**A study of BADC implemented measures to minimize waterlogged cultivable areas by remote sensing and GIS technology in Khulna.**

**Objectives:**

* To identify the waterlogged area in Khulna district by using remote sensing technologies.
* To study the impact of BADC implemented measures to minimize waterlogged areas.
* To generate a waterlogged area map in the Khulna district.

**Duration:** July 2021 to 30 June 2022

**Background:**

Khulna is a southwest important district of Bangladesh that has been experiencing water-related problems for a long time. In the dry season, the south part of the district has an acute freshwater shortage, which deters crop production and ruins coastal farmers. On the flip side, the west part of the district experienced waterlogged, badly hampered crop production. The waterlogged area is usually known as Beel Dakatia, located in the northeastern part of the Khulna district and falls within the Ganges tidal deltaic plain. The area has been experiencing waterlogging and drainage problems for more than 15 years due to creating polders and ignoring morphological and hydrological conditions. Association with unplanned polder construction of roads and insufficient water passing system triggers the water-logged condition. These results in frequent crop failure and environmental degradation. From 2019-20 fiscal years, BADC implemented a programme named minimization of Beel Dakatia waterlogged area and minor irrigation development in Khulna district. Significantly, the programmed area Beel Dakatia is experiencing severe waterlogging under the 25 polder. It lies between longitudes 89'20'E and 89'35'E and latitudes 22'45'N and 23'00'N under the administrative boundaries of Dumuria and Phultala Upazila of the Khulna district. To increase crop production in those areas, we need to identify the waterlogged area and take measures to minimize the effect of waterlogged. The study is designed to identify the Khulna district's waterlogged area and the impact of BADC implemented measures to minimize waterlogged areas in the Beel Dakatia region using GIS and remote sensing techniques.

**Outputs:**

* Identification of waterlogged areas by remote sensing technologies in Khulna district.
* Impact analysis of BADC implemented measures to minimize waterlogged area.
* Visualize map of the waterlogged area in the Khulna district.