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Appraisal Of Water Quality For Irrigation Suitability In Western Part Of Sandur Schist Belt, Bellary District, Karnataka State, India.

Quality of the water is controlled by the anthropogenic impacts like growing population, industrial developments on one side and geogenic contamination like dissolved solids, fluoride, iron etc. on the other side. Because of these polluting agents, safe water quality for various purposes has become a major challenge to the consumers. From the study area, 65 representative water samples were collected from different locations and analysed for various physical and chemical parameters viz., Temperature, pH and Electrical Conductivity, Calcium, Magnesium, Sodium, Potassium, Carbonate, Bicarbonate, Chloride, Nitrate, Sulphate, Iron, Manganese, Fluoride and Total Hardness to assess the water chemistry with sodium absorption ratio, residual sodium carbonate and permeability index. The SAR classification illustrates all the samples belongs to excellent category, whereas USSL classification shows few samples fall under high salinity/ low SAR category which may be damaging the soil property in long run. Based on the RSC classification 83.08% belong to probably safe category, 10.77% falls under doubtful category and remaining 6.15% belongs to not suitable for irrigation purposes. According to the permeability index classification, 78.46% of water samples fall under Class-II, Little Permeability Category and are allowable whereas 21.54% belongs to Class-I, No Permeability, which is unsafe.

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