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IUFRO Headquarters
Hauptstrasse 7
1140 Vienna, Austria
Tel: + 43-1-877-0151-0
Fax: +43-1-877-0151-50
Email: office@iufro.org
Web site: www.iufro.org

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Forests under pressure – Local responses to global issues

Editors:
Pia Katila
Glenn Galloway
Wil de Jong
Pablo Pacheco
Gerardo Mery

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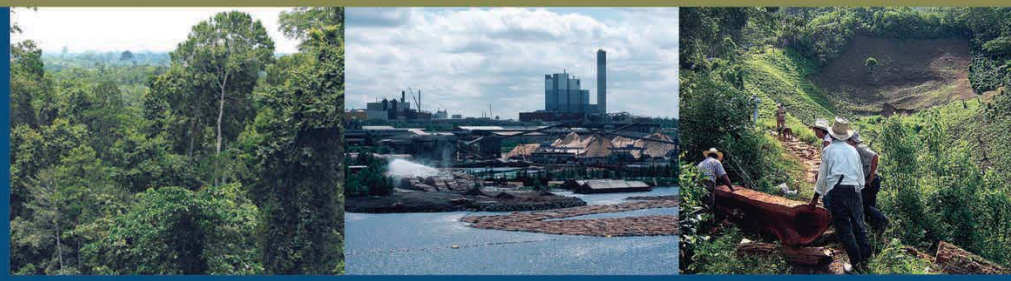

PART I – Chapter 3

Derivation of the analytical framework

3.1 Revisiting current analytical perspectives

Various concepts, models, and theoretical frameworks have guided the extensive literature that addresses natural resource management and the use and conservation of these resources as well as the diverse governance modes that are in use to steer resource use and management. These approaches have directed attention to different dimensions of governance and human-environment interactions. A brief summary of this literature is presented here, structured around the main themes that feature predominantly in the existing literature.

3.1.1 Tenure and property rights

Land and forest tenure and property rights to forests and trees have received increasing attention as crucial social institutions that define access, use, and management options for natural resources. Tenure regimes have been broadly classified into private, state, and common-property regimes, while under open access, there are no property rights and no defined group of users or owners. Situations resembling open access arise when the state does not impose constraints on access or when they are not enforced and unauthorised or illegal use becomes possible (Bromley 1991). Property rights consist of a bundle of rights that include access, withdrawal, management, exclusion, and transfer rights and may relate to different elements or benefit streams of the property. These rights are divided in different ways between the state and other actors. In most tropical countries forest lands are property of the state, and the state can under different mechanisms grant specific rights to single persons and legal entities, for instance families, companies, communities or community organisations. These rights are often conditional, meaning that owners have specific rights, but the state reserves the right to revoke such rights under given circumstances, or the rights have a definite duration. The resulting property regimes are characterised by the distribution of the right bundles between different actors as well as the duration and security of the rights (Schlager and Ostrom 1992). The nature and characteristics of the right bundles influence resource use and management as well as the outcomes for rights holders. They define the options and opportunities to benefit from the resource and thus shape the incentives for sustainable resource management, including investing in, sustaining, and improving the resource (e.g. Ostrom and Schlager 1996, Wiebe and Meinzen-Dick 1998, Deinigner 2003).

Despite the considerable attention devoted to property right regimes and changes in these regimes, conclusive information about the relationship between different regimes and natural resource and livelihood outcomes remains evasive. A recent extensive review of literature on the relationship between tenure and forest cover concludes that "globally, the relationship between tenure regime and forest cover change is mixed and there is no clear evidence to suggest that a specific tenure type will ensure forest conservation" (Aryal and Pokharel 2011, p. 7). However, the review also found that tenure security, including enforcement and monitoring aspects, and local rule-making were strongly related to improved forest cover.

A large body of research has focused on the recent changes in forest tenure, especially the devolution of forest rights to communities and smallholders. Overall, the devolution of forest rights has not always led to the improvements predicted by the property rights theory (Edmunds et al. 2003). Community-based resource management has been shown to result in improved management of natural resources and increased benefits to local actors in some locations (see e.g. Dev et al. 2003 for Nepal and Beaucham and Incram 2011 for Cameroon) but not in others. One explanation is that the devolution polices have not led to substantive changes in decision-making rights and benefit-sharing arrangements (Agrawal and Ostrom 2001, Larson and Dahal 2012). Also, in order to benefit from forests, those who hold rights must also have the capacities, know-how, and technologies necessary for obtaining benefits (Ribot and Peluso 2003), and these are often lacking.

In many countries the legal framework that defines rights to natural resources (constitution, laws, and lower-level regulations) has not been created or developed in a vacuum; instead, it has been overlaid on existing rule structures that are based on customary systems. Diverse customary resource management systems continue to prevail in rural areas

in many countries. For example, while almost all land is formally under government ownership and administration in Africa, de facto land ownership is still dominantly based on customary tenure systems (Alden Wily 2012, Larson and Dahal 2012). More recently, government policies in some countries have instituted forest management built on customary regimes or introduced new management arrangements based on communities or user-groups. However, overlapping statutory and customary land tenure and resource management systems leading to competing claims and conflicts often undermine the security of both systems (Christy et al. 2007).

3.1.2 Common pool resources and collective action

The discourse on forest tenure and devolution of forest rights to local actors is closely related to discourses on common pool resources and collective action. Collective action is needed for developing rule systems to regulate the use of resources, but at the same time the extent to which decision-making and rule-making are formally devolved to local actors is defined by the prevailing rights regime (Meinzen-Dick et al. 2001).

The commons literature has emphasised the role of transaction costs in the success or failure of community-based resource management (Ostrom 1990, Agrawal 2001). Transaction costs include the costs of collaboration (attending meetings, negotiation, and conflict resolution) and costs related to the enforcement of property rights to natural resources, monitoring of resource use, etc. These are further influenced by the characteristics of the resource and the community. It has been argued that perceived or actual transaction costs can often exceed the benefits of collaboration, thus constraining participation and inhibiting successful resource management (Hanna 1995).

Quite extensive research on common-pool resources management has identified a list of principles that facilitate successful collective action and sustainable resource use. These principles relate to the resource users, resource characteristics, and political-institutional environment. More specifically, conditions that have been related to successful management of common-pool resources, such as forests, include, for example, concurrence between the costs of management (investment of time and resources) and benefits received, participation in designing and modifying rules governing resource use and management, accountable system for monitoring resource use, enforceable sanctions for rule violations, and the existence of low-cost conflict resolution mechanisms (Ostrom 1990, 2004).

While these general principles have been understood for some time, the reality today is that in only few occasions have they been successfully applied or, when applied, have resulted in effective positive change. The principles for designing institutions for specific goals have been criticised for neglecting to recognise that they will not be created in an institutional vacuum. Instead these new institutions will be added or embedded into a historically and socially shaped reality where numerous existing institutions operate. This again directs attention to the locally specific situations and circumstances, including existing rules and norms as well as power inequalities, gender issues, and diverse interests of resource users (de Konig 2011).

3.1.3 Regulatory framework and administration

The formal legal and regulatory framework shapes the options to access, use, and benefit from forest resources. Property rights regime is a crucial part of this framework. However, even when property rights to forest resources have been devolved to local communities or households, the entitlement to exercise property rights can be enabled or constrained by administrative arrangements at various scales (Mahanty et al. 2009). In many countries, especially in the tropics, regulatory frameworks have mostly been designed to steer and control the actions of large-scale corporate actors. Lengthy and complicated processes for getting management plans approved, obtaining licences and permits, and formalising community-based organisations can effectively prohibit communities and smallholders from the benefits of sustainable use of forest resources (de Jong et al. 2010b, Pulhin et al. 2010). Regulatory frameworks have also led communities to turn to illegal practices when formal requirements for forest use and management are found too cumbersome or expensive to fulfil (Colchester et al. 2006). In addition, the lack of implementation and enforcement, illegalities, and corruption undermine forest administration and the effectiveness of the regulatory framework, having important effects on forests, local livelihoods, and local development (Tacconi 2007).

It has also been widely acknowledged that cross-scale and cross-sectorial linkages influence forestry development and forest sustainability. Often, the strongest drivers of forest change originate from outside the forest sector (Galloway et al. 2010). Government policies have an important role in defining whether the regulatory environment enables, encourages, and facilitates collective action and sustainable use of forest resources.

Figure I 3.1 Observing wildlife, Chitwan National Park, Nepal. Ecotourism has in some areas contributed to conservation and provided income to local communities. ©Grid-Arendal/Peter Prokosch (http://www.grida.no/photolib/detail/observing-wildlife-chitwan-national-park-nepal_66a7#)

3.1.4 Economic, social and cultural issues

Forests have long been recognised to contribute to rural livelihoods. People living in forest environments harvest forest products for daily consumption. Many also commonly trade forest products in markets to augment their cash income. The absolute contribution of forests to the overall income varies substantially. According to study that covered 24 developing countries the average share of forest income in total household income is about 22% (Angelsen 2014). Proponents of the possibility of deriving more income maintain that a the contribution to total income (monetary and non-monetary) suggests the scope to boost that proportion by increasing production, developing new value chains, and enhancing the benefits producers of primary forest products capture.

More recently, payments for environmental services (PES), especially for carbon sequestration and storage (REDD+), have been expected to hold great potential for providing monetary benefits to small-scale farmers and communities living in and around forests by compensating them for the environmental services that they produce through conservation or sustainable use of forest resources. To date, however, these expected benefits have not been realised to the degree envisioned, and instances where the local actors have benefitted from PES are mainly limited to specific projects and a few wider government programs (Milder et al. 2010, Tacconi et al. 2013). Institutional aspects, especially tenure and collective-choice institutions, and contractual issues of PES schemes have been found to be crucial in mediating both resource and livelihood outcomes of these schemes (Tacconi et al. 2013). Similarly, developing tourism – ecotourism in particular – has been seen as a way to integrate conservation with the provision of alternative income sources to local actors (Figure I 3.1). The success of these efforts has also been limited. The natural resource and livelihood impacts vary greatly and are location specific, depending not only on the attractiveness of the natural resource but also institutional, social, and economic issues, and the quality of services provided (Sakata and Prideaux 2013).

There are, however, arguments against the forest income-improvement model. Some key issues are 1) the poor competitiveness of forest products, for which often more attractive alternatives exists; 2) important local differences in forest dependency and total forest incomes, with subsequent limitations of those in the lower-income groups to benefit from new forest-related economic opportunities; and 3) limited opportunities to expand forest-based economic activities beyond the forestry sector, resulting in the syndrome of the forestry trap (Sunderlin et al. 2005). Commentators have observed that communi-

ty-forestry support initiatives will only contribute to significant changes if they focus on high value forest products with an established national or international value chain (Pokorny et al. 2009).

The existing scholarship emphasises the role of perceived benefits in guiding the use and management of natural resources. The benefits can be either tangible or intangible, for instance, production for subsistence use or for sale, soil stabilisation, or upholding cultural and spiritual values. For different actors, individuals, communities, or companies, etc., to invest time, labour, and funds in sustainable resource management and conservation, they must perceive that they will be able to enjoy the fruits of these investments. This directs our attention to the benefit-sharing arrangements in national forests between the state and local actors. In many cases, policies that have aimed at increasing community participation in forest management and conservation have mostly compensated community members for the labour they have invested in protection and management activities (Edmunds et al. 2003).

In order to benefit from forests, those who hold rights must also have the capacities, know-how, and technologies necessary for obtaining benefits (Ribot and Peluso 2003). The focus, then, is on the ability of local actors to access capital and markets and to technological, managerial, and leadership skills that shape the opportunities for realising the potential of forests to contribute to local livelihoods. Development of small- and medium-sized forest enterprises, improving market access, and developing forest-based value chains as well as capacity-building in different aspects of forest management have been central to efforts to harness the potential of forest resources to contribute to local livelihoods and improve sustainable resource management.

In addition, in recent years community forestry observers have pointed out imbalances in values between forest dwellers and actors promoting forest-based rural development initiatives. The latter hold, although not always in very explicit terms, values commonly shared among members of mainstream society. These include values related to work ethics, capital accumulation, and sharing and social responsibility that may be fundamentally different than those held by the supposed beneficiaries of forestry support initiatives (Gasché and Vela Mendoza 2012). For some, these underlying contradictions characterising forestry development promoters and the supposed beneficiaries of their efforts largely explain the limited success of many such initiatives (de Jong et al. 2010b, Gasché and Vela Mendoza 2012).

The values and practices found in various locations are an integral part of the traditional (or local) knowledge that has guided the use and management of forest resources by local smallholders and communities for generations. The important role of traditional knowledge is increasingly recognised by the scientific and policy communities, and conservation and development organisations. This has been supported by the general increasing acknowledgment of different environmental, social, and cultural forest values. Yet, as concluded by Trosper and Parrotta (2012), a lack of understanding of traditional knowledge still prevails. The authors maintain that traditional and scientific knowledge should be considered as complementary in efforts to develop sustainable, locally adapted forest-management approaches.

Forest values and practices are also often gender specific. Women and men typically have different knowledge, roles, uses, and practices in relation to forest. Policies and development interventions can thus have disparate effects on men and women. Gender issues and the situation of disadvantaged or marginalised groups feature prominently in the efforts to involve and empower all actors in natural resource-related decision-making and benefit-sharing. Increasing participatory governance, where different stakeholders have a voice in decision-making and empowerment of marginalised groups, has been linked to sustainable resource management (e.g. Persha et al. 2011), but the inadequate resolution of conflicting interests appears to inhibit progress, even where participation has significantly improved.

Power relations between different stakeholders participating in forest-related decision-making processes are also important in explaining outcomes of policies or other kinds of interventions meant to promote sustainable resource management. Frameworks to analyse and explain power emphasise the role of institutions in distributing power across social groups and mediating access to decision-making (for historical institutionalism, see Hall and Taylor 1996) or highlight the mechanisms through which actors try to influence the debates and subsequent decision-making (for discourse theory, see Winkel 2012). Analysis of opposing discourses is nowadays a common tool to capture power (im)balance, and local communities themselves have learned to develop their own discourse (Medina et al. 2009).

3.1.5 Natural resource base

The natural resource base, i.e. the extent and condition of forest and tree resources, define to a significant degree the ecological restrictions for forest management and use and thus the options to manage forests for subsistence or commercial purposes. These options are further shaped by the interaction between the human and the ecological systems, particularly the diverse needs for forest goods and services and the role of forests in local livelihood strategies.

Forest-related polices or their enforcement and the way they are implemented are also often influenced by the condition and extent of forest resources, especially the commercial value of these resources. For example, in many countries, devolution policies have focused mainly on devolving to local actors the rights to degraded forests or bare lands, while commercially valuable forest areas have remained in state control (e.g. Dahal 2003 for Nepal).

3.1.6 International processes

The widely accepted global importance of forests for providing diverse goods and environmental services together with concerns for the sustained production of these goods and services have led to international efforts to increase sustainable use and conservation of forests. International processes can influence national level policies and behaviour at national or local levels through different pathways: international rules, international norms and discourses, markets, and direct access to domestic policy-making processes (Bernstein and Cashore 2000).

The international-rules pathway focuses on the influences of international policy-making processes and the resulting legally binding rules and regulations. The international norms and discourse pathway centres attention on "norms embodied in institutions or informed by broader practices of global governance" (Bernstein et al. 2010, p. 112). This pathway encompasses, for example, the dominant discourse of SFM and the discourses on "good forest governance," participation, decentralisation, tenure reform, and corruption. The market pathway embodies processes that attempt to influence policy change through market mechanisms. It includes such avenues as boycott campaigns, environmentally sensitive markets, and certification systems. Finally, the direct access to domestic policy processes encompasses for example efforts of donor agencies, non-governmental organisations, educational institutions, and foreign governments to shape national policies through financial resources, expertise, technical knowledge, and training (Bernstein et al. 2010). Knowledge on the extent of influences and the pathways through which international influences have affected or permeated national policies and/or directly affected behaviour at the local level is for the most part lacking. However, the influences of international forest-related governance processes on national and local levels can be expected to vary according to socio-economic and natural conditions and power relations within the different entities and among stakeholders exercising authority over forests.

3.1.7 Need for a holistic approach

The previous discussion clearly emphasises the importance of local social, cultural, economic, political, and environmental conditions in resource management and use and in mediating the influences and outcomes of different interventions that aim at instituting sustainable resource management. The influences shaping natural resource management originate at different scales, from local to global, and often originate from other economic or political sectors, indicating the need for interdisciplinary approaches focusing on the diversity of conditions affecting resource management across scales. It has also become clear that the different conditions for SFM interact in complex ways. The complexity of issues affecting the use and management of forest resources and related outcomes and trade-offs has been acknowledged, and even though most scholarship has focused on some particular aspects of sustainable resource management, some efforts have been made to develop more integrated approaches. For example, Sayer and Campbell (2001) recognise the complexity of natural resource systems and call for a new integrated research approach including integration across scales, components, stakeholders, and disciplines.

The analytical framework presented in section 3.2 was developed in an effort to move towards a more integrated and holistic approach in analysing the different conditions that seem to influence forest resources management, and in particular, associated forest and livelihood outcomes.

3.2 An analytical framework for SFM

On the basis of the results and conclusions from the previous WFSE publications and the current scholarship summarised briefly in the previous section (3.1), we identified what might be termed "prerequisite conditions (PC)" for progress in SFM. By concentrating attention on these PCs, we seek to shed light on how the presence, absence, and interaction among these PCs have influenced SFM in the case studies. The conditions of interest are distributed among four broad groups: *policies, institutions and governance; livelihoods, capacities, cultural and socio-economic aspects*; *natural resource base*, and *research and monitoring*. These categories consider the realities of forest users who attribute diverse values to forests, including economic interests and cultural values. For analytical purposes, they are presented here as different categories though in practice the different conditions interact in complex ways (Figure I 3.2). These conditions and the interaction among

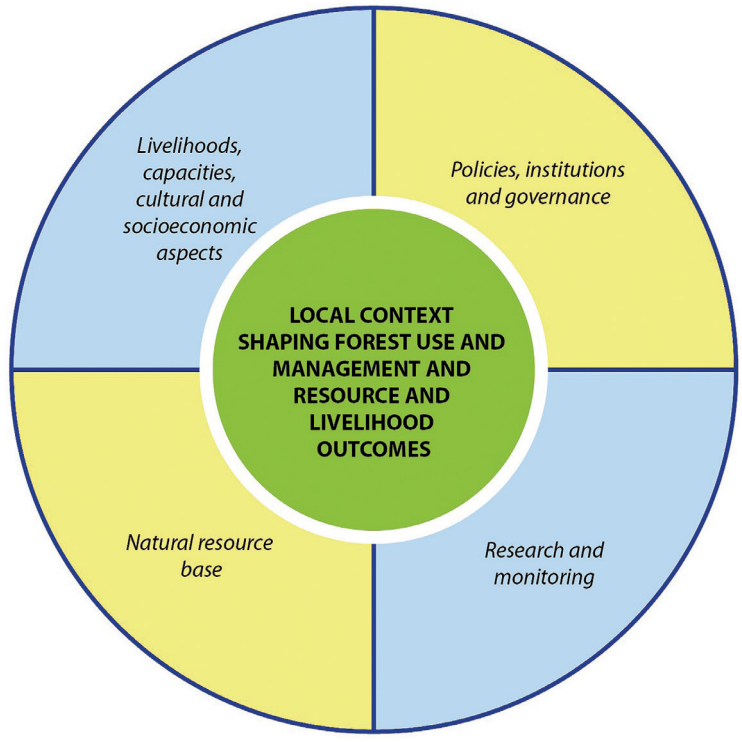

Figure I 3.2 Analytical framework for the case studies.

them are considered to be important in defining the circumstances that influence the use and management of forest resources and related outcomes. The outcomes of interest are those related to livelihoods and forest extent and condition.

The way forest users interact with forests is, in addition to the economic and cultural conditions, influenced by social conditions, like for instance the number of forest users in relation to the availability of resources, economic stratification and power relations, and by capacities, whether resulting from education or experience. These aspects are grouped under *livelihoods, capacities, cultural, and socioeconomic aspects*.

The multiple and oftentimes contradictory societal demands exceed the capacity of the world's forests to provide forest goods and services, so societies have devised regulatory mechanisms to restrain appropriation of tangible and intangible goods and services. The conditions related to the regulatory mechanisms are captured under the category *policies, institutions, and governance*. Institutions include formal rules, laws, other regulations, and policies as well as non-written agreements, norms, and codes of conduct. Where formal institutions are in place, public administration is needed to put them in practice. Policy-making is an important dimension of public administration. While the previous representation mostly suggests public administration of forests at the national or sub-national level, there is an equivalent at the municipal level and, oftentimes, at the community level, where rules to regulate forest use and their enforcement and sanctioning are devised independently of formal regulations or the state administration. The workings of the institutional-policy sphere are conditioned by the prevalent governance mode, which may vary from a top down public administration where bodies that have constitutional or legal authority dominate rule setting or policy formulation and implementation, to self-governance where interested constituencies largely negotiate and come to agreements independently, in which case the constitutional authorities largely supervise that the parties remain within legal boundaries.

The category *natural resource base* brings together a number of factors that ultimately determine the level of productivity (forest products and environmental services) that can be expected from forests. The natural resource base is modified by natural and anthropogenic disturbances. The responses of forests or related biological environments to external impacts are highly influenced by multiple environmental and biophysical conditions, elements such as soil type, climate, type of vegetation and its natural productivity, and ecosystem conditions, compared to its undisturbed natural state. In the case of altered forests, be they forest gardens, forest plantations, or other types of anthropogenic forests, similar environmental and climatic factors, as well as biological factors (such as tree species and species composition) influence how those respond to external impacts.

A final important category of conditions are those that generate the necessary knowledge to support forest management decisions: *research and monitoring*. Knowledge is one key ingredient in achieving sustainable development and in contributing to SFM, and research and monitoring are important in generating relevant knowledge. In addition, a large body of valuable traditional and local knowledge related to natural resources has been accumulated through practice and custom. This knowledge should be better utilised by bringing together different knowledge systems, the scientific and the traditional systems (Colfer et al. 2005).

We seek to identify what appear to be the most important conditions within the above realms that foster meaningful progress towards forest-related sustainable development and SFM. Biodiversity conservation, maintenance of forest cover and condition, and enhanced livelihoods through forest-based activities are seen as essential outcomes of this progress. We are also interested in how the different conditions and their combinations have changed during the past 20 years and how they (and this change) have affected sustainable forest-related local development and SFM. We are curious both about their individual effects and in how they interact to contribute to processes of interest. We develop these insights inductively in Part III by analysing a number of local initiatives from different regions of the world presented in Part II.

An additional aspect of this analysis is to increase understanding about how the conditions have come to exist in some places but not in others, and what has been the role of international regimes, and other types of normative, ideological, and coercive pressures from beyond the local community.

Part II of this book focuses on local and regional experiences and the conditions that have either enhanced or hindered SFM or sustainable forest-related development at the local level within a significant number of illustrative case studies from around the world. The studies focus on cases where various stakeholders have come together to find solutions to forest-related issues and where considerable efforts have been undertaken to further SFM and economically, socially, and environmentally sustainable forest-related local development. The analytical framework described above guided the case study analyses and helped to classify and review relevant conditions for understanding local on-the-ground forest management and related outcomes. It was further specified by focusing specific attention on the issues addressed in the framework questions in Table I 3.1. However, in each case study special attention was directed to those issues most relevant to that specific context. The analytical framework is also used to structure the development of the synthesis of the case studies in Part III. Important implications for future efforts seeking to advance SFM are drawn based on this synthesis and the analyses of the different prerequisite conditions across cases.

Table I 3.1 Framework questions that guided the case study analyses.

Condition	Question(s)
I Policies, institutions, and governance	
Land tenure and rights to forests and trees	Have there been changes in land tenure regimes and/or in the rights to forests and trees (e.g. with respect to different forest products and services, including carbon sequestration) in the past 20 years? Why were these changes made (justification for the changes) and what if any impacts have resulted from these changes?
Public administration	Have any reforms in public administration been made that affect community and producer efforts to carry out SFM? What regulations and policy instruments have been put into place to encourage/discourage involvement in SFM?
Participation and stakeholder cooperation	What strategies related to participation and stakeholder cooperation are in evidence in forest-related planning and decision-making in your area of study? If present, please describe how these are working.
Issues of power and representation	Can you cite efforts to empower local stakeholders to play a greater role in forest management and conservation and related decision-making? What policies and strategies are being pursued for the purpose of empowering these stakeholders? Are equity and gender issues considered?
Enforcement of laws and regulations	Have efforts been made to reduce illegal logging and other illicit activities related to forests and landscapes and/or promote legality? Can you cite effective efforts related to FLEGT/national mechanisms that have contributed to strengthening legality of the forest sector in the area of your case study? Are efforts being made to address issues of corruption?
Reconciliation of different land uses	Have there been efforts to reconcile different land uses and to address competing land uses, such as agriculture and forestry, energy and forestry, among others? Please describe the most important strategies and initiatives to address intersectorial issues or to encourage appropriate land use (e.g. land use planning or other policies/programs to contribute to the reconciliation of competing land uses).
Long-term societal commitment to SFM	How would you typify the continuity of processes related to SFM in your area of study? What factors have led to marked disruptions of ongoing processes? To what degree are the issues related to forests and forestry evident in the national agenda?
Influences of regional/global processes on forest-related policies and behaviour in the region of your study?	Which regional/global forest-related processes have had an influence in your area of study, particularly in policies and stakeholder behaviour? We would like you to use the framework described in the text to analyse the influences of regional and global forest-related processes and the mechanisms through which these influences have occurred. The framework differentiates four pathways through which international processes may influence policies and behaviour at the national or local level: 1) international rules, 2) international norms and discourses, 3) markets, and 4) direct access to domestic policy-making processes. We would like you to direct special attention to the influences of the following processes: REDD, FLEGT, certification, C&I, CDM, CBD, Millennium Development Goals and economic globalization, but if any other international process has been influential in your region of study, it should be included in the analysis.

II Livelihoods, capacities, cultural and socio-economic aspects	
Contribution of forests and forest resources and services to livelihoods	In a broad sense, how important are forests to local livelihoods in your area of study, considering environmental, economic, and cultural benefits? Are traditional knowledge and cultural links to the forest considered in the development of forestry programs in your area of study?
Commercial opportunities, linkages to markets – value chains	To what extent do local actors benefit economically from their efforts to manage forests and market forest goods and services? Have efforts been made to integrate local producers into improved market opportunities, for example, through the value chain approach or improving the functioning of markets? What results can you cite from these efforts?
Technical, managerial, leadership	Do diverse stakeholders involved in SFM have access to capacity-building and technical assistance? What types of topics are covered in capacity-building programs (for example, technical aspects, business and managerial, leadership, policy, and regulatory aspects, among others)?
Access to capital	How do local actors access capital, either by formal or informal channels? Have efforts been made to create formal mechanisms that provide investment capital to local actors involved in forest-related activities and what have been the result of these efforts? How have investments into forest-related activities impacted traditional uses of forests? Are cultural impacts of "forestry development," in general, in evidence in your area of study?
Security and conflict	Do serious issues of security and conflict characterise your region of study? How have these issues affected efforts to progress in SFM?
The role of industrial forestry	How would you characterise the prevalence of industrial concerns in your region of study? Are these driven by natural forests or plantations? Does the forest industry engage with local communities in ways to foster collaboration?
Landscape or ecosystem management	Do stakeholders involved in SFM in your region of study pursue a landscape level or ecosystem management approach? What have been the most important results of these efforts and what factors have most influenced outcomes to date?
III Natural resource base (biophysical conditions)	
Extent and condition of forest resources	How would you typify the forest resources in your area of study with regards to their potential to provide goods and services demanded by society? How would you typify the tendencies with regard to forest resources (forest area and conditions) in your area of study? What are the major drivers influencing forest extent and condition in your area of study?
Trees outside forests, including agroforestry	To what degree do trees outside forests contribute to the production of goods and services, including ecosystem services?
IV Research and monitoring	
Research programmes	In the area of your case study, is there an ongoing research programme to provide information to SFM initiatives? Are research efforts devoted to social, cultural, economic, technical, and policy dimensions of SFM?
Monitoring programmes	Is a continuous monitoring program in place in your region of study to track outcomes? Is the information generated utilised to redirect ongoing efforts (adaptive management approach)? Are participatory monitoring efforts in evidence involving local stakeholders in the process?
Intersection among diverse policies and institutions "Prerequisite" conditions, policies, and institutions interact in complex ways. These interactions may be synergistic, somewhat neutral, or even antagonistic. We would like you to examine how the aforementioned conditions (present or absent), policies and institutions, including the international processes, are interacting in your region of study and the perceived effect(s) of these interactions in fostering or constraining SFM. Please concentrate attention on norms and instruments employed and vertical and horizontal interactions among policies and institutions.	
Projected future trends in the conditions considered We would like you to consider the likely future trends in relation to the conditions addressed above. What are the projected trends and changes in the aforementioned conditions and what are the projected effects of these trends on forests, progress towards SFM, and local livelihoods?	