### Jl. CIFOR, Situ Gede, Sindang Barang, Bogor 16115 [PO Box 161 Bogor 16001] Indonesia

Tel: +(62) 251 8625 415 Fax: +(62) 251 8625416 | www.worldagroforestry.org/region/southeast-asia

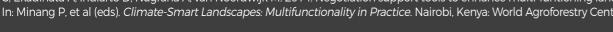
A negotiation support tool and method to reach commonly desired multifunctioning landscape

Dewi S, Ekadinata A, Indiarto D, Nugraha A, van Noordwijk M. 2014. Planning land uses for multiple environmental services: the example of Merangin, Indonesia. ETFRN News.

Dewi S, Ekadinata A, Indiarto D, Nugraha A, van Noordwijk M. 2014. Negotiation support tools to enhance multi-funtioning landscapes. In: Minang P, et al (eds). Climate-Smart Landscapes: Multifunctionality in Practice. Nairobi, Kenya: World Agroforestry Centre.

Sonya Dewi (s.dewi@cgiar.org) | Andree Ekadinata (a.ekadinata@cgiar.org)

World Agroforestry Centre (ICRAF) - Southeast Asia Regional Program



For more information about LUMENS

#### More on LUMENS

# Land Use Planning for Multiple Environmental Services



### 

### **DRINCIPLES OBJECTIVE &**

577

restoring environmental services, especially in tropical countries. can support livelihoods and development while maintaining and tent seqessbrel eldenietsus for sustainable landscapes that stakeholder negotiation process that are inclusive, integrated and parsimonious and publicly available software to empower multi-LUM IS is a framework accompanied with user-friendly.

.poinnel land-use planning.

**INTEGRATIVE** Underlines the importance of having

across conservation, development, and

shuerdized processes and aligned objectives

#### INFORMED

process and function that are contextual. information, and the understanding of based on knowledge that comes from data, based-related planning decisions are made -bnei tent seruce ensures that land-

#### ΙΝCΓΩΖΙΛΕ

exploration. of diagnosis and option important at the stage as possible, most endorsed as early activities should be land-based related Inclusiveness in any

development targets across sectors attaining conservation and Clarify common objective in

# 



#### and information-based approach nuderstanding through right-based transparency, negotiations,

can help the scenario development or can't be designed to accommodate scenarios. complex to operate, output that are quite rigid and hard to interpret, no intermediate output can be extracted which when the policy and institutional is available, the technical capacity is still limited, partly because available tools are too as well as socio-economic process, current situation and not anticipative towards changes of drivers in the tuture. Even use blanning is often conducted as a top-down process and not well-founded by sound understanding of ecological Land use planning process is an ideal approach to govern a multifunctional landscape. In developing countries, land





### BACKGROUND **SNWU**

to use land sustainably "wow", "where" by "whom" help to identify **"what and** 





adverse impacts conflict and possible **Identify potential** 

### LUMENS

# **APPROACHES**

- Build common vision and understand among working groups of multiple stakeholders
- Collect and compile best available relevant dataset: land admin, plans, land use/cover maps, biophysical, demographic, socio-economics
- Strengthen capacities in quantifying ecosystem functions, analyzing trade off between conservationdevelopment, developing options and simulating scenarios, negotiating best scenarios over ex-ante impact analysis and implementation, monitoring and evaluation within the existing policy framework
- Facilitate and negotiate public consultations and high level discussions to mainstream plans into programs of local government and identify other potential financing mechanisms
- Align and engage with policy process at the local and national levels

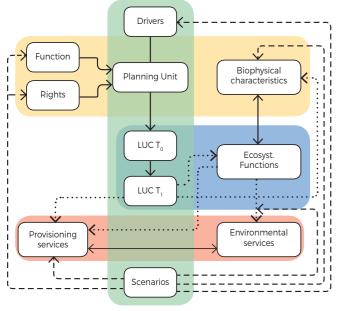


## LUMENS SOFTWARE

LUMENS is accompanied with user-friendly, parsimonious and publicly available software to



### **LUMENS TECHNICAL PROCESS**



- Land Use/cover change model and scenario simulation (SCIENDO)
- Reconciliation of Planning units (PUR)
- Quantification of Biodiversity, Ecosystem Functions and Services (QuES)
- Trade-off analysis between Biodiversity, non-provisioning ES and provisioning ES (TA)
- Actual dynamics/changes
- ---> Impacts/consequences/feedback
- ·····>> Scenario development

- 1. Develop planning unit
- 2. Driver analysis and historical land use and land cover changes with respect to planning unit.
- Quantify of biodiversity and environmental 3. services
- Develop baseline scenario of future land use and projection of environmental services:
- 5. Develop scenarios that are intended to change the business-as-usual (BAU) trajectory
- 6. Project future LULCC through spatially explicit modelling
- Conduct trade-off analysis from the multiple scenarios between environmental services
- Formulate action plans, including 8. necessary instruments to implement the agreed scenario.

### LUMENS **KEY ACHIEVEMENTS**

- 1. Development of low carbon development strategies in 5 provinces and 15 district across Indonesia, through European Union and DANIDA's supports
- 2. Revision process of **Provincial Action Plan** for Green House Gas **Emission Reduction** in 34 Provinces Across Indonesia through endorsement of Bappenas
- 3. Development of Green Growth Masterplan in South Sumatra with support from IDH
- Landscape restoration potential assessment in Musi and Batanghari Watershed, Indonesia



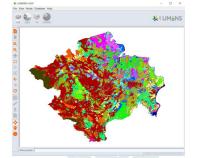
Capacity strengthening process including training and facilitation for land use planning across 15

districts and 5 provinces

LUMENSInterface



Simulates scenarios of land use changes based on interventions or changes in land use practices



#### The largest source of emissions based on land cover change in Banyuasin 2010-2014 (CO2-eq)



#### Map of Carbon emission in Banyuasin 2010-2014



12 John

Local planners, CSO, and academician trained in inclusive, integrative and informed land use planning process, over 40% are women



First draft of provincial level low emission development plan as part of Provincial Action Plan for Climate Change Mitigation has been produced