

## TITLE

Multi-level governance and synergies between forest related climate change mitigation and adaptation policies in Indonesia

PAPER SUBMISSION FOR SPECIAL SESSION: Transformational change, REDD+ and synergies between climate change mitigation and adaptation in forest and agriculture

## ABSTRACT

This paper explores the advantages and disadvantages of integrating climate change mitigation and adaptation policies related to forests in Indonesia, and the structural and political challenges and opportunities associated with fostering integration in national policy processes across scales.

Indonesia presents a particularly interesting case study in relation to policy integration of mitigation and adaptation in forest. The country has pledged to reduce greenhouse gas emission by between 26% and 41% by 2020 and the majority of emissions are currently linked to AFOLU (Angelsen et al. 2012). With regards to adaptation, Indonesia is increasingly recognizing the need to plan or climate change adaptation, as climate change impacts affect a large part of the population that is dependent on agricultural, forest and other natural resources inland and in coastal areas.

Since the 2<sup>nd</sup> IPCC assessment report it has been recognized that mitigation and adaptation display important synergies in relation to forests (Klein et al. 2005, Nabuurs et al. 2007). On the one hand, forest related mitigation efforts can contribute to the adaptation of forests to climate change, for example, by maintaining the diversity of natural forest reduces the impact of extreme events (Fischlin et al. 2007) and can therefore strengthen local adaptive capacity and protect local livelihoods (Caplow et al. 2011). Mitigation programmes, such e.g. Reducing Emissions from Deforestation and Forest Degradation (REDD+), can, however, also have negative effects on adaptive capacity, if, for example, they reduce access to the forest for local people (Larson 2011, Sunderlin et al. 2009). On the other hand, forest adaptation practices can replenish carbon stocks while maintaining other important local ecosystem services such as ensuring hydrological functions or access to non-timber products and biodiversity (CBD 2009). In addition, indirect impacts like successful adaptation in agriculture can reduce additional conversion of forest contributing to global mitigation objectives (Locatelli et al. 2011).

While previous research has proposed various ways to integrate adaptation and mitigation activities (Murdiyarso et al. 2005, Locatelli et al. 2010, Duguma et al. 2014), this is unlikely to be achieved at a larger scale if mitigation and adaptation policies are not integrated. Yet, few studies have investigated the role of governance systems in supporting the integration of forest mitigation and adaptation efforts.

The separation of mitigation and adaptation approaches is evident in both global climate change policies processes, financial institutions supporting mitigation and adaptation actions and national policy architectures (Locatelli et al. forthcoming). The nature and the framing of climate change mitigation –primarily considered a ‘global’ environmental problem - and of adaptation - primarily thought as a ‘local’

environmental problem - (Tol, 2006) and existing incentive structures lead to distinct priorities for policy actors at global, national and sub-national levels with regard to the two objectives and their integration. Other domestic barriers to integration are represented by sectoral barriers present in existing governance structures, which are often ill fitted to address cross-sectoral environmental problems. Yet, there are also cross-level challenges related to the nature of multi-level policy structures and policy processes. These e.g. include bottlenecks in cross-level information flows, and existing incentives structures that lead to different policy priorities with regards to integration among and between national and sub-national policy actors (Gallemore et al. 2014). Many of these challenges are political in nature and reflect power struggle among policy actors over land use decisions related to forestry and related sectors such as agriculture.

The papers has four main objectives:

- To assess the current level of integration of forest and agriculture related national climate change policies, and existing arguments for and against policy integration in Indonesia
- To identify structural and political barriers to the integration of policies and policy processes related to sectors linked to climate change mitigation and adaptation in forests in Indonesia
- To investigate structural barriers to cross-level information flows and collaboration between policy actors at national and sub-national levels
- To provide recommendations on how to facilitate policy integration.

The study is based on fieldwork undertaken between September 2014 and January 2015 in Indonesia. It uses a multi-level research design that assesses mitigation and adaptation policy process linkages within and across national level, one province (West Kalimantan) and one district (Kapuas Hulu) within the province. The fieldwork included the collection of national and sub-national policy documents, and interviews and a survey with over 150 policy actors at multiple scales that investigate the framing of mitigation and adaptation, opinions of policy integration, and the structures of communication and collaboration networks related to both mitigation and adaptation efforts. The analysis adopts as political economy and policy network lens to identify challenges to and opportunities for policy integration.

Angelsen, M. Brockhaus, W. D. Sunderlin & L. Verchot (Eds.), *Analysing REDD+: Challenges and choices* (pp. 31-48). Bogor, Indonesia: Center for International Forestry Research.

Caplow, S., Jagger, P., Lawlor, K. and Sills, E. 2011. Evaluating land use and livelihood impact of early forest carbon projects: Lessons from learning about REDD+. *Environmental Science and Policy*, 14: 152-167.

CBD (Convention of Biological Diversity). 2009. *Connecting biodiversity to climate change mitigation and adaptation. A natural response to climate change*. Montreal, Canada: Secretariat CBD.

Duguma, L., Minang, P., & van Noordwijk, M. (2014). Climate Change Mitigation and Adaptation in the Land Use Sector: From Complementarity to Synergy.

*Environmental Management*, 54(3), 420-432. doi: 10.1007/s00267-014-0331-x

Fischlin, A., G.F. Midgley, J. Price, R. Leemans, B. Gopal, C. Turley, M. Rounsevell,

- P. Dube, J. Tarazona, A. Velichko. 2007: Ecosystems, their properties, goods, and services. In M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson (eds). *Climate change 2007: Climate change impacts, adaptation and vulnerability*. The IPCC. Fourth Assessment Report, Cambridge: Cambridge University Press.
- Gallemore, C. T., Prasti H, R. D., & Moeliono, M. (2014). Discursive barriers and cross-scale forest governance in Central Kalimantan, Indonesia. *Ecology and Society*, 19(2). doi: 10.5751/ES-06418-190218
- Klein, R.J.T and Schipper, E.L.F, and Dessai, S. 2005. Integrating mitigation and adaptation into climate and development policy: Three research questions. *Environmental Science and Policy* 8(6): 579-588.
- Larson, A. 2011. Forest tenure reform in the age of climate change: Lessons for REDD+. *Global Environmental Change*, 21 (2): 540–549.
- Locatelli, B., Evans, V., Wardell, A. Andrade, A. and Vignola. R. 2011. Forests and climate change in Latin America: Linking adaptation and mitigation. *Forests*, 2: 431-450.
- Locatelli B, Fedele G, Fayolle V and Baglee A, forthcoming. Synergies between adaptation and mitigation in climate change finance.
- Locatelli, B., Brockhaus, M., Buck, A. and Thompson, I. 2010. Forests and adaptation to climate change: Challenges and opportunities. In Mery, G. et al. (eds) *Forest and Society: Responding to global divers of change*. IUFRO World Series Vol.25. Vienna: IUFRO.
- Murdiyarso, D., C. Robledo, S. Brown, O. Coto, J. Drexhage, C. Forner, M. Kanninen, L. Lipper, N. North, and M. Rondón. 2005. Linkages between mitigation and adaptation in land-use change and forestry activities. In C. Robledo, C. Kanninen, and L. Pedroni (eds.) *Tropical forests and adaptation to climate change: In search of synergies*. Bogor, Indonesia: CIFOR.
- Nabuurs, G.J., O. Maser, K. Andrasko, P. Benitez-Ponce, R. Boer, M. Dutschke, E. Elsiddig, J. Ford-Robertson, P. Frumhoff, T. Karjalainen, O. Krankina, W.A. Kurz, M. Matsumoto, W. Oyhantcabal, N.H. Ravindranath, M.J. Sanz Sanchez and X. Zhang. 2007. *Forestry*. In B.
- Metz, O.R. Davidson, P.R. Bosch, R. Dave and L.A. Meyer (eds). *Climate Change 2007: Mitigation. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge, UK: Cambridge University Press.
- Sunderlin, W.D., Larson, A.M., Cronkleton, P. 2009. Forest tenure rights and REDD+: From inertia to policy solutions. In Angelsen, A. (ed.). *Realising REDD+: National strategies and policy options*. Bogor, Indonesia: CIFOR.
- Tol, R.S.J., 2006. Adaptation and mitigation: Trade-offs in substance and methods. *Environmental Science & Policy*, 8, pp. 572-578.