

## ***Interactive comment on “Negative trade-off between changes in vegetation water use and infiltration recovery after reforesting degraded pasture land in the Nepalese Lesser Himalaya” by C. P. Ghimire et al.***

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As others have stated this is an impressively comprehensive empirical effort on a topic that remains a major challenge at the interface of public-policy discourse and hydrological quantification. My only comments are that authors might be more explicit in the fundamental assumption for much of this work that rainfall is not influenced by land cover change – this is verified at the scale of paired catchments but might not hold at wider landscape scale. Stating the assumption in the introduction and returning to the

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point in the discussion will further increase the value of this study, which I read with interest.

Specific comments and suggestions

p3439 1. Introduction 1st sentence: The sentence is a bit difficult, Please split up in parts. There had been serious debate on this in the 1920’/’30’s. A ‘political ecology’ interpretation of that debate between foresters and engineers is provided by:

Galudra, G., & Sirait, M. (2009). A discourse on Dutch colonial forest policy and science in Indonesia at the beginning of the 20th century. *International Forestry Review*, 11(4), 524-533.

p3439 line 15. Somewhere here you might allude to a central assumption in these discussions of “hydrology given rainfall”: if rainfall does respond to land cover at a scale above that of a paired catchment experiment, conclusions may need to be reconsidered. A number of recent analyses challenge the assumption of ‘no effects’.

3440 line 9. This discussion might include reference to increased drainage of landscapes by roads etc that tends to coincide with loss of forest cover and soil changes. This point tends to be missed in reforestation efforts that often further increase drainage, rather than block surface pathways for water

3443 The central question probably was: “Does current reforestation ... restore...” This informs a discussion on whether it “could” if differently designed/implemented.

3456 “As long as rainfall intensities remain below the surface Kfs threshold for overland flow to occur, soil water reserves are being recharged.” missing something like “independent of the surface Kfs value”

3457 line 3: Root turnover has been found to be an important contributor to macroporosity as well. In some situations surface sealing (slaking) dominates over soil macroporosity effects per se, but any litter (soil cover) can rapidly reverse this, while macroporosity takes more time to get back.

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3460 line 15. Maybe worth repeating the 'rainfall effects' caveat here

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