A study was undertaken in Shorapur taluka of upper Krishna Command (UKP) to know the impact of paddy cultivation on the soil properties. Physico-chemical properties of auger samples at different physiographic units were studied indicating alkaline to strongly alkaline reaction, while ESP values of auger samples ranged from 13.36 to 29.11 per cent and organic carbon of samples was spread between 0.26 to 0.65 per cent. Supervised maximum likelihood method was used to classify IRS P6 LISS-III imagery using ground truth data which indicated the land use statistics for the year 2005 where paddy covered the maximum cultivated area followed by groundnut, cotton and jowar. In confusion matrix the overall accuracy for the year 2005 was 86.99 per cent. Both the user and the producer accuracy were found above 78 per cent for all categories.

Key words: UKP, Soil properties, IRS P 6 LISS III, Classification, Paddy, Physiography