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LaMaGO©: A spatial role-play game for environmental management and land use planning

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Abstract: Landscape management involves a multitude of different stakeholders and their aspirations, such as farmers, governmental and non-governmental organisations, or enterprises to name only a few. These actors often pursue different and sometimes contradicting aims that for example focus on subsistence or commercial crop production viewing landscapes as production means while other actors focus on long-term sustainability goals such as maintaining biodiversity or soil fertility. The presented study introduces the spatial role-play game LaMaGO (**L**andscape **M**anagement as **G**oal-**O**riented communication process) that uses a game board approach to highlight these challenges in a spatially-explicit fashion by mimicking the social-ecological system (SES) of a case study landscape. LaMaGO was originally developed as communication and learning tool for under-/postgraduate class-room environments and is currently undergoing revisions for future applications as participatory scenario development tool. The presented study will firstly describe the class room LaMaGO game board approach that builds on a case study watershed in north-western Vietnam using the scenario of increasing bioenergy production needs for supporting a fast-growing development country as example. Here LaMaGO players represent different actors (conservative and progressive farmers, extension service, seed and fertilizer traders, a bio energy plant enterprise) who have to fulfil certain goals or targets in the case study environment of north-western Vietnam. LaMaGO were employed in this format during several semesters encompassing until to date about 120 students. The LaMaGO game board represents landscape features such as topography, soil types, road networks, settlements and water bodies, while “LaMaGO” players can further use an Excel© sheet to calculate crop yields and related soil erosion potentials based on agreed crop pattern arrangements. The spatial information of LaMaGO can be visualized using Google Earth©. The presented study will conclude with an outlook how LaMaGO will be redesigned as participatory scenario development tool for landscape modelling purposes.

Keywords: Spatial role-play game; Landscape; Social-Ecological Systems; north-western Vietnam