

Table S3A The Permutational MANOVA (ADONIS) analysis showed that MAT significantly affected the bacterial community in each soil type.

<i>Soil type</i>	<i>R</i> ²	
	<i>Maize</i>	<i>Rice</i>
Black soils	0.0558*	0.0399*
Brown soils	0.0752***	0.0844***
Red soils	0.0578**	0.0441***

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Table S3B Variation explained by bacterial α - and β -diversity indices in the regression models of soil multinutrient cycling index for maize and rice fields.

<i>Diversity index</i>	Soil multi-nutrients cycling index	
	<i>Maize</i>	<i>Rice</i>
Alpha-Shannon	7.40%	
Alpha-Richness	9.37%	
Beta-NMDS1	4.93%	8.54%
Beta-NMDS2		1.78%
Total	21.70%	10.32%

NA, not statistically significant ($p > 0.05$)