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Hosted by Prof Rudolf Meier

# Strategies to reconcile wild nature and tropical agriculture



**By Roman Carrasco**

Assistant Professor, Department of Biological Sciences, NUS

A rapidly increasing human population with higher consumption per capita poses a threat to the sustainability of the planet. This is especially acute in the tropics where most of the remaining global land suitable for agriculture overlaps with megadiverse tropical forests. Finding strategies to reconcile tropical agriculture and wild nature is thus vital for global sustainability.

To identify these strategies, the work of the lab has focused on: (i) identifying the spatial distribution of benefits and costs generated by tropical agricultural production and nature; and (ii) studying the effectiveness of interventions aimed at their reconciliation. Related to (i), I will describe our work on mapping the trade-offs between agriculture and multiple ecosystem services, the evaluation of the implications of the loss of tropical forests on national development trajectories and the relationship between forest loss and children's health in Cambodia. Related to (ii), I will present our work on the effectiveness of protected areas in Indonesia, analyses of why protected areas are lost, equity implications of payments for ecosystem services and the temporal ramifications of agricultural intensification on deforestation.

Our results point towards the possibility to reconcile wild nature and agriculture through the recognition of the value of ecosystem services and yield gap closures. However, they also warn about the potentially negative effects of current interventions through indirect land-use caused by telecouplings in global trade.

*I am a bioeconomic modeler who focuses on tropical conservation and sustainability. My main research question is how to reconcile biodiversity conservation and agricultural production in the tropics. Specifically, I evaluate the effectiveness and cost-effectiveness of conservation and agricultural development interventions across space and time. To do this I adopt an interdisciplinary approach where biological models are linked to economics through bioeconomic modelling.*