Assessment of Flood hit croplands and their rehabilitation status: A remote sensing-based analysis of floods – 2022

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Pakistan is one of the top-listed countries regarding vulnerability to climate change impacts. This has been significantly witnessed in the form of heatwave in March-May, 2022 followed by the intense rainy season causing above-average rains and flooding in most parts of the country. The southwestern parts of Punjab province and the Sindh province of Pakistan have suffered huge economic and life-loss due to super floods of 2022 induced by about four times the average annual rainfall. It has been estimated through the flood inundation maps developed by the Agricultural Remote Sensing Lab of NCGSA that around 300,000 ha and 350,000 ha of croplands were affected by floods in D.G. Khan and Rajanpur districts, respectively; while the massive damage of about 3.82 million-ha croplands was done in Sindh province. While the areas of south Punjab have mostly receded due to topographical advantage, several low-lying areas in Sindh are still facing the standing water or water-logged conditions. Even the receded areas may not be having conditions fully normal for the agriculture. A remote sensing based analysis was conducted to investigate the pre and post-flood conditions by considering different parameters, imperative for the favorable agricultural environment. The multiple factors studied include the water bodies maps indicating the areas still under water about four months after the floods, soil moisture conditions, soil salinity, etc. The maps developed for these indicators helped understanding the agricultural constraints faced by the farmers at the onset of the ongoing Rabi season.

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