

## 122. A landscape approach to co-designing climate change adaptation and mitigation strategies with farming communities

Castella Jean-Christophe<sup>1,2</sup>, Lienhard Pascal<sup>1</sup>, Phimmasonne Sisavath<sup>3</sup>, Chaivanhna Soulikone<sup>3</sup>, Khamxaykhay Chanthasone<sup>3</sup>, Frank Enjalric<sup>1</sup>

<sup>1</sup>Centre de coopération internationale en recherche agronomique pour le développement (CIRAD), Vientiane, Lao PDR

<sup>2</sup>Institut de Recherche pour le Développement (IRD), Vientiane, Lao PDR

<sup>3</sup>Department of Agricultural Land Management (DALaM), Ministry of Agriculture and Forestry (MAF), Vientiane, Lao PDR

It is commonly accepted that climate smart agriculture (CSA) is much more than a new variety or cropping practice such as those that made the Green Revolution possible in the 1960s. CSA is about managing trade-offs between (i) intensification (*i.e.* sustainable productivity increase), (ii) mitigation and (iii) adaptation to climate change. The synergies between these three pillars of CSA have been explored through a territorial approach to agroecology that combines participatory land use planning and sustainable intensification of agriculture. The approach developed by the Eco-Friendly Intensification and Climate resilient Agricultural Systems (EFICAS) Project is based on an in-depth understanding of the patterns and drivers of land use changes in the northern uplands of Laos. It was shown for example that labor productivity gains from agricultural innovations (*e.g.* mechanization, use of chemical inputs) have systematically been reinvested by farmers into an expansion of cropping areas which is detrimental to the forest covers. It is therefore essential to first engage local communities in collectively planning their land use by defining an acceptable combination of land sparing between sustainably managed forested and agricultural areas, and land sharing featuring complex agroforestry systems integrated with livestock. Then, multiple stakeholder groups (including extension agents, development partners, policy makers and private sector) are involved in negotiating and supervising landscape level intensification patterns that synergize mitigation (*e.g.* carbon sequestration, soil conservation) and adaptation (*e.g.* resilience enhancement) to climate change. Last, multiple scenarios and implementation pathways based on agroecology practices are explored collectively through a theory of change process.