



Tropentag, September 16-18, 2015, Berlin, Germany

“Management of land use systems for enhanced food security:  
conflicts, controversies and resolutions”

## Assessing the Costs and Benefits of Climate Smart Agriculture- A Locally Tested Tool and its Potential for Uptake by ASEAN

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### Abstract

Climate Smart Agricultural (CSA) practices can create benefits for smallholder farmers by achieving a sustainable increase in agricultural productivity and at the same time contribute to climate change adaptation and/or mitigation. However, how can we identify which practices are most suitable to existing agro-ecologic conditions, resilient to regional climate risks under different scenarios and that can achieve objectives identified by key stakeholders? Importantly, what are the costs and benefits of applying those prioritised practices? How can the most promising practices be taken to scale?

The study initially focuses on the development of a spatial methodology for the identification of climate risk hotspots that would benefit from the adoption of CSA practices. Based on these findings, we discuss approaches and results of an innovative tool for decision-makers, which assesses costs and benefits of CSA practices, prioritised through criteria selected by local stakeholders. The cost benefit analysis includes the quantification of trade-offs and the estimation of the level of peak adoption of CSA practices. The tool is being tested in 3 target regions in different agro-ecological and climatic landscapes in Viet Nam, Uganda and Nicaragua. Supra-regional integration unions and alliances (the ASEAN Climate Resilience Network (CRN) in Southeast Asia, the CSA Alliance in Africa and the Consejo Agropecuario Centroamericano (CAC) in Central America) are platforms to scale out prioritised CSA practices from the village level to regional level. We will explore the case example of uptake and outscale possibilities of the tool within the ASEAN and what are the requirements so that the user friendly tool can enable ASEAN policy makers to take informed and evidenced based decisions.

**Keywords:** Adaptation, climate change, climate smart agriculture