

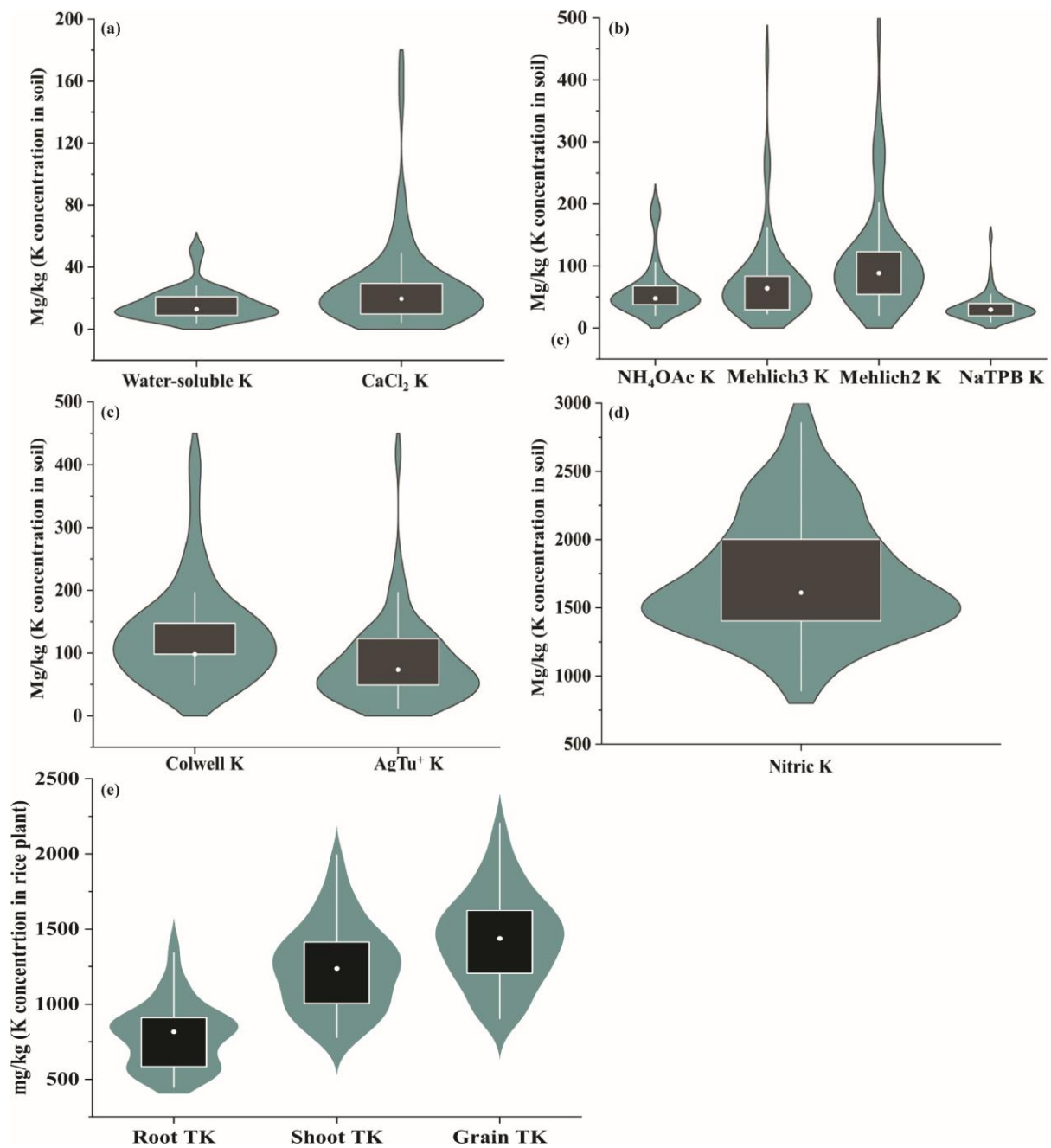


Figure 1: Amount of potassium extracted by different suitable extractants for mica-rich soil samples (a) soil solution potassium with water-soluble K and CaCl_2 extractable K, (b) soil exchangeable K with NH_4OAc K, Mehlich3 K, Mehlich2 K, and NaTPB K extractions, (c) Colwell K and AgTu^+ K extractions, and (d) Nitric K extractions, and (e) Total K concentration in rice plant parts (root, shoot, and grain).

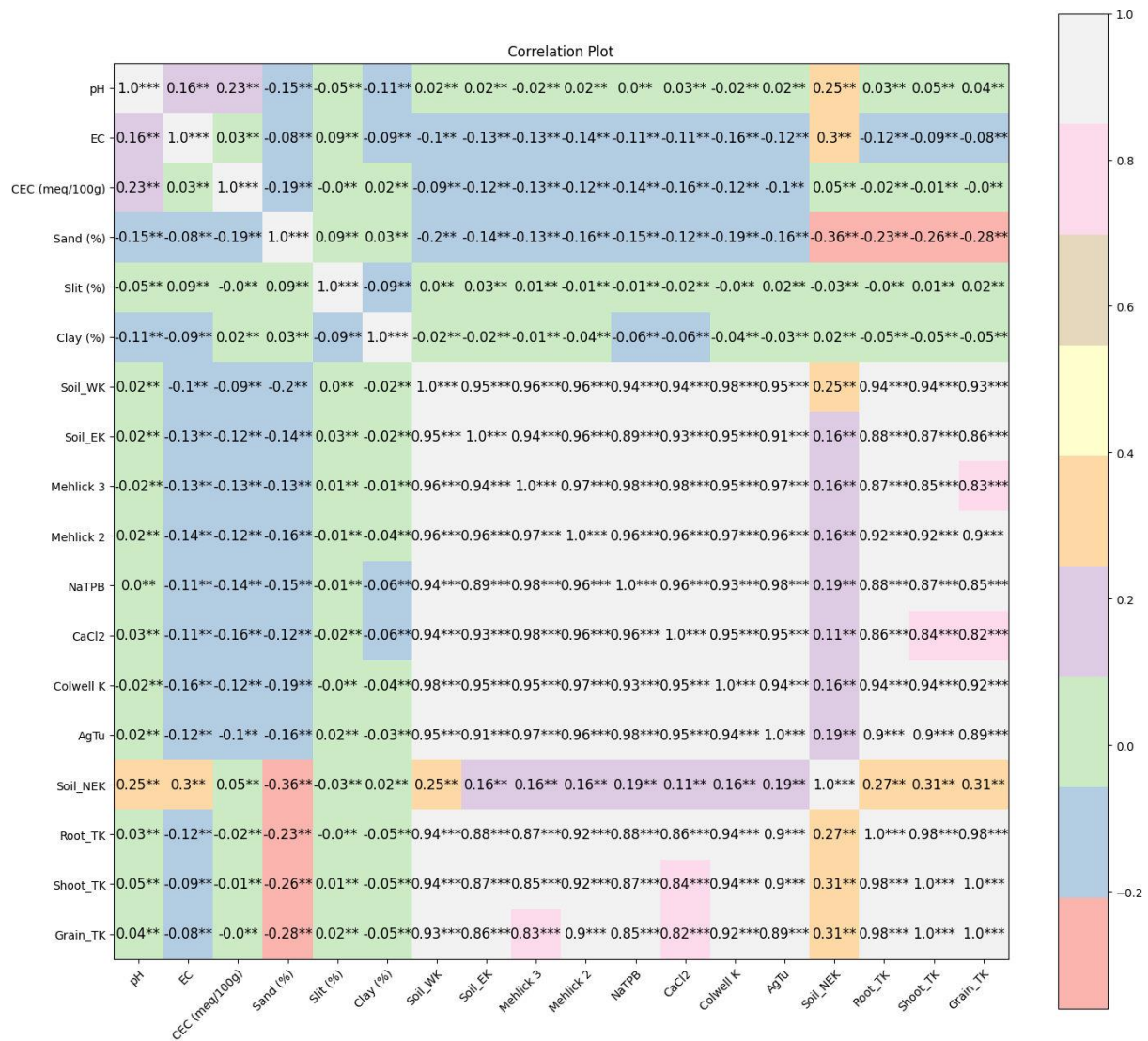


Figure 2: Correlation coefficients (r) relationship between various suitable extractable forms of K, soil physicochemical properties, and total rice grain K uptake.

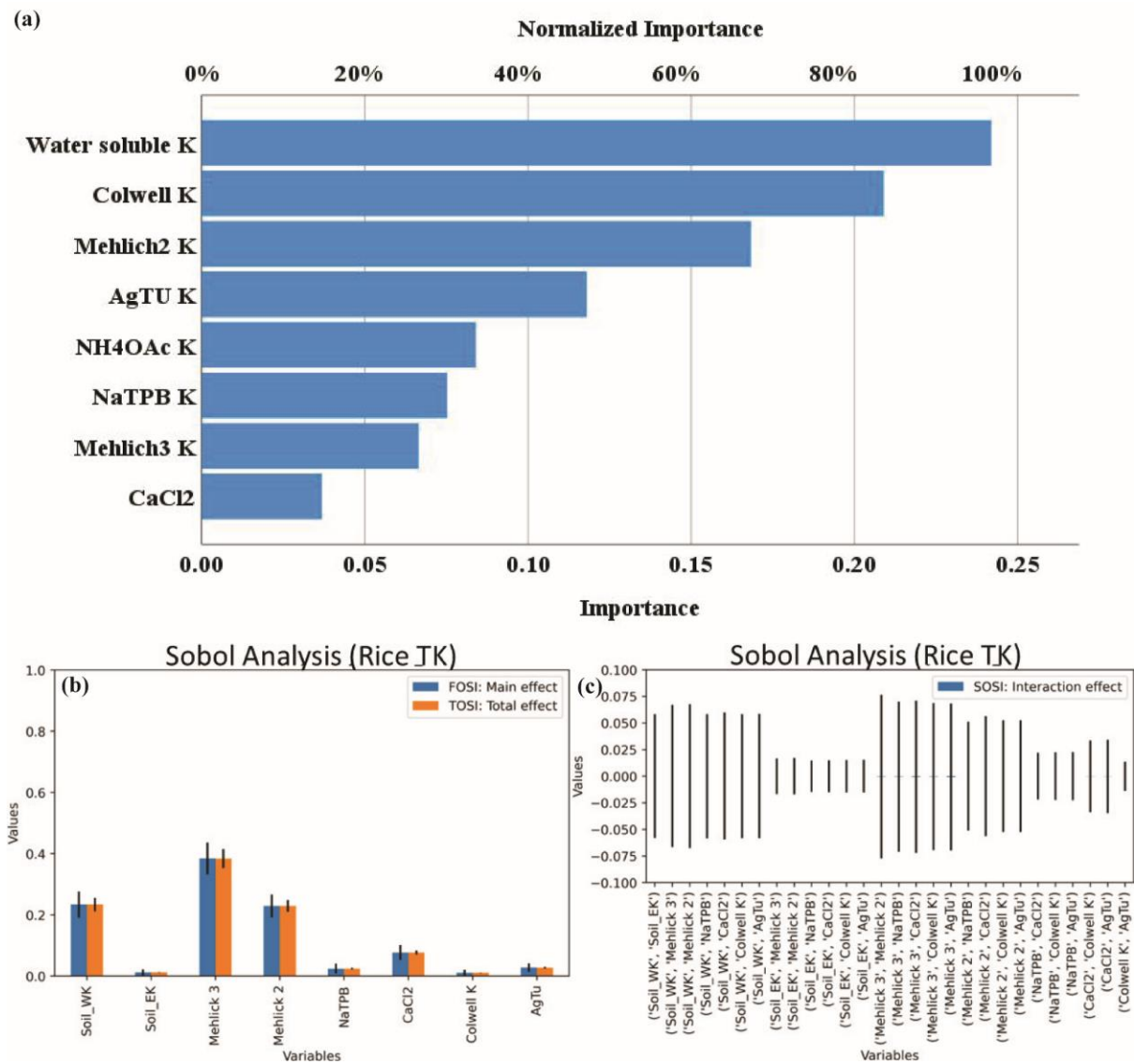


Figure 3: (a) ANN sensitivity study with normalized importance of several suitable extractable forms of K and their impacts on K uptake by rice grains. (b) Sobol sensitivity analysis for first-order effect (FOSI), second-order effect (SOSI), and total effect (TOSI) in several suitable extractable forms of K and their impacts (prediction) on K uptake by rice grains.

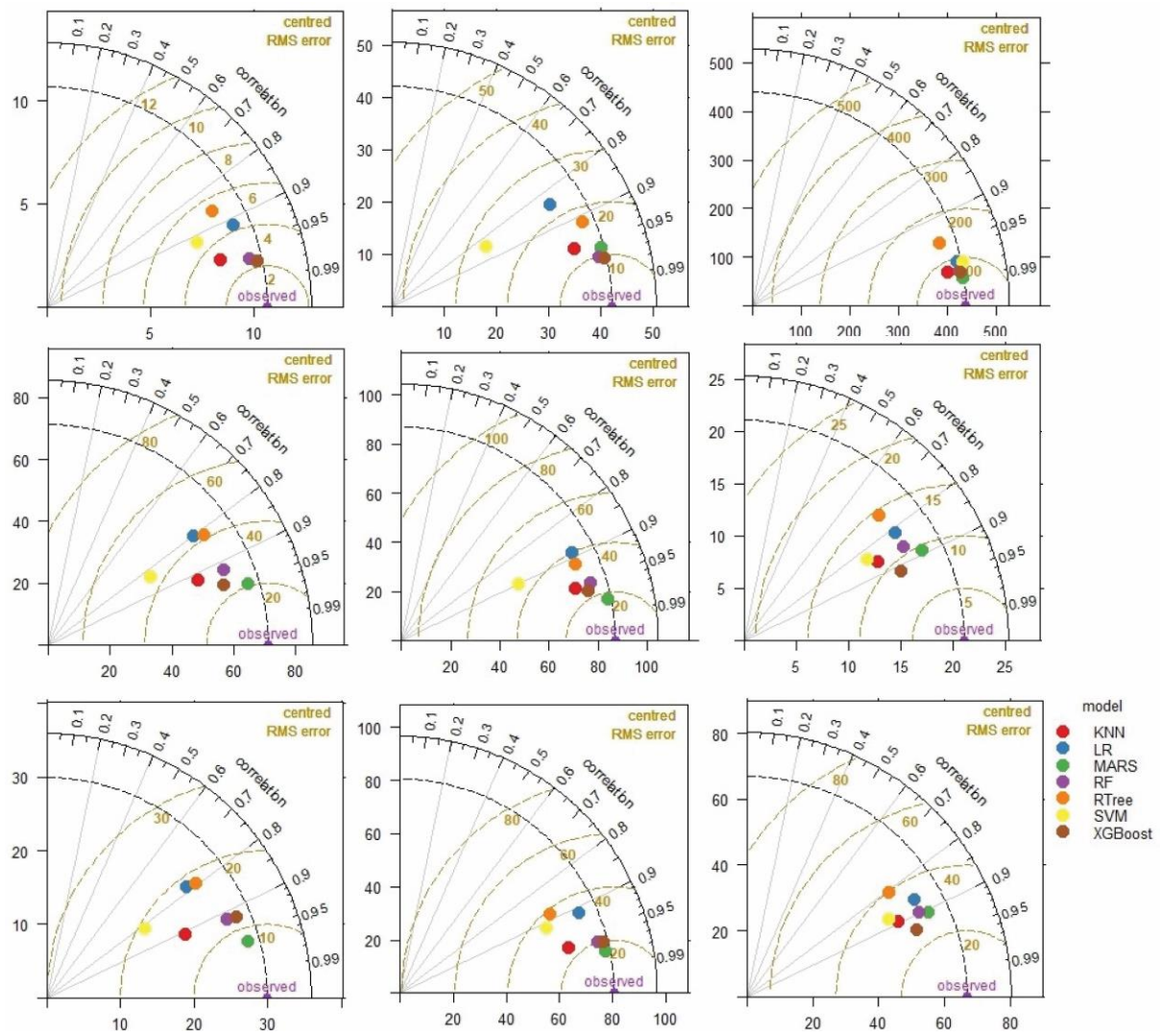


Figure 4: The Taylor diagram shows the accuracy of different machine learning models based on SD, r, and RMSE values of various extractable forms of K and their impact on rice grain uptake of K.

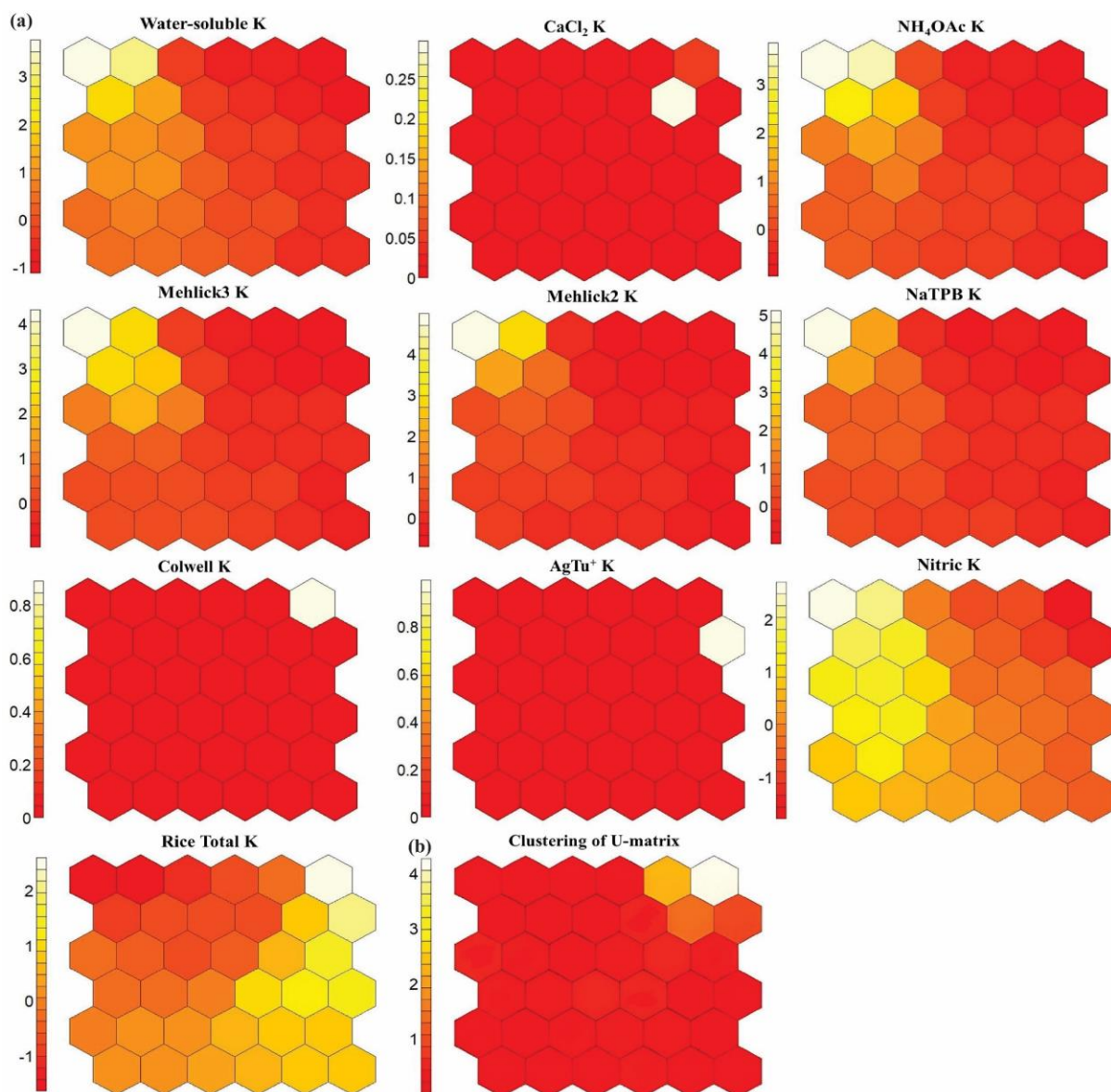


Figure 5: (a) Distribution of each suitable extractant of K in mica-rich soils through Kohonen self-SOM (b) Clustering of U-matrix including all extractants and rice grain K.

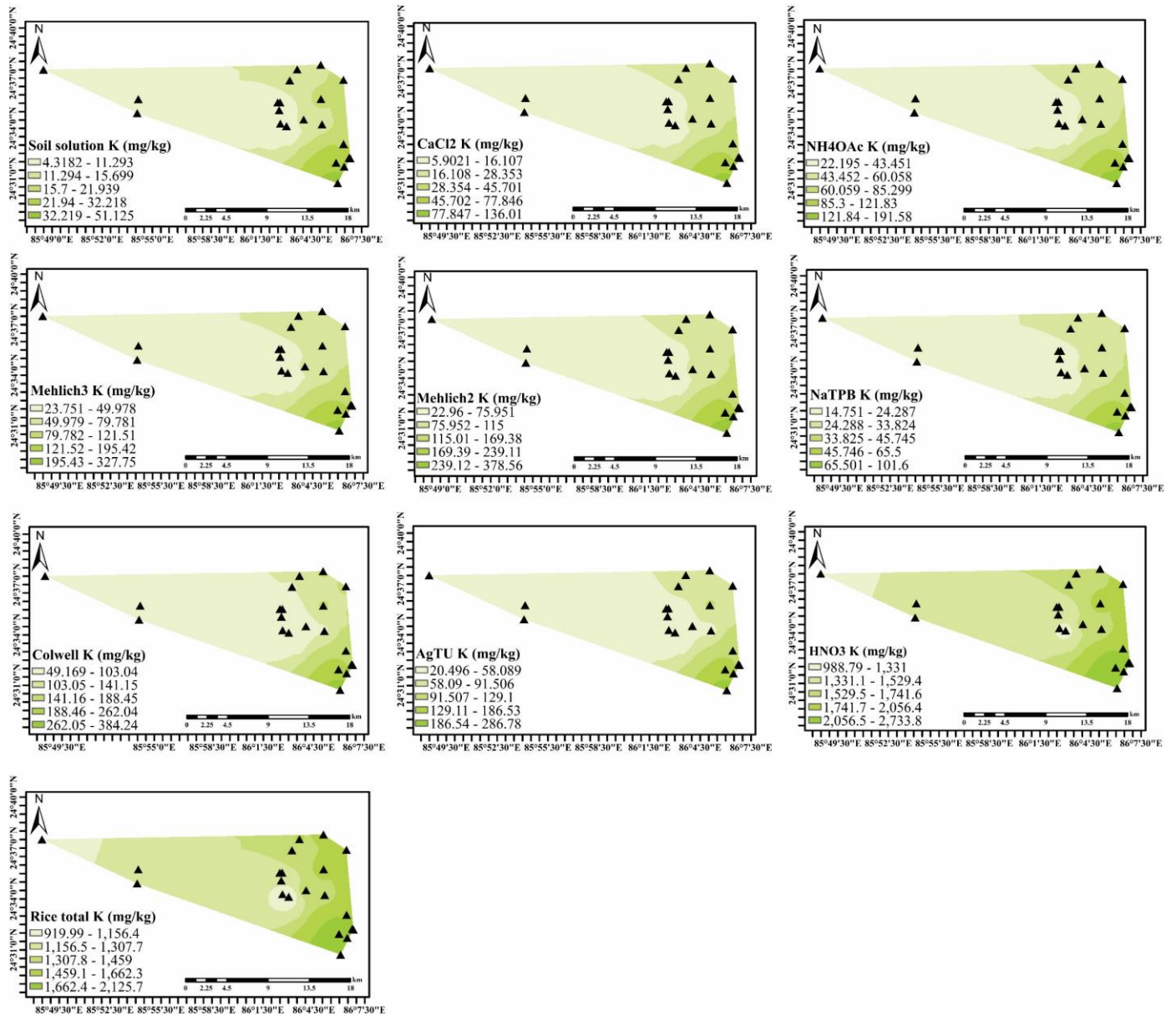


Figure 6: Spatial variation with GIS within the mica-rich area forms the basis of the normalized contributions of all suitable extractants and rice grain K.