8.43 | 1.24 | 0.41 | 0.5 | 20.6 | 0.01 | 4.0 | 0 | 0 | 10.0 |
|  | 30.6 | 8.18 | 3.76 | 0.39 | 0.5 | 40.9 | 0.02 | 8.0 | 0 | 0 | 16.0 |
|  | 60-90 | 7.69 | 4.29 | 0.36 | 0.4 | 39.8 | 0.08 | 9.0 | 0 | 0 | 23.0 |
| Harphalla | 0-15 | 8.62 | 1.41 | 0.48 | 0.4 | 10.3 | 0.01 | 5.0 | 0 | 0 | 10.0 |
|  | 15-30 | 8.29 | 4.09 | 0.45 | 0.4 | 51.0 | 0.04 | 7.0 | 0 | 0 | 21.0 |
|  | 30-60 | 8.24 | 5.61 | 0.45 | 0.5 | 82.9 | 0.03 | 8.0 | 0 | 0 | 35.0 |
|  | 60-90 | 8.22 | 5.27 | 0.42 | 0.6 | 37.7 | 0.02 | 8.0 | 0 | 0 | 33.0 |
| Tigaon | 0-15 | 8.38 | 4.24 | 0.48 | 0.7 | 35.7 | 0.46 | 7.0 | 0 | 0 | 26.0 |
|  | 15-30 | 8.51 | 2.55 | 0.45 | 0.6 | 21.1 | 0.26 | 7.0 | 0 | 0 | 18.0 |
|  | 30-60 | 8.53 | 2.02 | 0.39 | 1 | 17.0 | 0.1 | 6.0 | 0 | 0 | 15.0 |
|  | 60-90 | 8.65 | 1.96 | 0.32 | 0.6 | 12.8 | 0.06 | 6.0 | 0 | 0 | 15.0 |
| Machghar | 0-15 | 10.11 | 7.23 | 0.42 | 7.4 | 63.7 | 0.08 | 7.0 | 0 | 0 | 27.0 |
|  | 15-30 | 10.2 | 8.77 | 0.39 | 5 | 101.8 | 0.1 | 5.0 | 0 | 0 | 29.0 |
|  | 30-60 | 10.22 | 11.98 | 0.38 | 2 | 128.4 | 0.07 | 5.0 | 3 | 2 | 36.0 |
|  | 60-90 | 10.13 | 11.69 | 0.35 | 2 | 120.2 | 0.07 | 5.0 | 2 | 2 | 38.0 |
| Machghar | 0-15 | 10.03 | 2.69 | 0.41 | 4.7 | 18.3 | 0.07 | 6.0 | 0 | 2 | 14.0 |
|  | 15-30 | 9.25 | 6.91 | 0.39 | 2.5 | 40.2 | 0.03 | 6.0 | 0 | 0 | 20.0 |
|  | 30-60 | 10.15 | 10.59 | 0.36 | 2 | 96.6 | 0.05 | 6.0 | 0 | 0 | 20.0 |
|  | 60-90 | 10.28 | 8.99 | 0.26 | 3.1 | 84.0 | 0.08 | 5.0 | 0 | 0 | 16.0 |
| Dayalpur | 0-15 | 8.22 | 2.92 | 0.45 | 0.5 | 17.1 | 0.2 | 9.0 | 0 | 0 | 15.0 |
|  | 15-30 | 8.28 | 1.12 | 0.42 | 0.6 | 6.8 | 0.1 | 6.0 | 0 | 0 | 12.0 |
|  | 30-60 | 8.31 | 0.777 | 0.39 | 0.5 | 4.6 | 0.06 | 6.0 | 0 | 0 | 8.0 |
|  | 60-90 | 8.44 | 0.75 | 0.23 | 6.3 | 5.1 | 0.07 | 6.0 | 0 | 0 | 6.0 |
| Dayalpur road | 0-15 | 7.78 | 1.05 | 0.6 | 0.5 | 4.4 | 0.23 | 6.0 | 0 | 0 | 8.0 |
|  | 15-30 | 7.96 | 1.11 | 0.54 | 0.4 | 5.2 | 0.09 | 6.0 | 0 | 0 | 7.0 |
|  | 30-60 | 8.22 | 0.898 | 0.44 | 0.5 | 2.8 | 0.02 | 5.0 | 0 | 0 | 6.0 |
| Sotai | 0-15 | 8.51 | 1.12 | 0.59 | 0.7 | 9.4 | 0.02 | 5.0 | 0 | 0 | 11.0 |
|  | 0-30 | 8.5 | 1.37 | 0.48 | 0.8 | 10.2 | 0.02 | 5.0 | 0 | 0 | 8.0 |
|  | 30-60 | 8.35 | 1.29 | 0.44 | 0.5 | 8.4 | 0.04 | 5.0 | 0 | 0 | 7.0 |
|  | 60-90 | 8.34 | 1.02 | 0.21 | 0.5 | 5.7 | 0.38 | 5.0 | 0 | 0 | 6.0 |
| Sahapur kalan | 0-15 | 8.16 | 0.805 | 0.62 | 0.8 | 5.6 | 0.03 | 6.0 | 0 | 0 | 7.0 |
|  | 15-30 | 8.56 | 0.739 | 0.54 | 0.2 | 4.6 | 0.01 | 5.0 | 0 | 0 | 6.0 |
|  | 30-60 | 8.21 | 0.741 | 0.39 | 0.3 | 5.2 | 0.01 | 5.0 | 0 | 0 | 6.0 |
|  | 60-90 | 8.11 | 0.702 | 0.23 | 0.8 | 4.3 | 0 | 5.0 | 0 | 0 | 6.0 |
| Ladhauli | 0-15 | 8.37 | 0.483 | 0.42 | 0.8 | 1.9 | 0.06 | 6 | 0 | 0 | 10.0 |
|  | 15-30 | 8.38 | 0.491 | 0.39 | 0.5 | 2.2 | 0.04 | 6 | 0 | 0 | 6.0 |
|  | 30-60 | 8.12 | 0.588 | 0.39 | 0.8 | 4.1 | 0.04 | 5 | 0 | 0 | 5.0 |
|  | 60-90 | 8.14 | 0.513 | 0.38 | 0.6 | 3.3 | 0.03 | 5 | 0 | 0 | 5.0 |
| Sunped | 0-15 | 7.95 | 0.703 | 0.38 | 0.4 | 2.2 | 0.16 | 7 | 0 | 0 | 5.0 |
|  | 15-30 | 8.11 | 0.716 | 0.54 | 0.5 | 2.1 | 0.03 | 7 | 0 | 0 | 5.0 |
|  | 30-60 | 8.12 | 0.731 | 0.45 | 0.5 | 3.7 | 0.01 | 5 | 0 | 0 | 10.0 |
|  | 60-90 | 8.14 | 0.829 | 0.44 | 0.5 | 6.7 | 0 | 5 | 0 | 0 | 10.0 |
| Asaoti | 0-15 | 8.17 | 2.28 | 0.35 | 0.6 | 15.3 | 0.05 | 5 | 0 | 0 | 15.0 |
|  | 15-30 | 8.22 | 1.46 | 0.24 | 0.4 | 10.9 | 0.02 | 5 | 0 | 0 | 8.0 |
|  | 30-60 | 8.01 | 1.43 | 0.54 | 0.5 | 9.1 | 0.18 | 5 | 0 | 0 | 7.0 |
|  | 60-90 | 8.35 | 1.46 | 0.38 | 0.5 | 13.1 | 0.63 | 5 | 0 | 0 | 8. |
| Baghola | 0-15 | 6.42 | 50.3 | 0.47 | 0.4 | 276 | 1.25 | 164 | 0 | 0 | 441.0 |
|  | 15-30 | 7.59 | 26.8 | 0.38 | 0.5 | 31.3 | 0.16 | 59 | 0 | 0 | 190.0 |
|  | 30-60 | 7.28 | 29.9 | 0.35 | 0.5 | 207 | 0.12 | 55 | 0 | 0 | 178.0 |
|  | 60-90 | 8.26 | 25.4 | 0.3 | 1.1 | 178.7 | 0.1 | 40 | 0 | 0 | 157.0 |
| Pirthala | 0-15 | 7.66 | 18.76 | 0.6 | 0.5 | 106.8 | 2.44 | 71 | 0 | 0 | 126.0 |
|  | 15-30 | 7.79 | 14.11 | 0.42 | 0.4 | 90.9 | 0.81 | 54 | 0 | 0 | 92.0 |
|  | 30-60 | 8.02 | 12.91 | 0.33 | 0.5 | 62.7 | 0.52 | 48 | 0 | 0 | 88.0 |
|  | 60-90 | 7.82 | 13.68 | 0.33 | 0.6 | 50.7 | 0.53 | 55 | 0 | 0 | 96.0 |
| Maladpur | 0-15 | 8.09 | 1.16 | 0.6 | 0.3 | 4.9 | 0.04 | 10 | 0 | 0 | 11.0 |
|  | 15-30 | 8.07 | 1.15 | 0.44 | 0.2 | 6.8 | 0.02 | 8 | 0 | 0 | 10.0 |
|  | 30-60 | 8.14 | 1.22 | 0.36 | 0.3 | 7.6 | 0.01 | 7 | 0 | 0 | 10.0 |
|  | 60-90 | 8.33 | 1.03 | 0.33 | 0.4 | 7 | 0 | 7 | 0 | 0 | 10.0 |
| Qureshipur | 0-15 | 8.21 | 0.327 | 0.27 | 0.4 | 0.6 | 0.05 | 8 | 0 | 0 | 10.0 |
|  | 15-30 | 8.7 | 0.328 | 0.24 | 0.3 | 1.6 | 0.08 | 8 | 0 | 0 | 10.0 |
|  | 30-60 | 8.47 | 0.263 | 0.23 | 0.7 | 1 | 0.1 | 7 | 0 | 0 | 7.0 |
|  | 60-90 | 8.31 | 1.18 | 0.23 | 0.5 | 1.4 | 0.05 | 7 | 0 | 0 | 8.0 |
| firozpur kalan | 0-15 | 8.38 | 0.831 | 0.59 | 0.5 | 4.3 | 0.08 | 8 | 0 | 0 | 10.0 |
|  | 15-30 | 8.39 | 0.983 | 0.38 | 0.5 | 7.6 | 0.05 | 6 | 0 | 0 | 8.0 |
|  | 30-60 | 8.21 | 3.02 | 0.36 | 1 | 16.1 | 0.05 | 7 | 0 | 0 | 16.0 |
|  | 60-90 | 8.18 | 3.16 | 0.36 | 1.1 | 18.1 | 0.03 | 8 | 0 | 0 | 16.0 |
| Sikrona | 0-15 | 7.44 | 51.5 | 0.53 | 0.5 | 652.1 | 0.47 | 105 | 0 | 0 | 405.0 |
|  | 15-30 | 7.31 | 27.5 | 0.45 | 0.5 | 207 | 0.17 | 60 | 0 | 0 | 186.0 |
|  | 30-60 | 7.42 | 20.2 | 0.44 | 0.4 | 197.1 | 0.12 | 52 | 0 | 0 | 111.0 |
|  | 60-90 | 7.56 | 17.44 | 0.41 | 0.3 | 198.2 | 0.16 | 50 | 0 | 0 | 102.0 |
| Kabulpur bangar | 0-15 | 7.23 | 54.7 | 0.38 | 0.4 | 345.7 | 0.32 | 220 | 0 | 0 | 492.0 |
|  | 15-30 | 7.39 | 32.1 | 0.36 | 0.4 | 137.1 | 0.28 | 125 | 0 | 0 | 245.0 |
|  | 30-60 | 7.46 | 21.5 | 0.36 | 0.5 | 141.8 | 0.16 | 86 | 0 | 0 | 156.0 |
|  | 60-90 | 7.51 | 18.57 | 0.27 | 0.5 | 172.1 | 0.15 | 80 | 0 | 0 | 132.0 |
| Min | 6.42 | 0.263 | 0.21 | 0.2 | 0.6 | 0 | 4 | 0 | 0 | 5.0 |
| Max | 10.28 | 54.7 | 0.62 | 9.9 | 652.1 | 2.44 | 220 | 3 | 2 | 492.0 |
| Mean | 8.33 | 7.83 | 0.41 | 1.22 | 61.24 | 0.16 | 22.61 | 0.06 | 0.07 | 53.78 |
| SD | 0.70 | 11.85 | 0.09 | 1.73 | 107.33 | 0.32 | 37.14 | 0.39 | 0.37 | 95.05 |

**Table 11.** Composition of groundwater samples from different villages in Faridabad district

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Village  | ECw (dS/m) | pHw | Na (me/l) | K (me/l) | Ca+Mg (me/l) | Cl (me/l) | HCO3 (me/l) | SAR | RSC |
| Piyala | 2.87 | 7.40 | 31.60 | 3.48 | 10.00 | 24.00 | 13.00 | 14.13 | 3.00 |
| Sagarpur | 3.92 | 7.01 | 35.90 | 0.62 | 19.00 | 34.00 | 9.00 | 11.65 | 0 |
| Deegh | 3.9 | 6.77 | 39.40 | 0.69 | 15.00 | 37.00 | 8.00 | 14.39 | 0 |
| Deegh | 1.05 | 6.97 | 4.20 | 0.18 | 10.00 | 10.00 | 6.00 | 1.88 | 0 |
| Deegh | 4.5 | 7.25 | 37.60 | 0.79 | 20.00 | 38.00 | 9.00 | 11.89 | 0 |
| Harphalli | 2.20 | 9.18 | 27.10 | 1.77 | 5.00 | 12.00 | 10.00 | 17.14 | 5.00 |
| Tigaon | 2.25 | 7.22 | 26.30 | 1.10 | 6.00 | 34.00 | 25.00 | 15.18 | 19.00 |
| Tigaon | 2.35 | 7.15 | 24.70 | 0.82 | 6.00 | 20.00 | 13.00 | 14.26 | 7.00 |
| Tigaon | 2.29 | 7.16 | 26.10 | 0.70 | 6.00 | 19.00 | 12.00 | 15.07 | 6.00 |
| Nawada | 2.64 | 6.85 | 25.60 | 0.64 | 10.00 | 22.00 | 15.00 | 11.45 | 5.00 |
| Dayapur | 1.14 | 7.25 | 10.50 | 0.45 | 9.00 | 8.00 | 9.00 | 4.95 | 0.00 |
| Sahapur kalan  | 0.87 | 7.36 | 5.30 | 0.17 | 5.00 | 9.00 | 8.00 | 3.35 | 3.00 |
| Sunped | 0.80 | 7.44 | 3.30 | 0.21 | 5.00 | 9.00 | 7.00 | 2.09 | 2.00 |
| Max | 4.5 | 9.18 | 39.4 | 3.48 | 20 | 38 | 25 | 17.14 | 19.00 |
| Min | 0.80 | 6.77 | 3.30 | 0.17 | 5.00 | 8.00 | 6.00 | 1.88 | 0 |
| Mean  | 2.37 | 7.31 | 22.89 | 0.89 | 9.69 | 21.23 | 11.08 | 10.57 |  |

**Table 12. Extent of salt affected area (Sq. Km) in four districts of Southern Haryana**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Class Name  | Faridabad  | Palwal  | Gurgaon  | Mewat  |
| Built-up Land/Settlements  | 161.41  | 119.71  | 281.71  | 215.42  |
| Hill Area  | 132.32  | 28.61  | 282.55  | 257.35  |
| Normal Soils  | 344.67  | 843.04  | 502.30  | 636.91  |
| Moderately salt affected soils  | 44.22  | 105.89  | 53.19  | 142.07  |
| Severely salt affected soils  | 22.11  | 40.12  | 23.16  | 157.28  |
| Waterlogged Saline Soil  | 24.82  | 190.82  | 85.32  | 100.25  |
| Waterbody  | 9.59  | 26.38  | 6.93  | 9.03  |
| Total  | 739.14  | 1354.58  | 1235.16  | 1518.31  |

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**Fig. 12** Supervised classification of IRS P6 LISS-III satellite image of four districts of Haryana