**Supplemental Material Figure 1.** Effect of duration of extended rest from grazing on infiltration rate response ratios. Data points representing extended rest from grazing systems with different levels of grazing intensities (low, moderate, heavy stocking rates) in either continuous or complex grazing patterns) are indicated. Only studies with treatment durations of 30 years or less are shown here (see Supplemental Material Table 3).

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**Supplemental Material Figure 2.** Influence of the degree of stocking rate reduction (see Supplemental Material Table 2) on infiltration rate response ratios, for grazing rate studies only.

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**Supplemental Material Figure 3.** Effect of aridity index on infiltration rate response ratios for (a) changes to grazing practices including adoption of agroforestry, increased grazing pattern complexity, and reduced stocking rates and (b) extended rest from grazing (from continuous and complex grazing patterns).

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**Supplemental Material Figure 4.** Effect of mean annual precipitation on infiltration rate response ratios for (a) changes to grazing practices including adoption of agroforestry, increased grazing pattern complexity, and reduced stocking rates and (b) extended rest from grazing (from continuous and complex grazing patterns).

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**Supplemental Material Figure 5.** Effect of soil texture on infiltration rate response ratios for (a, b) changes to grazing practices including adoption of agroforestry, increased grazing pattern complexity, and reduced stocking rates (5a: % sand, 5b: % clay) and (c, d) extended rest from grazing (from continuous and complex grazing patterns) (5c: % sand, 5d: % clay).

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