



FORESTS ASIA SUMMIT

Background Brief



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Theme 5

Changing communities, sustainable landscapes and equitable development

Background and context

The landscapes of Southeast Asia have long been managed as diverse, and often forest-rich, mosaics by the region's thousands of communities and millions of smallholder households. These patterns are now rapidly changing, as economic and demographic transformations sweep the region.

The shift towards integration into a global economy and reliance on patterns of investment flows over recent decades have brought prosperity to a significant part of the region, and have brought significant changes to both the forests and the

communities that depend on them (Rigg 2004, 2006; Hall 2011a, 2011b). The transformation of Southeast Asia's rural landscapes – from complex mosaics of forests and mixed agriculture to blocks of commercial mono-crop plantations – alongside changing livelihoods and farming practices – from mixed multi-product agriculture and forest-use systems to commercial crops for the market – has had varying impacts on: landscape functions and provision of ecosystem services; local food security; and resilience of rural livelihoods. Many of these are well documented (Bruun et al. 2009; Castella et al. 2013; Ziegler et al. 2012).



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How well rural and smallholder households can participate in and benefit from the market economy is related to their access to information, finance and skills, and these have not been equally available across different groups and different areas in the same landscape (Cotula 2010; Hazell et al. 2010; Vorley et al. 2012). For example, the ability to access and negotiate for policy and economic incentives will be highest for those farmers with stronger capital and social networks, and this may lead to distributional effects that are more pronounced in rural forested regions (Gaiha et al. 2012), potentially further marginalizing the vulnerable.

A long-held policy response has been to promote community forestry (or social forestry) as a decentralized management approach and as a means to restore rights, resolve conflicts, improve livelihoods and the stock of forests, and lead to more equitable development (Sikor et al. 2013). Evidence from over four decades of community forestry experience suggests that these systems have generally led to lower and less variable deforestation rates (Porter-Bolland et al. 2012; Shyamsundar and Ghate 2014), but not to large-scale improvements in the livelihoods of forest communities, as expected (Nawir 2012; Purnomo et al. 2012). In some cases, community forestry can have trade-off effects between livelihoods and forest health (Shyamsundar and Ghate 2014) as there can be substantive costs incurred by the communities through restrictions in certain forest uses for sustainability goals. Another challenge is that the forests handed over to communities are often of poor quality, with restrictions commonly imposed on commercialization, especially with regard to trees. Where timber harvesting is allowed, evidence from Nepal suggests that deeply rooted policies, poor methodological practices and a restrictive legal and institutional framework have led to overall underharvesting and low incomes (Paudel et al. 2014). In other places, smallholders in agricultural settings can generate a significant proportion of the household income from growing and selling timber where there are enabling regulatory frameworks and market access in place.

Economic inequalities within and between communities can negatively affect the desired outcomes, although functioning local institutions can help to mitigate these negative effects (Andersson and Agrawal 2011). Based on a review of community forestry practices in South Asia, Shyamsundar and Ghate (2014) suggest that incentives compatible at the household level will work best in motivating sustainable resource management practices.



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The long history of social forestry in Indonesia has shown that the lack of fair access to, and non-exchange of, information has been a barrier (Andersson and Hoskins 2003). Markets, capital flows, and in- and out-migration in communities living in or around forests have influenced cultures, traditions and the perceptions of rights. However these changes are often ignored in the prescriptive policies that tend to reinforce dated assumptions and models of homogeneity. The general tendency of policies has been to support, and perhaps impose, a few models of social forestry practices on communities, ignoring local knowledge, institutions, conditions and preferences.

A parallel strand of policy and research investment has been in fostering smallholder tree growing, which is now a prominent economic activity in a number of countries in the region, including parts of Indonesia (Roshetko et al. 2013), Lao PDR (Newby et al. 2011), Thailand (Boulay et al. 2011) and Vietnam (Fisher and Gordon 2007), but less so elsewhere (e.g. Indonesia outside Java; Obidzinski and Dermawan 2010). Most studies suggest that commercial tree growing can be attractive to smallholders as part of a broader livelihood portfolio, principally where market access and knowledge are good and the regulatory environment is enabling. As market demand for smallholder wood in much of Asia is likely to grow with increasing market demand and diminishing

natural forest resources, the enabling (or constraining) legal and institutional frameworks will dictate how successfully smallholders and community forestry systems can participate in these markets.

Integration has brought global values to the local through increased focus and demand for biodiversity and environmental services in forested landscapes. Investments to induce behavioral change towards sustainability through mechanisms such as Payments for Environmental Services (PES) and Reducing Emissions from Deforestation and Forest Degradation (REDD+) are competing with the pull of markets and economic development to influence forest communities and smallholders (Feintrenie et al. 2010; Pattanayak et al. 2010). Lack of equity in the allocation of rights over natural resource and shares of the revenues has been at the crux of land and resource conflicts (Bannon and Collier 2003). Equity is a key concern in the context of PES and REDD+, with respect to distributional equity (allocations of rights, costs, risks and benefits of implementing REDD+) and procedural equity (processes for decision-making and dispute resolution (Luttrell et al. 2013; McDermott et al. 2013). PES and REDD+ projects are unlikely to be effective if they do not involve local people in their implementation and if they are not equitable, they will not be perceived as fair (Börner and Wunder 2008; Mohammed 2011).



These market demands and economic incentives are occurring within a series of ongoing demographic trends including migration and urbanization flows, multi-locality of households, commercialization and homogenization of land use, and the rising importance of off-farm employment (Winkels 2008; Rigg and Salamanca 2009). Even as economic development is leading to increasing deagrarianization in Southeast Asia, very large numbers of people continue to undertake risky and expensive migration (domestically and internationally, temporarily and permanently) to take part in crop and forest product booms (De Koninck 2003; Hall 2011b). The effects of migration and of the flow of remittances from migrant labor could have potentially significant impacts on forests and land use investments and this is still an understudied area.

All of these multi-directional shifts are increasing the level of complexity in our understanding of present and future changes in land and forest use; the changing systems of rights, rewards and incentives; and how forests are being valued and managed by Southeast Asian communities. What do these shifts mean for the region's future sustainability?

Some of the questions that will be discussed within the discussion forums in this theme include:

- What are the policy and incentive structures necessary to enable smallholders and community forestry systems to access global markets and value chains for improved livelihoods from forestry?
- How can flows of investment into forestry be channelled towards sustainable management and poverty reduction? What are the incentive frameworks to encourage green investments in forestry?
- What are ASEAN's priorities for investments in green growth, social forestry and poverty reduction? What needs to change from "business as usual" in the future?
- What are the rights of smallholders and communities in natural resource use and management? How do they benefit from natural resource use and management, how are these benefits distributed and what are the equity implications?
- How do the environment-oriented values, as embodied in PES and REDD+ mechanisms, interact within the economic and market transformations?



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Policy needs

1. Policies must prioritize inclusive rural development and be flexible enough to respond to the diverse needs of different community forestry models and smallholder groups.

The challenge of promoting inclusive sustainable development in rural areas will remain unaddressed unless investment policies respond to the diverse needs, cultural dimensions and aspirations of the many different segments of rural societies, and are sizeable enough to meet those needs. There are dangers of 'one size fits all' policies that ignore the diversity of smallholder households, communities and livelihoods and effectively frame smallholders as scaled-down versions of large (and male) farmers (Vorley et al. 2012). There is a strong economic rationale for investment in diverse farming and forestry systems that are appropriate to the different stages of rurality and development in any given locality, to bring better market opportunities, technology, and – of particular importance to the landless and to women – jobs, as well as reforms that increase people's access to, tenure rights and control over natural resources. A participatory process to planning and implementation that allows for a diversity of perspectives and cultural systems to be considered is urgently required.

2. Policies must support community forestry and help smallholders respond effectively to economic globalization and commercialization

Economic globalization and commercialization present serious challenges for local communities and smallholders to engage fully within these systems. Policies and economic incentives that support local enterprises to be more commercially competitive in this globalized economic era will be important (Nawir 2012). Increasing local producers' commercial and business knowledge and skills, mainly through understanding the risks of development options and negotiation skills, can also help to empower them. It is important to identify components and necessary conditions for developing feasible and viable enterprises that increase community forestry (CF) management resilience in this dynamic, globalized economic climate. We assume that the communities involved are rational decision-makers interested in change but often, the perspective and preferences of the communities are not well understood. Important components of feasible and viable CF enterprises include: the need to have good institutional capacity in financial management and technical skills to implement commercial activities; a system for allocating benefits and costs; and an economically profitable forest unit. These should be supported by an incentive framework based on benefit-sharing and power-sharing principles. Purnomo et al. (2011) underlined the importance of fair distribution of value added along the chain of forest products as a means to achieving effective local poverty reduction.

3. Policies must support fair partnerships with the business sector for rural poverty reduction and sustainable natural resource management

At the Earth Summit in Johannesburg in 2002, partnerships were touted as one of the key routes to sustainable development. But can partnerships really deliver improvements in rural livelihoods? The arguments for company-community partnerships include: sharing of risks; better returns to land than otherwise possible; opportunities for income diversification; access to paid employment; development of new skills; upgrading of local infrastructure; and environmental improvement. At best, company-community partnerships have not yet proven to be sufficient to lift people out of poverty, and they remain supplementary rather than central to income generation. At worst, there is evidence

that such partnerships have led to conflicts over land use, economic marginalization and displacement (Cotula 2010; Vorley et al. 2012). Furthermore, while some partnerships have resulted in greater cohesion and organization among community groups, there is as yet little evidence of substantial increases in community bargaining power. Intermediaries (often civil society organizations) can often play an important role in supporting communities and smallholders in engaging and negotiating to maximize benefits in these partnerships (Sikor et al. 2013). Ways forward to increase returns that are more equitable to communities (and to their counterpart companies) center on raising their organizational level and bargaining power, establishing policies to ensure clarity in resource rights, and developing equitable, efficient and accountable governance frameworks for partnerships (Vermeulen et al. 2008; Ravikumar et al. 2012). Other policy levers are available to governments to strengthen the organization and market power of small-scale producers (including channelling support for informal groups). They can provide a greater diversity of market outlets, make standards and certification work better for small farmers, break up cartels and monopolies, improve price stability and producer share of market value, and/or provide market preferences for small- and family-scale producers (Vorley et al. 2012).

4. Decision-making process must assess equitable outcomes against economic indicators of cost-efficiency and effectiveness.

Government bureaucracies and current policies tend to favor larger actors and homogenous, large-scale development plans for being cost-efficient producers, and fostering business-as-usual interests in forests. An analysis of REDD+ public discourse, for example, shows that policy-makers focus more on international, rather than national, equity concerns, and that they neglect both the need for increased participation in decision-making and recognition of local and indigenous rights (Di Gregorio et al. 2014). Since most individuals and communities living in tropical forest regions do not have formally designated rights to forests or lands, how these rights are defined at various levels (from project to national levels) will determine the equity of any investment projects, whether they are REDD+, community forestry or forest-agriculture enterprise projects (Duchelle et al. 2014; Sunderlin



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et al. 2013). In the case of REDD+, perceptions of inequity can undermine effectiveness and legitimacy (Peskett 2011), and lead to increased conflict (Mohammed 2011) and a higher risk of project failure.

5. Policies for rural development and forests should consider the dynamics of migration, mobility and remittances.

Rural-urban migration and the growth of urban areas have historically had important impacts on rural environments, including forests. With the world's population having very recently become predominantly urban and urban areas in many tropical areas growing at record levels, interest in how rural-urban shifts affect tropical forests is receiving considerable attention. Migration in the tropics, as in much of the world today, appears to be far more complex than national censuses and general overviews suggest (Padoch et al. 2008; Taccoli et al. 2010). Another area of interest that has yet to be explored adequately is the relationship between migration, the sending of remittances to rural communities, and the effect of these patterns on forests (Hecht et al. 2012). Despite the vast attention to forest concerns in terms of deforestation, climate change and conservation ecology, forests are still not really addressed as part of the dynamics of urbanization, agrarian economies and migration (Hecht 2010). It would be impossible to develop policies on rural and sustainable development without understanding the role of forests in these contexts and how they have changed because of this migration-remittances-development nexus.

Research gaps

1. Enabling investments into forestry and land use that are more equitable to smallholders

What sort of research is needed to enhance and sustain livelihoods from forestry? What are the regulatory barriers to community forest management, particularly with regard to timber harvesting and commercialization? Will research on markets and value chains result in improved livelihoods from forestry? How can forestry practices and investment be "greener" and how does green investment increase benefits for people? What are the incentive frameworks to encourage green investment in forestry? What is the role of private sector behavior and market pressures (such as certification or corporate social responsibility practices)? What are the enabling conditions that can support sustainable community forest enterprises – what works under what conditions?

2. Assessing role of institutions and governance in community and smallholder forestry systems and impacts of on livelihoods

In Indonesia, the government is promoting village forest to be managed by village institutions. Often these are meant to be cooperatives and in some areas the government has established village enterprises. But are these the right institutions to manage village forests? Should all village forests be managed in the same way? How can local aspirations be incorporated in the management of community forests? What are the economic, ecological and social impacts of the diverse

community forestry initiatives in Asia? How do different CF models influence local livelihoods, including food security? What have we learned from the last decades of community forestry practices in Asia? What are the opportunities and challenges posed by community forestry initiatives in the context of REDD+? Many similar questions apply to 'private' tree growing by smallholders.

3. Assessing the role of environmental incentives (PES, REDD+) within other development demands

How are environmental service losses or gains from land use change distributed across stakeholder groups at various scales? How is the changing landscape impacting livelihoods, local food security and resilience of smallholder farmers? What influences the land-use decisions of local farmers in these changing landscapes? How do farmers rate different factors (e.g. markets, risk preferences, culture, revenue expectations) in their decisions? How do natural resource governance systems and the distribution of costs and benefits from changing land uses inform future PES or REDD+ mechanisms? What are the policy and legal structures that constrain or enable integration of environmental services in land-use decision-making across different scales (national, regional, local)?

4. Understanding migration and remittances

How is migration affecting both rural and urban areas? How does the "multi-locality" of many households in the forested tropics affect the way landscapes are managed? What financial resources, new knowledge, and social ties are being exchanged between rural and urban places, and how is that reflected in resource management, community cohesion and livelihoods? What is the magnitude of remittances in certain landscapes; how are remittances transferred and invested in

rural areas? How significant could remittances be as tools for rural development? Can migration and mobility serve as adaptation strategies and as ways to mitigate climate change, especially in the case of rural-urban movement?

Roles of different stakeholders

National policymakers:

- Reduce the legal and institutional restrictions and transaction costs placed on community forestry and livelihood opportunities.
- Institutionalize a participatory approach to planning, design and implementation of community forestry models to fit local aspirations and social, cultural and economic contexts.
- Revise policies and regulations to facilitate sustainable and equitable community and smallholder forestry systems.
- Develop and implement programs and incentives to link value chain players,

Private sector:

- Proactively engage smallholders and community forest groups in value chains.
- Support alternative methods for low-cost participatory methods for certification, particularly for smallholders and communities who are unable to afford 3rd party certification.

Civil society:

- Provide critical oversight of policy changes on social, economic and equity impacts on communities and smallholders.
- Develop certification systems that are accessible to community and smallholder forestry.
- Act as an intermediary to link communities and smallholders to market players.



Research/scientific community:

- Generate robust evidence and clear advice on strategies that facilitate sustainable and equitable development of communities and smallholder forestry systems.
- Carry out research that support or address the needs of communities and smallholder forestry, including livelihood and policy options.
- Regularly share research results with stakeholders (policy, private sector, civil society, forest communities and smallholders)

International/regional community (e.g. global and regional policymaking):

- ASEAN should help to provide incentives for development an active green business sector in line with the green economy vision and principles of the ASEAN Economic Community on equitable development and sustainable forestry management.
- The global aid community can support sustainable and equitable development through inclusive aid that considers smallholders and community forest systems.

References

- Andersson K and Agrawal A. 2011. Inequalities, institutions, and forest commons, *Global Environmental Change* 21:866–75.
- Andersson K and Hoskins M. 2003. *Information use and abuse in community forestry*. Paper submitted to the XII World Forestry Congress 2003 in Quebec City, Canada.
- Bannon I and Collier P, eds. 2003. *Natural Resources and Violent Conflict: Options and Actions*. World Bank, Washington DC.
- Börner J and Wunder S. 2008. Paying for avoided deforestation in the Brazilian Amazon: From cost assessment to scheme design. *International Forestry Review* 10(3):496–511.
- Boulay A, Tacconi L and Kanowski P. 2011. Drivers of adoption of eucalypt tree farming by smallholders in Thailand. *Agroforestry Systems* 84(2):179–89.
- Bruun, TB, de Neergaard A, Lawrence D and Ziegler AD. 2009. Environmental consequences of the demise in swidden cultivation in Southeast Asia: Carbon storage and soil quality. *Human Ecology* 37:375–88.
- Castella JC, Lestrelin G, Hett C, Bourgoin J, Fitriana YR, Heinimann A and Pfund JL. 2013. Effects of landscape segregation on livelihood vulnerability: Moving From extensive shifting cultivation to rotational agriculture and natural forests in northern Laos. *Human Ecology* 41(1):63–76.



- Cotula L. 2010 *Investment Contracts and Sustainable Development: How to Make Contracts for Fairer and More Sustainable Natural Resource Investments*. London, International Institute of Environment and Development [IIED].
- De Koninck R. 2003. Southeast Asian agriculture post-1960: Economic and territorial expansion. In Sien CL, ed. *Southeast Asia Transformed: A Geography of Change*. Singapore: ISEAS.
- Di Gregorio M, Brockhaus M, Cronin T, Muharrom E, Santoso L, Mardiah S and Büdenbender M. 2013. Equity and REDD+ in the media: A comparative analysis of policy discourses. *Ecology and Society* 18(2):39.
- Duchelle AE, Cromberg M, Gebara MF, Guerra R, Melo T, Larson A, Cronkleton P, Börner J, Sills E, Wunder S, Bauch S, May P, Selaya G and Sunderlin WD. 2014. Linking forest tenure reform, environmental compliance and incentives: Lessons from REDD+ initiatives in the Brazilian Amazon. *World Development* 55:53–67.
- Feintrenie L, Schwarze S, and Levang P. 2010. Are local people conservationists? Analysis of transition dynamics from agroforests to monoculture plantations in Indonesia. *Ecology and Society*, 15(4):37–51.
- Fisher H. and Gordon J. 2007. *Improved Australian tree species for Vietnam*. ACIAR Impact Assessment Series Report no. 27, Center for International Economics, Canberra: Australia. July 2007.
- Hall D. 2011a. Land grabs, land control, and Southeast Asian crop booms. *Journal of Peasant Studies* 38(4):837–57.
- Hall D. 2011b. Where the streets are paved with prawns: Crop booms and migration in Southeast Asia. *Critical Asian Studies* 43(4):507–30.
- Hazell P, Poulton C, Wiggins S and Dorward A. 2010. The future of small farms: Trajectories and policy priorities. *World Development* 38(10):1349–61.
- Hecht S, Kandel S and Morales A. 2012. *Migration, Livelihoods and Natural Resources*. San Salvador: IDRC PRISMA.
- Hecht S. 2010. The new rurality: Globalization, peasants and the paradoxes of landscapes. *Land Use Policy* 27:161–9.
- Luttrell C, Loft L, Gebara MF, Kweka D, Brockhaus M, Angelsen A and Sunderlin W. 2013. Who should benefit from REDD+? Rationales and realities. *Ecology and Society* 18(4):52.
- McDermott M, Mahanty S and Schreckenber K. 2013. Examining equity: A multidimensional framework for assessing equity in payments for ecosystem services. *Environmental Science and Policy* 33:416–27.
- Mohammed EY. 2011. *Pro-poor benefit distribution in REDD+: Who gets what and why does it matter?* REDD Working Paper, International Institute for Environment and Development, London, UK.
- Nawir AA. 2012. *Towards commercially oriented community forestry management: Coping with economic globalisation and commercialisation*, In Conference Proceedings: IUFRO 3.08.00 Small-Scale Forestry Conference 2012: Science for Solutions, 24–27 September 2012, Amherst, MA USA, Meyer, SR, ed. Family Forest Research Center (www.familyforestresearchcenter.org) – a joint project between the USDA Forest Service and the University of Massachusetts, Amherst.
- Newby JC, Cramb RA, Sakanphet S. and McNamara S. 2011. Smallholder teak and agrarian change in northern Laos. *Small-scale Forestry* 11(1):27–46.
- Obidzinski K and Dermawan A. 2010. Smallholder timber plantation development in Indonesia: What is preventing progress? *International Forestry Review* 12(4):339–47.
- Padoch C, Brondizio E, Costa S, Pinedo-Vasquez M, Sears RR and Siqueira A. 2008. Urban forest and rural cities: Multi-sited households, consumption patterns, and forest resources in Amazonia. *Ecology and Society* 13(2):2.
- Pattanayak SK, Wunder S and Ferraro PJ. 2010. Show me the money: Do payments supply environmental services in developing countries? *Review of Environmental Economics and Policy* 4(2):254–27.
- Paudel NS, Paudel G, Karki R and Khatri DB. 2014. *Revenue and employment opportunities from timber management in Nepal's community forests*. Policy Brief no. 29, March 2014, Forest Action Nepal.
- Peskett L. 2011. *Benefit sharing in REDD+: exploring the implications for poor and vulnerable people*, World Bank and REDDnet.
- Porter-Bolland L, Ellis EA, Guariguata M, Ruiz-Mallén I, Negrete-Yankelevich S and Reyes-García, V. 2012. Community managed forests and forest protected areas: An assessment of their conservation effectiveness across the tropics. *Forest Ecology and Management* 268:6–17.
- Purnomo H, Arum GS, Achdiawan R and Irawati RH. 2012. Rights and wellbeing: An analytical approach to global case comparison of community forestry. *Journal of Sustainable Development* 5(6):35–48.

- Purnomo H, Irawati RH, Fauzan AU and Melati M. 2011. Scenario-based actions to upgrade small-scale furniture producers and their impacts on women in Central Java, Indonesia. *International Forestry Review* 13(2):152–62.
- Ravikumar A, Andersson K, Mwangi E, Guariguata MR and Nasi R. 2012. Towards more equitable terms of cooperation: Local people's contribution to commercial timber concessions. *International Forestry Review* 14(2):157–76.
- Rigg J. 2006. Land, farming, livelihoods, and poverty: Rethinking the links in the rural South. *World Development* 34(1):180–202.
- Rigg J. 2004. *South East Asia: The Human Landscape of Modernization and Development*. New York: Routledge.
- Rigg JD and Salamanca A. 2009. "Managing risk and vulnerability in Asia : A (re)study from Thailand, 1982-83 and 2008." *Asia Pacific Viewpoint*, 50(3):255–70.
- Roshetko, J., Rohadi D, Perdana A, Sebastian G, Nuryatono N, Pramono A, Widyani N, Manalu P, Fauzi M and Sumardamto P. 2013. *Teak systems' contribution to rural development in Indonesia*, paper presented at the World Teak Conference 2013, Bangkok, Thailand, 24–27 March 2013.
- Shyamsundar P and Ghate R. 2014. Rights, rewards, and resources: Lessons from community forestry in South Asia. *Review of Environmental Economics and Policy* 8(1):80–102.
- Sikor T, Gritten D, Atkinson J, Bao H, Dahal GR, Duangsathaporn K, Hurahura F, Phanvilay K, Maryudi A, Pulhin J, Ramirez MA, Saw Win, Toh S, Vaz J, Tol Sokchea, Srey Marona, and Zhao Y. 2013. *Community Forestry in Asia and the Pacific: Pathway to Inclusive Development*, RECOFTC, Bangkok, Thailand.
- Sunderlin W, Larson A, Duchelle AA, Resosudarmo IAP, Huynh TB, and Awono A. 2013. How are REDD+ Proponents Addressing Tenure Problems? Evidence from Brazil, Cameroon, Tanzania, Indonesia, and Vietnam. In Naughton-Treves L, Alex-Garcia J, Baird IG, Turner MD and Wendland K, eds. Land Tenure and Forest Carbon Management, Special Section, *World Development*.
- Taccoli C and Mabala R. 2010. Exploring mobility and migration in the context of rural-urban linkages: Why gender and generation matter. *Environment and Urbanization* 22:389–95.
- Vermeulen S, Nawir AA and Mayers J. 2008. Rural poverty reduction through business partnerships? Examples of experience from the forestry sector. *Environment, Development and Sustainability* 10(1):1–18.
- Vorley B, Cotula L and Chan MK. 2012. *Tipping the balance: Policies to shape agricultural investments and markets in favour of small-scale farmers*. IIED Research Report, December 2012, London.
- Winkels A. 2008. Rural in-migration and global trade: Managing the risks of coffee farming in the Central Highlands of Vietnam. *Mountain Research and Development* 28(1):32–40.
- Ziegler AD, Phelps J, Yuen JQ, Webb EL, Lawrence D, Fox JM, Bruun TB, Lei SJ, Ryan CM, Dressler W, Mertz O, Pascual U, Padoch C and Koh LP. 2012. Carbon outcomes of major land-cover transitions in SE Asia: Great uncertainties and REDD+ policy implications. *Global Change Biology* 18(10):3087–99.



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