

The International Forestry Review

THE INTERNATIONAL FORESTRY REVIEW

Vol. 16 (5), 2014

XXIV IUFRO World Congress





Sustaining Forests, Sustaining People: The Role of Research XXIV IUFRO World Congress, 5-11 October 2014, Salt Lake City, USA Abstracts

EDITORS: JOHN A. PARROTTA, CYNTHIA F. MOSER, AMY J. SCHERZER, NANCY E. KOERTH and DARYL R. LEDERLE

International Forestry Review (print) ISSN 1465-5498 International Forestry Review (online) ISSN 2053-7778 Vol.16(5), 2014

PUBLISHED BY THE COMMONWEALTH FORESTRY ASSOCIATION

www.cfa-international.org

The International Forestry Review



Sustaining Forests, Sustaining People: The Role of Research

XXIV IUFRO World Congress, 5–11 October 2014, Salt Lake City, USA

Abstracts

EDITORS

JOHN A. PARROTTA, CYNTHIA F. MOSER, AMY J. SCHERZER, NANCY E. KOERTH and DARYL R. LEDERLE

change and analyze if they need to be reoriented. Maybe we need to promote more positive change and focus less in preventing negative change, but are our institutions ready for the task? For instance, in many countries tree farming is still not recognized by forest or agricultural authorities, and both of them have different reasons for not promoting it.

Assessing the drivers of forest degradation and forest change in tropical dry forest landscapes: a case study in Western Mexico. Morales, L. (Bangor University, Costa Rica; moralesluciacr@gmail.com), Borrego, A., Skutsch, M. (Universidad Nacional Autónoma de México, Mexico; armoniab@gmail.com; mskutsch@ciga.unam.mx).

Understanding the causes of forest degradation along with landowner's decisions on land use is of particular interest for the design of effective forest management that can both benefit people and avoid forest resources depletion. However, our knowledge of the processes and patterns that cause forest degradation and where they are occurring is extremely limited, especially for tropical dry forest. In this study we examined the likelihood of forest cover change and forest losing biomass by combining spatial with social economic data. For this, 300 interviews were undertaken in 30 communal lands within the Ayuquila Basin, Jalisco, which is a typical mosaic forest landscape dominated by shifting cultivation. Through the questionnaires we obtained data on the use of forest areas and forest resources. Detailed forest cover maps using high resolution data for 2004 and 2010 were developed, and ancillary geographical data were used to derived spatial variables. Possible factors influencing forest degradation were combined using a multiple regression model to obtain the probability of change in forest cover and in forest cover density. Preliminary results showed that distance to road, the parcel size, and its location are important factors determining the probability of forest degradation.

Potential for reducing deforestation through agricultural intensification in landscape mosaics in sub-Saharan Africa. Namirembe, S. (World Agroforestry Centre (ICRAF), Kenya; S.Namirembe@cgiar.org), van Noordwijk, M. (World Agroforestry Centre (ICRAF), Indonesia; m.vannoordwijk@cgiar.org), Minang, P. (ICRAF, Kenya; p.minang@cgiar.org).

Expansion of agricultural land has been established as the major driver of deforestation in sub-Saharan Africa. It is likely to intensify with the escalation of demand for agricultural land to produce food for the growing population and to satisfy the rapidly emerging global demand for biofuels. One way of addressing this according to the Borlaug hypothesis is "increasing the productivity of agriculture on the best farmland to control deforestation by reducing the demand for new farmland." Segregation of agriculture and biodiversity conservation therefore can lead to a win-win situation where benefits from both land uses are maximized. It has been established that this rarely holds true on its own and may result in inequitable distribution of resources. Where agricultural landholding is fragmented into small-scale units, as is most often the case, forest loss is mainly diffuse, through the removal of forest patches from the landscape. We compare literature on agriculture intensification initiatives to that of landscape-based initiatives in sub-Saharan Africa between the 1980s and 2010 to assess their potential to reduce forest conversion and overall impact on livelihoods of multiple stakeholders in mosaic landscapes. The objective is to identify approaches that take into consideration other deforestation drivers and underlying causes, leading to overall increase in agricultural productivity without loss of forest mosaics.

Theories of change and change in theory within 20 years of ASB partnership for the tropical forest margins. van

Noordwijk, M. (World Agroforestry Centre (ICRAF), Indonesia; m.vannoordwijk@cgiar.org), Tomich, T. (University of California, Davis, USA; tptomich@ucdavis.edu), Swallow, B. (University of Alberta, Canada; bswallow@ualberta.ca), Minang, P. (World Agroforestry Centre (ICRAF) and ASB Partnership for the Tropical Forest Margins, Kenya; a.minang@cgiar.org).

With current interest in theories of change as guidance of research and development efforts, we note that during its 20 years of partnership in the tropical forest margins, ASB has changed its overarching theory of change a number of times. Initially framed within the Borlaug hypothesis that intensifying agriculture from its shifting cultivation roots would lead to reduced pressure on forests and lower actual deforestation, the characterization and diagnostic phase in a number of landscapes showed that profitable land use systems, where they emerged could speed up rather than slow down deforestation. Focus shifted to analysis of multiple attributes (trade-off and synergy) of the main land use systems involved in local tree cover transitions. A number of medium-intensity agroforest management systems were found to combine profitability and the provision of environmental services at levels close to natural forest, but required additional incentives (regulatory, economic, recognition) to compete with tree crop monocultures. The opportunity cost to do so might be attractively low in terms of carbon stock. Lessons learned on conflict reduction and incentive mechanism helped subsequently frame approaches to the emerging REDD+ discussion, where ASB pioneered landscape approaches based on reduced emissions from all land uses (REALU).

Assessing sustainability of swidden systems in the tropical forest margins. Yemefack, M. (International Institute of Tropical Agriculture, Cameroon; myemefack@yahoo.fr), Porro, R. (EMBRAPA, Brazil; roberto.porro@embrapa.br), Niomgang, R. (Institute of Agricultural Research for Development, Cameroon; rnjomgang@yahoo.fr), Minang, P. (World Agroforestry Centre (ICRAF), & ASB Partnership for the Tropical Forest Margins, Kenya; a.minang@cgiar.org).

Tropical forest margins comprise shifting agricultural landscape mosaics where diverse swidden (slash-and-burn, shifting cultivation) systems provide food and cash crops. These systems sustainability implies that they simultaneously comply with economic, environmental, social, and cultural objectives with a protagonist role of households and communities in adjusting to drivers from proximate to larger contexts along time. With increasing concerns for food security, environmental services, and improved livelihoods, knowledge on the sustainability of each system is key to identifying development objectives and pathways for swidden improvement. Despite recent advances in social and environmental assessment used in the REDD+ framework, methods for providing systematic sustainability for swidden systems are not always readily available. This study presents an analytical framework for suitable assessment of swidden sustainability. The framework is adjusted and adapted from AMBITEC-AGRO, a nested multi-criteria impact assessment platform developed by EMBRAPA through specific applications to traditional and smallholder communities in southern Cameroon and eastern Brazilian Amazon. The framework for social assessment includes 5 aspects, 13 indicators, and 78 components. The procedure was robust to stratified social groups in the studied communities, with reproducible results. This method is expected to work well for studying swidden dynamics in various communities in the tropical forest margins.