



Australian Centre for Sustainable Catchments  
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Sustainable Catchments

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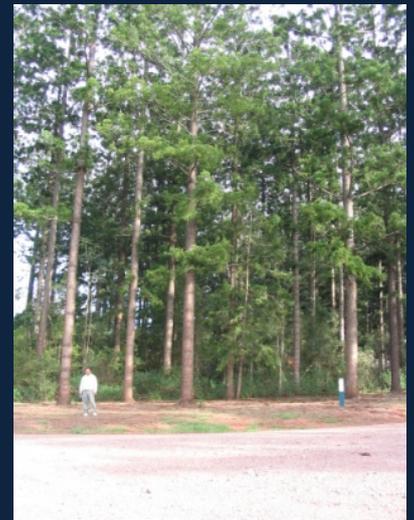
### Research Title

## Climate change, greenhouse gas dynamics and agroforestry systems: the case of Nepal

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### Description:

Climate change has been a grave concern of present and future too. From climate change perspective, agriculture is no more a sustainable land use practice. It is one of the human activities contributing to global climate change through emissions of greenhouse gases (GHGs) mainly methane and nitrous oxide following the livestock rearing, paddy cultivation and some agricultural activities such as ploughing and disking, irrigation, and crop residue burning. In the recent years, more attention is towards the tree based farming practice, popularly known as agroforestry system that combines agriculture with perennial tree crops, which has been long practiced in the different parts of the globe and now being considered as an alternative to the conventional agriculture because the retention of the tree in the system would contribute to sequestering carbon. However, the range and potential of the carbon sequestration by the agroforestry system varies with its types and geographic locations and management practices. Agroforestry practice in Nepal, where the main livelihood is subsistence farming, is of prime interest and concern from both the livelihood and sequestration potential point of view.



Therefore, this study is carried out in Nepal's terrain, where a range of agroforestry practices in terms of integration level have been adopted. The main objectives of the study are to assess the types of agroforestry practices in the study area, to explore the potential carbon balance that each farming practice identified could generate and to see the trade-offs between sequestration and emissions while enhancing/ or maintaining the productivity of the system.