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# Climate Change Adaptation in Agriculture: A General Equilibrium Analysis of Land Re-Allocation in Nepal

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**Abstract :** This paper attempts to investigate the viability of cropland re-allocation as an adaptation strategy to minimise the economy-wide costs of climate change on agriculture. Nepal makes an interesting case study as it is one of the most vulnerable agricultural economies within South Asia. This paper develops a comparative static multi-household Computable General Equilibrium (CGE) model for Nepal with a nested set of Constant Elasticity of Transformation (CET) functional forms to model the allocation of land within different agricultural sectors. Land transformation elasticities in these CET functions are allowed to reflect the ease of switching from one crop to another based on their agronomic characteristics. The results suggest that, in the long run, farmers in Nepal tend to allocate land to crops that are comparatively less impacted by climate change, such as paddy, thereby minimizing the economy-wide impacts of climate change. Furthermore, the results reveal that land re-allocation tends to reduce the income disparity among different household groups by significantly moderating the income losses of rural marginal farmers. Therefore, it is suggested that policy makers in Nepal should prioritise schemes such as providing climate-smart paddy varieties (i.e., those that are resistant to heat, drought and floods) to farmers, subsidising fertilizers, improving agronomic practices, and educating farmers to switch from crops that are highly impacted by climate change to those that are not, such as paddy.

**Keywords :** climate change, general equilibrium, land re-allocation, nepalese agriculture
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