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A methodological framework for integrated assessment of land use policies and sustainable development in developing countries

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Poverty, food insecurity, uncontrolled land conversions, loss of biodiversity, pressure on forested areas: they are part of an unsustainability spiral in developing countries. Therefore, enhancement of sustainable development is an important issue in developing countries. Land use patterns and land use changes are considered critical to sustainable development. In the EU-funded LUPIS project (Land Use Policies and Sustainable Development in Developing Countries; www.lupis.eu) we will develop integrated assessment tools to address the impact of land use policies and global trends on sustainable development in the context of a range of developing countries. Attention will be given to both natural and agricultural ecosystems. Building blocks for this project are the methodologies developed in the EU Projects SENSOR (www.sensor-ip.org) and SEAMLESS (www.seamless-ip.org). The SENSOR methodology develops ex-ante impact assessment tools for EU policies related to land use at regional scale, with a focus on cross-sectoral trade-offs and sustainability side-effects. The SEAMLESS methodology targets at assessing agricultural and environmental policies and agricultural innovations at multiple scales. In LUPIS, a framework is developed to enable complementary use of the methodologies from SENSOR and

SEAMLESS and other tools for assessment of land use policies in developing countries (i.e. China, India, Indonesia, Mali, Kenya, Tunisia and Brazil). The framework comprises guidelines on how to set up a case study, derive scenarios, select indicators and select assessment tools (models or knowledge rules), and how to perform a sustainability impact assessment. A common indicator framework is used for all the case studies, including environmental, economical, social and institutional indicators. The selection of assessment tools can vary per case study and depends on data and model availability. A common procedure is used for the post-modelling phase of sustainability impact assessment, which allows a cross-country comparative analysis of the impact of different scenarios and land use policies on sustainable development.

Keywords: land use change, sustainable development, integrated assessment, agriculture, land use policies