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Assessment of Water Use Efficiency Using Different Irrigation Methods at Uthal Balochistan

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Abstract—The study was conducted at the field station Lasbela University of Agriculture, Water and Marine Sciences (LUAWMS) Uthal. Before the experimental setup, the soil analysis was done. The Maize verity (Akbar) at the rate of 33.8 grams was used in flood, furrow, drip, and control irrigation at an equal ratio. The total discharge was recorded for 70 days, 2,250, 1890, 1710, and 30 liters for flood, furrow, drip, and control irrigation. Infiltration and field capacity was observed at 39.45 % and 60.55 % percent it shows that infiltration and field capacity was quite in range the average infiltration rate was observed at 10.11 minutes. Calculating the yield of maize crop, it has been investigated that drip irrigation is the best method rather than flood and furrow irrigation less amount of 1710 liters' discharge was applied during the base period of the maize crop to get the maximum yield of 20.15 Kg by drip irrigation. It was revealed that drip irrigation is a more efficient method of irrigation, during the study maximum number of plants 55.40, the number of leaves 9.01, and the length of plant leaves 46.94, leaf area index was 424 cm^2 was examined under the drip irrigation by the limited supply of water/discharge. Overall, it has been examined through the results that drip irrigation is the best method farmers are suggested to apply trip irrigation for maize crop cultivation instead of flood and furrow to get a maximum yield of crop per drop of water and to boost the water conservation practices.

Keywords—Groundwater Level, Spatial Interpolation Methods, IDW