3. Forest Management Indicators

Forest management consists of the operational aspects of planning, monitoring, and enforcing various forest uses, including conservation and ecological uses, community uses, and commercial and extractive uses. The forest management indicators are divided into five subthemes:

- **3.1** **Forest legal and policy framework** refers to the policies, laws, and regulations that set the overarching social, environmental, and economic objectives for forest management. They also establish the legal parameters that guide forest management practices.
- **3.2** **Forest strategies and plans** define concrete steps and actions that will be taken to achieve stated forest policy goals. For example, there may be strategies to reduce deforestation, protect biodiversity, or achieve economic growth targets.
- **3.3** **Forest monitoring** includes all efforts to track forest conditions over time, including changes in forest cover and other social, environmental, and economic dimensions of forests.
- **3.4** **Forest management practices** refer to the actions of forest managers – whether they are government agencies, private companies, local communities, or individuals – to plan and execute activities to manage, exploit, and conserve forests.
- **3.5** **Forest law enforcement** refers to efforts to enforce and promote compliance with forest laws and regulations, including through detection of illegal activities, prosecution of offenders, and application of sanctions.

3.1 Forest legal and policy framework

43. National objectives for forest management and conservation

To what extent are there clear national objectives for sustainable management and conservation of forests?

Indicator Guidance:

This indicator assesses whether the laws and policies that govern forests include clear objectives for how forest resources will be managed. Forest sector objectives are often included in national forest policies, action plans, or forest laws and regulations themselves. To apply this indicator, researchers should review all relevant law and policy documents for priorities and objectives.

Element of Quality	Guidance
1. Consistency. Major forest policies and laws are consistent with broader national development goals.	National priorities may be set out in national development plans, strategic plans for other land use sectors (e.g., mining, infrastructure), or plans to reduce poverty or increase food security. Researchers should review whether objectives in forest policy and law are consistent with national development goals. For example, they may assess whether economic development strategies are likely to impact forest sector objectives (e.g., by requiring forest clearing), or whether poverty reduction strategies include forest-dependent groups.
2. Coordination. Major forest policies and laws consider linkages with other economic sectors that impact forests.	Researchers should review whether forest policies and laws reference or link to other economic sectors that impact forests, such as agriculture, mining, energy, infrastructure, or ranching. For example, policies and laws may discuss information sharing, coordination bodies, or general goals of collaboration.
3. Sustainable exploitation. Major forest policies and laws set clear objectives for the sustainable management and exploitation of forest resources.	Researchers should review whether policies and laws include objectives of sustainable management and exploitation of forest resources. For example, forest laws may state that forests are to be maintained for use by future generations. Researchers should also note whether goals of sustainability are clearly defined within the legal framework.
4. Conservation. Major forest policies and laws set clear objectives for forest protection and conservation.	Researchers should review whether policies and laws include conservation objectives. For example, by setting a target area for forest land that should be conserved, putting in place a system of protected areas, or setting objectives to reduce deforestation.
5. Economic development. Major forest policies and laws set clear objectives for economic development of the forest sector.	Researchers should review whether policies and laws include development objectives. For example, they may aim to promote extraction of forest products, create forest sector jobs, support small and medium forest enterprises, or facilitate development of the forestry industry (e.g., processing facilities, value added products).
6. Respect of rights. Major forest policies and laws set clear objectives for recognizing the rights of local communities and indigenous peoples.	Researchers should review whether policies and laws include clear objectives related to recognizing the rights of forest communities and, where relevant, indigenous peoples. For example, they may recognize customary claims of these groups to forest resources, or grant certain types of property rights (e.g., access, use, management, ownership).

43. National objectives for forest management and conservation		
Object of assessment:		
EOQ	Y/N	Explanation
Consistency		
Coordination		
Sustainable exploitation		
Conservation		
Economic development		
Respect of rights		
Additional notes:		

Values	**Select**
Not applicable/assessed	
Zero to one elements of quality	Low ___
Two elements of quality	Low-Medium ___
Three elements of quality	Medium ___
Four elements of quality	Medium-High ___
Five or more elements of quality	High ___

Documentation:	
Researcher name and organization:	
Secondary sources: Record the following: document or source title, author or organization, date published, chapter or page, website (if relevant)	
Primary sources: For each of the above conducted, record: - Interviewee/participant name(s) and title - Institution/company/organization -Location and date of interview	

44. Legal basis for reviewing forest policies and laws
To what extent does the legal framework provide for periodic review of forest policies and laws?

Indicator Guidance:
This indicator assesses whether there are clear rules to ensure that forest policies and laws are reviewed and updated on a regular basis through a high-quality process. To apply this indicator, researchers should review the forest law and associated regulations.

Element of Quality	Guidance
1. **Review requirements**. The legal framework requires review of forest policies and laws at regular and appropriate intervals.	Researchers should identify requirements for how often forest laws, policies, and regulations are updated. Intervals should be reasonable considering available resources to review existing laws and implement new changes, which may require new trainings for forest agency staff. In addition, they should not be updated so often that frequent changes create confusion for forest managers.
2. Coordination requirements. The legal framework requires the forest agency to coordinate with other sector agencies when reviewing forest policies and laws.	Researchers should identify any rules requiring the forest agency to coordinate with other agencies during review of forest laws, policies, and regulations. Relevant government agencies and institutions may include the legislature, the environment agency, the agency in charge of land affairs, and agencies responsible for mining, agriculture, energy, and infrastructure.
3. Scope requirements. The legal framework requires consideration of economic, social, and environmental forest values when reviewing forest policies and laws.	Researchers should identify any rules related to the type of information that should be considered during review of forest policies, laws, and regulations. Key information is likely to include economic information on forest products and services; social information on livelihoods and current land uses; and environmental information on forest cover, biodiversity, and health of the forest ecosystem.
4. Participation requirements. The legal framework requires public participation in the review of forest policies and laws.	Researchers should identify rules requiring public participation in the review of forest laws, policies, and regulations. Such requirements may be found in the forest law, environment laws, or general laws that require public participation in decision-making.

44. Legal basis for reviewing forest policies and laws		
Object of assessment:		
EOQ	Y/N	Explanation
Review requirements		
Coordination requirements		
Scope requirements		
Participation requirements		
Additional notes:		

Values	**Select**
Not applicable/assessed	
Zero to one elements of quality	Low ___
Two elements of quality	Medium ___
Three elements of quality	Medium-High ___
Four elements of quality	High ___

Documentation:	
Researcher name and organization:	
Secondary sources: Record the following: document or source title, author or organization, date published, chapter or page, website (if relevant)	
Primary sources: For each of the above conducted, record: - Interviewee/participant name(s) and title - Institution/company/organization -Location and date of interview	

45. Legal basis for forest management planning
To what extent does the legal framework provide for effective forest management planning in both public and private forests?

Indicator Guidance:
This indicator assesses the legal framework governing the use, management, and conversion of public and private forests. To apply this indicator, researchers should review the forest law and any regulations that describe requirements for how forest resources are managed. Such requirements will likely describe how contract holders (e.g., concessions and other permits) manage the resources granted to them via contract. In countries with private forest ownership, researchers should also review any rules that private land owners with forests on their property must adhere to.

Element of Quality	Guidance
1. **Planning requirements (public forests)**. The legal framework requires management plans in public forests that have been classified or allocated for use.	Researchers should review whether rules require management plans in public forest that are classified or allocated for use. Rules should clearly identify the different types of classifications, contracts, or permits that require management plans. They should also provide clear requirements for how management plans are submitted, reviewed, approved, and monitored.
2. Planning requirements (private forests). The legal framework requires management plans in privately owned forests.	If private ownership of forests exists in the country of assessment, researchers should review whether rules require management plans in privately owned forests. They should also provide clear requirements for how management plans are submitted, reviewed, approved, and monitored.
3. Inventory requirements. The legal framework requires that management planning utilize up-to-date information about forests based on periodic forest inventories.	Researchers should assess legal requirements for management planning to evaluate the information that should be covered in plans. For example, rules may require contract-holders or private forest owners to conduct inventories or rapid assessments of their forest resources as part of the management plan.
4. Differentiated requirements. The legal framework differentiates management planning requirements based on the type of forest use and user.	Researchers should assess whether and how management planning requirements are differentiated according to the type of contract or category of resource user. Requirements may vary according to the resources and capacity of the user group. For example, under Cameroon's community forest management procedures, community management plans have simpler requirements than management plans for forest concessions.
5. Scope requirements. The legal framework requires that management planning take into account all social, environmental, and economic functions of forests.	Researchers should assess whether rules define comprehensive requirements for what is included in management plans. Detailed management plans may require technical information such as tree size, regeneration rates, and spatial plans for the management area, as well as integration of social and conservation information. Management planning rules may also require an impact assessment.
6. Update requirements. The legal framework requires that management plans be updated at appropriate intervals.	Researchers should identify how often management plans for public forests and private forests (if relevant) should be updated. Management plans should be updated frequently enough that any major changes in management practices or the resource base are reflected.

45. Legal basis for forest management planning		
Object of assessment:		
EOQ	Y/N	Explanation
Planning requirements (public forests)		
Planning requirements (private forests)		
Inventory requirements		
Differentiated requirements		
Scope requirements		
Update requirements		
Additional notes:		

Values	**Select**
Not applicable/assessed	
Zero to one elements of quality	Low ____
Two elements of quality	Low-Medium ____
Three elements of quality	Medium ____
Four elements of quality	Medium-High ____
Five or more elements of quality	High ____

Documentation:	
Researcher name and organization:	
Secondary sources: Record the following: document or source title, author or organization, date published, chapter or page, website (if relevant)	
Primary sources: For each of the above conducted, record: - Interviewee/participant name(s) and title - Institution/company/organization -Location and date of interview	

46. Legal basis for harvesting forest products
To what extent does the legal framework stipulate appropriate standards and controls for harvesting timber and nontimber forest products, consistent with principles of sustainable forest management?

Indicator guidance:
This indicator assesses whether forest laws and regulations set standards and controls for harvesting forest products. Researchers should review the forest law, regulations governing forest management practices, as well as any procedural manuals or other guidelines set out in the legal framework. In order to assess the overall quality and appropriateness of controls, researchers may also wish to interview independent forestry experts.

Element of Quality	Guidance
1. Timber controls. Appropriate controls govern the harvesting of timber.	Researchers should review technical guidelines governing timber extraction, which may include rules governing several different types of forest contracts or requirements for management plans. Examples of controls on timber harvesting may include extraction quotas for certain species, controls on harvesting trees under a certain diameter, age, and/or height, annual allowable cut limits, or prohibitions on harvesting in certain areas such as riparian zones.
2. Nontimber forest product controls. Appropriate controls govern the harvesting of nontimber forest products.	Researchers should review technical guidelines governing the harvesting of nontimber forest products (NTFPs). Examples of controls may include limits on the volume of NTFPs that can be extracted over a given a time period, or prohibitions on NTFP extraction in high conservation value areas. Rules may also govern whether extraction of NTFPs can be for commercial purposes.
3. Capacity. Harvesting controls are generally consistent with capacities for implementation and enforcement.	Researchers should review whether harvesting controls for different forest products and types of contracts are appropriate given the capacity of those extracting the resource. In addition, they should assess whether controls are enforceable given the capacity of the forest agency to conduct field inspections. For example, complex controls requiring significant measurement or identification of species and products may be time and resource intensive.
4. Conversion controls. Appropriate controls govern forest conversion, including requirements for restoration.	Researchers should review rules governing forest clearing to determine whether there are adequate controls in place. Examples of controls may include requiring permits or other contracts for clearing in public or private forests, requirements related to recovering the timber cleared from the forest, prescriptions about acceptable methods of forest clearing, requirements for impact assessments, or restrictions on clearing in areas with high conservation value, fragile or uncommon ecosystems, riparian zones, or key habitat for protected species.

46. Legal basis for harvesting forest products		
Object of assessment:		
EOQ	Y/N	Explanation
Timber controls		
Nontimber forest products		
Capacity		
Conversion controls		
Additional notes:		

Values	**Select**
Not applicable/assessed	
Zero to one elements of quality	Low ___
Two elements of quality	Medium ___
Three elements of quality	Medium-High ___
Four elements of quality	High ___

Documentation:	
Researcher name and organization:	
Secondary sources: Record the following: document or source title, author or organization, date published, chapter or page, website (if relevant)	
Primary sources: For each of the above conducted, record: - Interviewee/participant name(s) and title - Institution/company/organization -Location and date of interview	

47. Legal basis for community participation in forest management
To what extent does the legal framework facilitate community participation in forest management?

Indicator Guidance:
This indicator assesses whether there are legal mechanisms through which forest communities can participate in forest management activities. Community participation in forest management may range from forest agency efforts to consult communities in management of nearby forests, all the way to granting secure, long-term management rights to communities to manage timber or other forest resources. Researchers should review all forest laws and regulations that establish communities' roles in forest management activities. This may include laws related to participation in forest or environmental decision-making broadly, concession allocation, and specific laws on community management.

Element of Quality	Guidance
1. **Participation requirements**. The legal framework requires public forest managers to engage local communities in forest management planning and operations.	Researchers should identify rules requiring managers of public forests (e.g., local forestry officials, concession, and other contract holders) to engage local communities in forest management planning and operations. Researchers should evaluate whether the participation requirements in place are sufficiently strong to ensure that community feedback is reflected in management decisions, for example by emphasizing feedback in early stages of planning rather than requiring information sharing of the final plan as a formality.
2. Participation platforms. The legal framework establishes permanent structures to facilitate community participation in local forest management activities.	Researchers should identify whether rules identify dedicated mechanisms to facilitate community input into forest management planning and operations. Examples may include community liaisons or community committees. Researchers should also review the rules governing these mechanisms to assess how liaisons are tasked with interacting with the community as well as the forest manager. For example, whether community representatives are selected by the community itself and required to provide regular updates to community members.
3. Community-based approaches. The legal framework promotes community-based forest management approaches.	Researchers should assess whether rules provide options for direct community management of forest resources. Examples may include granting management rights to forest communities, as well as joint management opportunities. For example, Tanzania's legal framework allows for Community Based Resource Management in which villages can legally establish rights to forested areas, as well as Joint Forest Management in which forest management responsibilities in reserves are shared between communities and government.
4. Extension programs. The legal framework establishes financial assistance and extension programs to facilitate community-based forest management approaches.	Researchers should assess whether rules establish financial and technical assistance programs to support community participation in forest management. Such programs may also be set out in forest sector programs or policy documents.

47. Legal basis for community participation in forest management		
Object of assessment:		
EOQ	Y/N	Explanation
Participation requirements		
Participation platforms		
Community-based approaches		
Extension programs		
Additional notes:		

Values	**Select**
Not applicable/assessed	
Zero to one elements of quality	Low ___
Two elements of quality	Low-Medium ___
Three elements of quality	Medium ___
Four elements of quality	Medium-High ___
Five elements of quality	High ___

Documentation:	
Researcher name and organization:	
Secondary sources: Record the following: document or source title, author or organization, date published, chapter or page, website (if relevant)	
Primary sources: For each of the above conducted, record: - Interviewee/participant name(s) and title - Institution/company/organization -Location and date of interview	

48. Legal basis for biodiversity conservation
To what extent does the legal framework promote the protection of biodiversity?

Indicator Guidance:
This indicator should be applied to all legal documents governing biodiversity protection in the country of assessment. Relevant laws may include the forest law, environment law, or dedicated laws on biodiversity or endangered species if they exist. Researchers should also review whether the country of assessment has signed onto or ratified any international agreements related to biodiversity protection or trade. For example, the Convention on Biological Diversity (CBD), the Nagoya Protocol[11], the Convention on International Trade in Endangered Species (CITES), or Forest Law Enforcement, Government, and Trade Voluntary Partnership Agreements (FLEGT VPA).

Element of Quality	Guidance
1. Forest protection. The legal framework establishes designated areas for forest protection and conservation of biodiversity.	Researchers should review how rules protect forests and their biodiversity. Examples may include establishing different types of protected areas in forested ecosystems, such as national forests, nature reserves, species or habitat management areas, protected use areas, or protected biological corridors. Rules may also set a target for the area of national forests that should be classified as protected.
2. Species protection. The legal framework contains provisions for the protection of endangered, rare, or threatened species of flora and fauna.	Researchers should review whether rules protect endangered, rare, or threatened species of flora and fauna from unsustainable levels of poaching or extraction. Rules may define different terms for protected species (e.g., vulnerable, critically endangered). Regardless of terminology, they should define categories of protection, identify which species are protected under each category, and provide clear rules on what types of prohibitions and controls are in place for each category.
3. Trade controls. The legal framework controls the trade of endangered, rare, or threatened forest-dependent species of flora and fauna.	Researchers should review whether there are rules in place to protect trade of endangered, rare, or threatened species of flora and fauna. Rules should identify protected species as well as control whether they can be sold or exported. Countries that have signed onto CITES may use the Convention's Appendix system[12] to specify the level of trade protection.
4. Biodiversity database. The legal framework requires a regularly updated national database of biodiversity and genetic resources.	Researchers should identify whether rules establish a national database of biodiversity and genetic resources. Such a database may be part of a national biodiversity monitoring system that tracks species, habitats, ecological communities, and genetic diversity.
5. Forest definitions. The legal framework provides clear definitions that distinguish plantations and forests.	Researchers should assess whether rules establish a legal definition of forest land. While definitions may vary, they should exclude classifying monoculture plantation forests in the same category as primary or secondary forest area.
6. Invasive species control.	Researchers should identify whether rules establish regulations

[11] See: http://www.cbd.int/abs/
[12] CITES uses a system of three lists, called Appendices, to classify approximately 5,000 animal and 29,000 plant species whose trade is restricted by the treaty. Each Appendix groups species according to the level of threat and subsequent controls on trade and export. More information on CITES and the Appendix system is available here: http://www.cites.org/.

The legal framework contains clear regulations to control the spread of invasive species.	related to control of invasive or non-native species. Rules could include restrictions on importing non-native plants, animals, or soils into the country, activities to suppress non-native species in management plans, or prohibitions on intentional planting of invasive or non-native species.
7. Penalties. The legal framework defines clear penalties for failing to comply with biodiversity protection measures.	Researchers should review rules setting out penalties for failure to comply with measures to protect biodiversity. Penalties may include fines or jail time for activities such as poaching, illegal logging of endangered or controlled species, illegal sales of restricted species, or illegal activities (e.g., forest clearing, mining) in protected areas). Penalties should be tied to the nature and severity of the infraction.

48. Legal basis for biodiversity conservation		
Object of assessment:		
EOQ	Y/N	Explanation
Forest protection		
Species protection		
Trade controls		
Biodiversity database		
Forest definitions		
Invasive species control		
Penalties		
Additional notes:		

Values	**Select**
Not applicable/assessed	
Zero to one elements of quality	Low ____
Two elements of quality	Low-Medium ____
Three elements of quality	Medium ____
Four elements of quality	Medium-High ____
Five or more elements of quality	High ____

Documentation:	
Researcher name and organization:	
Secondary sources: Record the following: document or source title, author or organization, date published, chapter or page, website (if relevant)	
Primary sources: For each of the above conducted, record: - Interviewee/participant name(s) and title - Institution/company/organization -Location and date of interview	

3.2 Forest strategies and plans

49. Existence of forest strategies and plans

To what extent are national forest management and conservation objectives supported by clear strategies and plans?

Indicator Guidance:

This indicator assesses whether there is a national forest strategy or action plan in place that supports forest management and conservation objectives. A country may have a single strategy such as a National Forest Programme[13], or there may be multiple strategies targeted to different objectives (e.g. biodiversity conservation, valuing ecosystem services). Researchers should identify and review all relevant forest sector strategies or action plans to assess whether they address the elements of quality below.

Element of Quality	Guidance
1. **Sustainable management**. A clear strategy exists for promoting sustainable management and exploitation of forest resources.	Researchers should review strategy documents to determine whether they include objectives related to long-term, sustainable management of forests. For example, strategies may regulate extraction of forest products to promote regeneration that will allow the resources to be sustained over time (e.g., restricting annual allowable cuts of harvested tree species to maximum sustainable yield[14]). Strategies may also promote improved forest management practices through incentives for reduced impact logging or forest certification.
2. **Conservation**. A clear strategy exists for protecting and conserving forests, including biodiversity and ecosystem services.	Researchers should review strategy documents to determine whether they include conservation objectives. These may include conservation of specific forest ecosystems, protection of areas with high biodiversity or conservation value, or conservation of ecosystem services. Strategies may create protected areas, set targets for conservation or biodiversity protection, or create conservation incentives programs.
3. **Economic development**. A clear strategy exists for promoting economic development of the forest sector.	Researchers should review whether strategy documents include economic development objectives for the forest sector. For example, strategies may promote creation of incentives to expand the domestic wood processing industry, add value to extracted forest products, create jobs, or generate revenue for the government through a forest charge system.
4. **Recognition of rights**. A clear strategy exists for recognizing and supporting the rights and interests of forest-dependent communities.	Researchers should review whether strategy documents include provisions to recognize rights. Strategies for recognizing rights may include tenure reform, land regularization, support for formalizing management or use rights of forests, or co-management programs.

[13] See http://www.fao.org/forestry/nfp/en/

[14] Maximum sustainable yield can be defined as the maximum level at which a natural resource can be routinely exploited without long-term depletion.

49. Existence of forest strategies and plans		
Object of assessment:		
EOQ	Y/N	Explanation
Sustainable management		
Conservation		
Economic development		
Recognition of rights		
Additional notes:		

Values	**Select**
Not applicable/assessed	
Zero to one elements of quality	Low ___
Two elements of quality	Medium ___
Three elements of quality	Medium-High ___
Four elements of quality	High ___

Documentation:	
Researcher name and organization:	
Secondary sources: Record the following: document or source title, author or organization, date published, chapter or page, website (if relevant)	
Primary sources: For each of the above conducted, record: - Interviewee/participant name(s) and title - Institution/company/organization -Location and date of interview	

50. Quality of forest strategies and plans
To what extent are forest strategies and plans well-designed and implementable?

Indicator Guidance:
This indicator evaluates the design of a specific forest sector strategy to assess whether it is realistic and based on high-quality information. It should be applied to the same forest strategy assessed in Indicator 49. Researchers should review the content of the strategy and conduct interviews with stakeholders who participated in strategy development, including government staff responsible for drafting the strategy.

Element of Quality	Guidance
1. Consistency. The strategy is consistent with overarching national development objectives.	Development goals may include poverty alleviation, increased food security, environmental sustainability, increased jobs, economic growth, or improved delivery of services (e.g., education, health, sanitation). In many countries, these objectives can be found in national strategies related to economic development, sustainable development, or other long-range planning documents.
2. Information basis. The strategy is based on up-to-date and accurate information.	Researchers should review whether the information presented in the strategy is accurate and reflects current biophysical, social, and economic conditions that are relevant to the focus of the new strategy. For example, a new strategy to encourage more small and medium forest enterprises (SMEs) would need to incorporate analysis about the historical and current performance of SMEs and barriers to their entry into the market that should be addressed. Researchers should identify any new studies or existing analysis that was used to develop the strategy in order to assess the quality of the information.
3. Implementation timeline. The strategy includes a clear timeline for implementation.	Researchers should assess whether the strategy includes a clear statement of the time period over which the strategy will be implemented. In addition, the implementation timeline should identify time bound milestones or deliverables that will be completed during strategy implementation.
4. Implementation authority. The strategy establishes clear institutional roles and responsibilities for implementation and oversight.	Forest strategies are likely to be implemented by multiple institutions across national and local scales. Researchers should assess whether the strategy clearly identifies which institutions are involved in implementation, defines separate roles and responsibilities for each, and indicates which institution is responsible for implementation and oversight of the strategy in its entirety.
5. Capacity. The strategy is consistent with institutional capacities for implementation.	The activities set out in the strategy document should be consistent with the ability of the responsible institution(s) to implement them. Researchers should assess whether the relevant institution(s) have financing, personnel with relevant expertise, and technical resources to carry out their responsibilities. This information could be obtained through interviews with agency staff, review of past agency performance on similar activities, or in the strategy document itself.
6. Transparency. The strategy is publicly available in relevant	Researchers should identify whether and how strategies are disclosed to evaluate accessibility. In general, multiple forms of

languages.	disclosure (e.g., web, print, summary flyers) are considered more accessible. If documents are only available upon information request or through informal contacts, they should not be considered available to the general public. If the country of assessment has multiple national languages, researchers should also assess the availability of the forest strategy in relevant languages.

50. Quality of forest strategies and plans		
Object of assessment:		
EOQ	Y/N	Explanation
Consistency		
Information basis		
Implementation timeline		
Implementation authority		
Capacity		
Transparency		
Additional notes:		

Values	**Select**
Not applicable/assessed	
Zero to one elements of quality	Low ___
Two elements of quality	Low-Medium ___
Three elements of quality	Medium ___
Four elements of quality	Medium-High ___
Five or more elements of quality	High ___

Documentation:	
Researcher name and organization:	
Secondary sources: Record the following: document or source title, author or organization, date published, chapter or page, website (if relevant)	
Primary sources: For each of the above conducted, record: - Interviewee/participant name(s) and title - Institution/company/organization -Location and date of interview	

51. Creation of economic incentives for sustainable forest management
To what extent do forest strategies and plans create appropriate economic incentives for sustainable forest management?

Indicator Guidance:
This indicator assesses whether forest strategies and plans create economic incentives to promote sustainable management of forests. Examples of economic incentives include payments for environmental services (PES) programs or tax breaks for concessionaries. Researchers should review forest strategy documents assessed in Indicator X and Y to evaluate the types of economic incentives put in place. Researchers should also interview experts such as forest economists or government staff who drafted the strategy to collect information on the design of incentives.

Element of Quality	Guidance
1. Timber. Incentives encourage timber extraction at or below sustainable levels.	Researchers should review whether economic incentives exist to promote sustainable levels of timber extraction. Sustainable extraction may be defined by extraction that is at or below maximum sustainable yield for commercially harvested species. Other incentives may include promoting participation in certification programs (e.g., Forest Stewardship Council, Programme for the Endorsement of Forest Certification) that seek to create a price premium for sustainably managed resources. For example, the government of Peru offers a 25% reduction in forest fees and exemption from certain inspections for concessions that are FSC certified.
2. Nontimber forest products. Incentives encourage extraction of nontimber forest products at or below sustainable levels.	Researchers should review whether forest strategies create incentives related to extraction of nontimber forest products. Often these may focus on incentives to commercialize nontimber forest products by facilitating access to permits or markets.
3. Supply chains. Incentives for timber operations and processing facilities attempt to align timber supply and demand.	Researchers should review whether forest strategies include incentives to align timber supply and demand in order to avoid unsustainable levels of extraction. Examples of incentives may include taxes or subsidies that discourage unsustainable harvesting practices, efforts to control the number of processing facilities, or log export bans to encourage domestic processing.
4. Conservation. Incentives encourage efforts to maintain high-value conservation areas and protect ecosystem services.	Researchers should review whether forest strategies include incentives to conserve important ecosystems. Economic incentives related to conservation are often provided through payments for environmental services programs that provide benefits for managing ecosystems to protect water quality or conserve certain areas. Other examples may include tax incentives for conservation, such as reductions in property taxes or fees for land managers that maintain conservation areas.
5. Fairness. Incentives do not give unfair advantages to or discriminate against certain groups or individuals.	Researchers should review existing incentive programs to determine whether they can be accessed by a range of groups. For example, in some cases, subsidies, tax breaks, or other incentive programs prioritize certain groups over others (e.g., large enterprises, foreign companies). If incentive programs are specifically designed to support certain groups, researchers should evaluate the rationale for the incentive.

6. Consistency. Incentives are consistent with broader economic incentives outside the forest sector.	Researchers should review whether economic incentives in the forest sector (e.g., tax breaks, subsidies, or incentive programs such as payments for environmental services) are in line with economic incentives outside the forest sector. For example, researchers might assess whether incentives aimed at strengthening domestic forest enterprises are consistent with national efforts to promote economic investment.

51. Creation of economic incentives for sustainable forest management		
Object of assessment:		
EOQ	Y/N	Explanation
Timber		
Nontimber forest products		
Supply chains		
Conservation		
Fairness		
Consistency		
Additional notes:		

Values	**Select**
Not applicable/assessed	
Zero to one elements of quality	Low ___
Two elements of quality	Low-Medium ___
Three elements of quality	Medium ___
Four elements of quality	Medium-High ___
Five or more elements of quality	High ___

Documentation:	
Researcher name and organization:	
Secondary sources: Record the following: document or source title, author or organization, date published, chapter or page, website (if relevant)	
Primary sources: For each of the above conducted, record: - Interviewee/participant name(s) and title - Institution/company/organization -Location and date of interview	

52. Implementation of forest strategies and plans
To what extent are forest strategies and plans effectively implemented in practice?

Indicator Guidance:
This indicator assesses the extent to which the forest sector strategies evaluated in Indicators 49 and 50 are implemented in practice. For national level strategies, researchers may wish to assess implementation at a specific geographic scale (e.g., region, district) or to a specific component of the plan. Researchers should conduct interviews with staff of the agencies responsible for implementing the strategy. In addition, researchers should collect any documentation on strategy implementation, such as performance reports or independent evaluations of how the strategy is being implemented.

Element of Quality	Guidance
1. Awareness. Implementing agencies are aware of their roles and responsibilities for implementation.	Researchers should identify all agencies responsible for implementing elements of the strategies, as well as their respective responsibilities. They should interview agency staff to assess their knowledge and awareness of the strategy document and how it relates to their official responsibilities.
2. Coordination. Implementating agencies effectively coordinate to carry out their roles and responsibilities.	Researchers should identify what mechanisms are in place to coordinate either between implementing agencies or across scales of implementation (e.g., national and local). Examples may include dedicated focal points for information sharing, strategy meetings with representatives from all relevant institutions, shared databases or information platforms, or joint activities in the field.
3. Capacity. Implementation is supported by adequate human and financial resources.	Researchers should review whether implementing agencies have adequate staff and financing to carry out roles defined in the forest strategy. Researchers should assess the number of staff and the budget for implementing the project. In addition, they should examine the level of implementation of the strategy, the quality of execution, and whether the plan is being implemented according to the plan's timeline.
4. Timeliness. Implementation happens according to the timeline specified by the strategy.	Researchers should identify any implementation timelines in the forest strategy and assess the level of progress. This information may be collected from performance or monitoring reports, or may need to be gathered in the field via interviews and observation. Researchers should note what percentage of the strategy has been implemented, how long ago the strategy was developed, and the reason behind any significant deviations from the timeline.
5. Monitoring. Implementation is subject to regular monitoring of impacts and effectiveness.	Researchers should assess whether the strategy has a monitoring and evaluation plan and determine how often monitoring activities are carried out. They should also review monitoring reports to determine whether they analyze the overall impacts and effectiveness of the strategy.
6. Transparency. Monitoring reports are publicly disclosed on a regular basis.	Researchers should assess whether monitoring reports on forest strategy implementation are made publicly available. Methods of disclosure could include access to the strategy via website, public launch, printed copies, or availability upon request.

52. Implementation of forest strategies and plans		
Object of assessment:		
EOQ	Y/N	Explanation
Awareness		
Coordination		
Capacity		
Timeliness		
Monitoring		
Transparency		
Additional notes:		

Values	**Select**
Not applicable/assessed	
Zero to one elements of quality	Low ___
Two elements of quality	Low-Medium ___
Three elements of quality	Medium ___
Four elements of quality	Medium-High ___
Five or more elements of quality	High ___

Documentation:	
Researcher name and organization:	
Secondary sources: Record the following: document or source title, author or organization, date published, chapter or page, website (if relevant)	
Primary sources: For each of the above conducted, record: - Interviewee/participant name(s) and title - Institution/company/organization -Location and date of interview	

3.3 Forest monitoring

53. Forest inventories

To what extent are comprehensive national forest inventories routinely conducted?

Indicator Guidance:

Many countries implement national forest inventories (NFI) to compile qualitative and quantitative data on the status of forest resources. This indicator should be applied to the most recent NFI in the country of assessment to assess its comprehensiveness. Review of the NFI document and methodology should be supplemented where necessary through interviews with the authors of the inventory and independent experts with knowledge of forestry and NFI techniques.

Element of Quality	Guidance
1. Legal basis. The legal framework requires regular and comprehensive national forest inventories.	Researchers should review the forest law or a national forest strategy to identify whether a national forestry inventory is required. In addition, they should note whether NFIs are required to be carried out at regular intervals (e.g., every 5-10 years).
2. Methods. Forest inventories are based on robust and transparent sampling and data collection methods.	Researchers should review the methods used to conduct the forest inventory. Common field research methods for measuring sample plots in forests include fixed area plots, variable size plots, and transects, all of which can be used to collect data on tree species, volume, and number. Forest inventories may also use different sampling methods (e.g., random, systematic, stratified, clustered). Researchers should review whether the methods used are robust, replicable, and likely to give an accurate picture of the country's forest resources. If research teams lack expertise on inventory methods, they should interview forestry experts on the quality of the methods used.
3. Biological information. Forest inventories include comprehensive biological and biophysical information on forests.	Researchers should review the comprehensiveness of the biological and biophysical information included in the NFI. Relevant information may include forest type, species diversity, species composition, forest cover, tree density, tree height, standing volume of timber, soil type, and water quality.
4. Socioeconomic information. Forest inventories include comprehensive information on the social and economic values of forests.	Researchers should review the comprehensiveness of the socioeconomic information included in the NFI. Economic information may include value of timber, nontimber forest products, and ecosystem services. Social information may include information on livelihoods derived from forest products, as well as cultural or spiritual values of forests.
5. Frequency. The national forest inventory is updated with adequate frequency.	Researchers should collect the most recent NFIs to assess how often they have been updated. If the legal framework sets out guidelines for frequency of updating NFIs, they should review whether these rules have been complied with in practice. While there is no established best practice for frequency of inventories, numerous countries require updating every 5 years (e.g., Indonesia, Japan).

53. Forest inventories		
Object of assessment:		
EOQ	Y/N	Explanation
Legal basis		
Methods		
Biological information		
Socioeconomic information		
Frequency		
Additional notes:		

Values	**Select**
Not applicable/assessed	
Zero to one elements of quality	Low ___
Two elements of quality	Low-Medium ___
Three elements of quality	Medium ___
Four elements of quality	Medium-High ___
Five elements of quality	High ___

Documentation:	
Researcher name and organization:	
Secondary sources: Record the following: document or source title, author or organization, date published, chapter or page, website (if relevant)	
Primary sources: For each of the above conducted, record: - Interviewee/participant name(s) and title - Institution/company/organization -Location and date of interview	

54. Monitoring of forest cover change
To what extent is there an effective national system for monitoring changes in forest cover?

Indicator Guidance:
This indicator evaluates the methods and systems used to monitor national forest cover change. In general, systems to monitor forest cover change rely on technology such as remote sensing or GIS to collect this type of data. Researchers should identify the agency or department responsible for forest monitoring and evaluate whether there is a dedicated national forest monitoring system. Researchers should interview government staff responsible for maintaining the monitoring system. If publicly available, researchers should also analyze the data produced by the monitoring system.

Element of Quality	Guidance
1. Technology. The monitoring system utilizes remote sensing and other relevant technology at an adequate resolution to detect deforestation and forest degradation.	Researchers should identify the type of technology used to assess forest cover change. High quality monitoring systems typically use remote sensing applications as well as GIS technology. In some cases, countries may access data provided by other international organizations (e.g., NASA makes its LANDSAT archives available for free). Researchers should also assess the resolution of the data collected and whether it is adequate for its stated purpose. For example, technology for measuring forest degradation should be higher resolution than technology for tracking overall forest cover change (e.g., Brazil's DEGRAD system uses a spatial resolution of 15 meters for forest degradation).
2. Geographic scope. The monitoring system is geographically comprehensive of all national forest resources.	Researchers should evaluate whether the system monitors forest cover change nationally, capturing all forested ecosystems as well as any areas where forest regeneration or forest restoration may occur.
3. Frequency. The monitoring system updates data at adequate intervals.	Researchers should assess how often forest cover change data is being collected and then determine whether the frequency is adequate given the purpose of the monitoring system. For example, monitoring systems aimed at providing deforestation alerts for follow-up enforcement actions would need to be updated more frequently than systems focused on generating data.
4. Expertise. The monitoring system is supported by personnel with adequate expertise.	Researchers should evaluate the expertise of those responsible for maintaining the monitoring system. Staff should have education, training, or direct experience in using and interpreting remote sensing software as well as using GIS applications.
5. Enforcement. Detection of illegal changes in forest cover is immediately communicated to relevant law enforcement bodies.	Researchers should identify whether forest law enforcement agencies have direct access to forest monitoring systems that can alert them to illegal forest clearing or logging, or whether other communication protocols are in place to facilitate rapid responses.

54. Monitoring of forest cover change		
Object of assessment:		
EOQ	Y/N	Explanation
Technology		
Geographic scope		
Frequency		
Expertise		
Enforcement		
Additional notes:		

Values	Select
Not applicable/assessed	
Zero to one elements of quality	Low ___
Two elements of quality	Low-Medium ___
Three elements of quality	Medium ___
Four elements of quality	Medium-High ___
Five elements of quality	High ___

Documentation:	
Researcher name and organization:	
Secondary sources: Record the following: document or source title, author or organization, date published, chapter or page, website (if relevant)	
Primary sources: For each of the above conducted, record: - Interviewee/participant name(s) and title - Institution/company/organization -Location and date of interview	

55. Monitoring of social, environmental, and economic factors
To what extent is there an effective national system for monitoring the social, environmental, and economic dimensions of forests?

Indicator Guidance:
This indicator assesses whether forest agencies routinely monitor social, environmental, and economic conditions in forests. Researchers should review whether there are any legal provisions or institutional mandates requiring monitoring of social, environmental, and/or economic factors. After identifying relevant monitoring institutions and systems, researchers should interview staff of the agencies responsible for carrying out monitoring and access monitoring data or reports.

Element of Quality	Guidance
1. Institutional mandates. Clear institutional mandates govern the collection, analysis, and publishing of information about the social, environmental, and economic dimensions of forests.	Researchers should identify institutions tasked with collecting information on social, environmental, or economic dimensions of forests. Monitoring may be conducted by multiple agencies. For example, environmental monitoring may occur through a biodiversity monitoring system (not just specific to forests), while economic and social monitoring may occur through national statistical institutes that implement demographic or household surveys. Researchers should note whether mandates include guidelines on what topics should be monitored.
2. Biodiversity. Comprehensive information about level and location of biodiversity is regularly collected and published.	Researchers should review monitoring information on biodiversity and identify the scope of issues that are monitored. Relevant information on biodiversity may include species diversity, monitoring of keystone or indicator species to gauge overall ecosystem health, or monitoring critical habitats and wildlife corridors. Researchers should also assess the frequency of biodiversity monitoring and compare it with any requirements. For example, countries may collect and report information under international agreements such as the CBD, CITES, or the Nagoya Protocol.
3. Economic activities. Comprehensive information about forest sector economic activities is regularly collected and published.	Researchers should review monitoring information on forest sector economic activities and identify the scope of issues that are monitored. Relevant topics may include information on the harvesting, processing, sale, and export of timber and nontimber forest products, as well as payments for environmental services.
4. Demographics. Comprehensive information about the demographics of forest-dependent people is regularly collected and published.	Researchers should review monitoring information to assess whether information on demographics is routinely collected and includes forest-dependent groups. Relevant demographic information may include gender, age, ethnicity, education level, and access to services such as health and sanitation. Such information may be collected in national demographic studies such as Demographic and Health Surveys, Household Budget Surveys, or general population surveys. Researchers should also assess whether sampling methods are likely to reach forest communities.

55. Monitoring of social, environmental, and economic factors		
Object of assessment:		
EOQ	Y/N	Explanation
Institutional mandates		
Biodiversity		
Economic activities		
Demographics		
Additional notes:		

Values	**Select**
Not applicable/assessed	
Zero to one elements of quality	Low ___
Two elements of quality	Medium ___
Three elements of quality	Medium-High ___
Four elements of quality	High ___

Documentation:	
Researcher name and organization:	
Secondary sources: Record the following: document or source title, author or organization, date published, chapter or page, website (if relevant)	
Primary sources: For each of the above conducted, record: - Interviewee/participant name(s) and title - Institution/company/organization -Location and date of interview	

56. Monitoring and control of forest fires and other natural disturbances
To what extent is there an effective national system to monitor and control forest fires and other disturbances such as pests, disease, and flooding?

Indicator Guidance:
This indicator should be applied to assess any relevant systems that monitor and control forest fires and other natural disturbances. Researchers should identify whether fires, pests, disease, flooding, or other natural disturbances are common issues in the forests of the country of interest. They should review any laws, regulations, action plans, or management plans for measures aimed at reducing risk of disturbance. In addition, they should review systems for responding to ongoing disturbances, for example by interviewing government staff tasked with monitoring forest fires or responding to disturbances.

Element of Quality	Guidance
1. Awareness. Public information campaigns encourage efforts to prevent forest fires and mitigate other disturbances.	Researchers should assess whether the forest agency (or other relevant agency) conducts public information campaigns or other activities to raise awareness about forest fires and disturbances. Efforts may include TV and radio announcements, as well as targeted dissemination of information about preventive and suppressive measures to forest owners or managers.
2. Preventive measures. Forest management plans include measures to prevent fires and other disturbances.	Researchers should review whether inclusion of measures to prevent fires and other disturbances are routinely included in forest management plans. For example, preventive measures may include construction of fire protection roads and fire breaks, or maintaining diversity of forest management areas to mitigate potential pest outbreaks.
3. Detection. Monitoring systems are in place to facilitate early detection of fires and other disturbances.	Researchers should identify systems designed to forecast or provide early warning of potential fires or other disturbances. They should note any systems that monitor conditions for fires, floods, or other natural disasters, as well as how these systems communicate warnings to relevant authorities. For example, Indonesia's Fire Danger Rating System collects data on wind, humidity, and temperature in order to calculate potential for forest fires. Predictive information is given to the government to guide efforts to control forest fires.
4. Response. Forest agency offices have notification systems in place for rapid communication and response to fires and other disturbances.	Researchers should review the systems in place for responding to alerts of fires or other natural disturbances. For example, they should assess whether there are rapid response teams for suppressing disturbances, internal communications between government agencies in charge of responding to fires and disasters, and protocols in place to notify potentially impacted populations of emergencies.

56. Monitoring and control of forest fires and other natural disturbances		
Object of assessment:		
EOQ	Y/N	Explanation
Awareness		
Preventive measures		
Detection		
Response		
Additional notes:		

Values	**Select**
Not applicable/assessed	
Zero to one elements of quality	Low ___
Two elements of quality	Medium ___
Three elements of quality	Medium-High ___
Four elements of quality	High ___

Documentation:	
Researcher name and organization:	
Secondary sources: Record the following: document or source title, author or organization, date published, chapter or page, website (if relevant)	
Primary sources: For each of the above conducted, record: - Interviewee/participant name(s) and title - Institution/company/organization -Location and date of interview	

57. Forest information systems
To what extent is there an effective national system to transparently manage forest information?

Indicator Guidance:
This indicator should be applied to the national system for forest information management. Information systems may be centrally managed by a single agency (e.g., forest agency) or there may be multiple different systems that bring together information on economic, social, and environmental dimensions of forests. Researchers should access the relevant system(s) to review the types of information that is available as well as its quality. If the system is not accessible to the public, researchers should interview staff responsible for maintaining the system as well as those who access it regularly in relation to their positions (e.g., forest agency staff) about the contents and functioning of the system. Researchers may wish to focus on a particular category of information in order to narrow the focus of this indicator.

Element of Quality	Guidance
1. Comprehensiveness. An integrated information system compiles all management, financial, and administrative data necessary for effective forest management and enforcement.	Researchers should identify the types of data that are stored in the information system. Examples of key data for forest management and enforcement include information on forest classifications, operations of forest contracts and permits, management of protected areas, the national forest inventory, management plans, records of forest charge payments, and records of field inspections and enforcement actions.
2. Digitization. Information is maintained in a digital format.	Researchers should access the system or conduct interviews to assess whether all relevant information is stored in digital form. If records are still commonly stored in hard copy formats, they may also wish to assess whether there is a process to input these records into a digital system at some point. If information is only partially stored in digital records, researchers should describe which information is digital and which remains in hard copy.
3. Updating. Information is regularly updated to reflect the most current data.	If the system is publicly available, researchers should conduct several checks during the research period to document whether new information is included in this system. This could include information on new forest use contracts, updates of forest monitoring data, or updates of forest taxes and fees collected. Researchers may also interview agency staff about whether procedures for regularly updating information are in place and followed. Researchers should also interview external users of the information system if relevant.
4. Government accessibility. Information is easily accessible to all internal users of the system.	Researchers should assess whether the information system is designed to facilitate access between internal users across government agencies. For example, whether procedures are in place to support easy access to all relevant data types (e.g., personal logins). Researchers should assess the protocols in place for obtaining, verifying, and loading information into the system, including whether there is a quality control system in place.
5. Information-sharing. The system facilitates information-sharing between national and local forest officials.	Researchers should assess whether the information system is designed to facilitate access between internal users across scales of administration (e.g. national, regional, local). Through interviews with officials at different levels, they should identify whether subnational users routinely access central information

	systems, as well as their ability to provide information on local activities to the system.
6. Public accessibility. Information is accessible to the public.	Researchers should determine whether information in the forest sector's information management system is accessible to the public. The system itself could be searchable, or could process and publish information from the system for public consumption through reports, newsletters, or regular uploading of data. Researchers should also identify what type of information is available and what may be missing from the system.

57. Forest information systems		
Object of assessment:		
EOQ	Y/N	Explanation
Comprehensiveness		
Digitization		
Updating		
Government accessibility		
Information-sharing		
Public accessibility		
Additional notes:		

Values	**Select**
Not applicable/assessed	
Zero to one elements of quality	Low ____
Two elements of quality	Low-Medium ____
Three elements of quality	Medium ____
Four elements of quality	Medium-High ____
Five or more elements of quality	High ____

Documentation:	
Researcher name and organization:	
Secondary sources: Record the following: document or source title, author or organization, date published, chapter or page, website (if relevant)	
Primary sources: For each of the above conducted, record: - Interviewee/participant name(s) and title - Institution/company/organization -Location and date of interview	

3.4 Forest management practices

58. Quality of forest management plans

To what extent are forest management plans comprehensive and up-to-date for all relevant public and private forests?

Indicator guidance:

Forest management plans outline the activities and practices to take place within a given forest management unit, such as a forest concession, protected area, or other resource utilization contract. This indicator assesses how legal requirements for forest management planning assessed in Indicator 45 are applied in practice. Researchers should collect copies of available management plans, review any reports on the degree of implementation, and conduct interviews with forest managers (e.g., contract holders, district forest officials). Researchers should also interview government agencies that oversee whether management plans are created and followed. In order to ensure feasibility of this indicator, researchers may wish to focus their analysis on management planning in a defined area (e.g., a district or other geographic unit).

Element of Quality	Guidance
1. Existence of plans. Management plans and inventories exist for all areas for which they are legally required.	Researchers should identify all categories of forest contracts or classifications that require management plans. They should verify to what extent management plans have been completed for these areas by obtaining copies of plans or interviewing staff of the agency responsible for tracking their completion (likely the forest agency).
2. Transparency. Management plans and inventories are publicly accessible.	Researchers should access management plans and attempt to identify the overall percentage of plans that are available. They should also note whether plans are available through accessible channels such as online or through request from forest agency offices.
3. Completeness. Management plans are complete and consistent with all legal requirements.	Researchers should review a subset of management plans to assess whether they are complete and in compliance with legal requirements (which may have been evaluated in Indicator 45). For example, researchers should review whether all types of required information, studies, and plans are described in adequate detail. In addition, they should ensure that management plans address technical, financial, social, and environmental requirements set out in law. For example, ensuring that plans comply with requirements related to harvesting controls or environmental regulations.
4. Updating. Management plans are regularly reviewed and updated.	Researchers should review whether management plans comply with rules for reviewing and updating. If no rules exist, they should still assess whether forest managers routinely update plans to reflect changing forest conditions or management needs.
5. Approval. Management plans are promptly approved by the relevant authority.	Researchers should assess how management plans are reviewed and approved by a relevant government agency such as the agency in charge of forests or environment.

58. Quality of forest management plans		
Object of assessment:		
EOQ	Y/N	Explanation
Existence of plans		
Transparency		
Completeness		
Updating		
Approval		
Additional notes:		

Values	**Select**
Not applicable/assessed	
Zero to one elements of quality	Low ___
Two elements of quality	Low-Medium ___
Three elements of quality	Medium ___
Four elements of quality	Medium-High ___
Five elements of quality	High ___

Documentation:	
Researcher name and organization:	
Secondary sources: Record the following: document or source title, author or organization, date published, chapter or page, website (if relevant)	
Primary sources: For each of the above conducted, record: - Interviewee/participant name(s) and title - Institution/company/organization -Location and date of interview	

59. Capacity of forest managers
To what extent do forest managers have adequate capacity to develop and implement forest management plans?

Indicator Guidance:
This indicator evaluates the capacity of forest managers in terms of knowledge, access to financial and human resources, as well as access to pertinent information and tools. Forest managers may refer to a range of different groups, including managers of concessions or other forest contracts, managers of community forests, or other managers relevant to the country of assessment. Researchers should identify a relevant type of manager for applying this indicator. For example, researchers may focus on managers of protected areas or forest concessions in a specific area. Researchers should conduct interviews with forest managers, as well as government staff that oversee management or other groups that may have knowledge of management capacity.

Element of Quality	Guidance
1. Awareness. Forest managers are aware of their rights and duties according to relevant laws and regulations.	Specific rights and duties of forest managers will depend on the type of forest classification and the purpose for which it is managed. Researchers should identify the duties and obligations that apply to the type of manager being assessed, and conduct interviews to gauge the level of understanding of laws and regulations. Researchers can also use evidence of routine compliance or any evidence of past violations of laws and regulations as evidence of awareness.
2. Expertise. Forest managers have an adequate range of expertise.	Researchers should assess whether managers have knowledge of forestry, as well as related disciplines such as silviculture, biology, forest economics, and ecology. Depending on the type of area being managed, expertise in sociology or engaging local populations may also be necessary. Expertise may be demonstrated through education, experience, completion of trainings, or responses to questions designed to assess knowledge of the content of forest management practices.
3. Financial resources. Forest managers have adequate financial resources.	To assess financial resources, researchers should review whether forest managers regularly make required payments such as staff salaries, taxes, or other financial obligations. Researchers should also determine whether activities set out in management plans or other relevant documents are typically carried out on time, as delays may indicate insufficient financial resources. Information on payments may be collected from forest managers themselves, or from the government agency in charge of collecting forest revenues.
4. Human resources. Forest managers have adequate human resources.	Researchers should assess whether forest managers have the personnel required to manage resources according to their management plans or other requirements. For example, forest managers should have enough staff to carry out their activities in a timely manner, and these staff should have expertise that is appropriate to their roles and responsibilities.
5. Information. Forest managers have access to relevant scientific and technical information.	Scientific and technical information related to management of forests may include the national forest inventory, information on market values of forest products, data on biodiversity and ecosystem services, as well as information on policies, laws, regulations, and incentive programs. Researchers should review what types of

	information are critical for forest managers in the area being assessed and evaluate whether they have routine access through forest information systems, online resources, or other channels.
6. Tools. Forest managers have access to necessary tools and equipment.	Equipment for managing forests may include industrial equipment for felling and extracting logs, dbh tapes for measuring tree diameter, as well as equipment for traveling in forested areas without roads. Equipment may also include information technology such as GPS, GIS software, computers to manage information, or software that assists in modeling forest growth or conservation planning. Researchers should assess whether forest managers have equipment that is appropriate to their roles and responsibilities as forest manager.

59. Capacity of forest managers		
Object of assessment:		
EOQ	Y/N	Explanation
Awareness		
Expertise		
Financial resources		
Human resources		
Information		
Tools		
Additional notes:		

Values	Select
Not applicable/assessed	
Zero to one elements of quality	Low ___
Two elements of quality	Low-Medium ___
Three elements of quality	Medium ___
Four elements of quality	Medium-High ___
Five or more elements of quality	High ___

Documentation:	
Researcher name and organization:	
Secondary sources: Record the following: document or source title, author or organization, date published, chapter or page, website (if relevant)	
Primary sources: For each of the above conducted, record: - Interviewee/participant name(s) and title - Institution/company/organization -Location and date of interview	

60. Administration of harvesting licenses and permits
To what extent can forest managers obtain necessary licenses and permits for harvesting timber and nontimber forest products?

Indicator Guidance:
Forest licenses and permits are often allocated for small scale commercial forest extraction or use (as opposed to forest concessions or other contracts covering large areas). This indicator evaluates the process of obtaining forest harvesting licenses and permits. Licenses or permits may be required for activities such as extraction of non-timber forest products or small-scale timber extraction activities. Researchers should identify which types of licenses and permits exist. Researchers may wish to focus in on particular categories, for example by focusing on most common types or those known to have issues with noncompliance. Researchers should review laws and regulations that govern how permits are obtained. They should also interview government staff responsible for permit administration and customers who have attempted to obtain permits.

Element of Quality	Guidance
1. Procedural clarity. Clear administrative procedures regulate the obtaining of licenses and permits.	Researchers should review laws and regulations setting out procedures for relevant types of licenses or permits. In general, regulations should clearly define the steps in the process of submitting and approving applications. Rules should include what documentation must be filled out and submitted, what information needs to be included in the application, where/to what institution documents are submitted, relevant fees, and the timeframe for approval.
2. Nondiscrimination. Customers can apply for licenses and permits without discrimination.	Researchers should identify relevant customer groups that may apply for licenses and permits. They should review permit records and conduct interviews to assess whether services are available without discrimination. Evidence may include ensuring that service providers do not prioritize or fast-track certain types of applications or provide exemptions from administrative procedures without justification.
3. Convenience. Licenses and permits can be applied for at times and places that are convenient for customers.	Researchers should document where licenses or permits are obtained and the hours at which these services are accessible. Convenience of these locations and hours to customers should be evaluated based on the types of customers and services being provided. For example, whether the target customers generally have the time, resources, and equipment to travel to office locations, and whether accessing services involves significant opportunity costs in terms of foregone wages.
4. Accessibility. The process for acquiring a license or permit is not prohibitively complicated or expensive.	Researchers should identify factors that might limit accessibility, such as expensive fees or complex application requirements. Researchers should evaluate how many documents must be filled out, how many signatures or approvals are required, and the level of detail required regarding how resources will be extracted and/or used. They should also collect information on the average length of the licensing process.

5. Timeliness. Licenses and permits can be obtained in a reasonable amount of time.	Through review of service records or interviews, researchers should document multiple examples of how long it takes to obtain licenses or permits. Researchers should compare data collected with any legal or procedural requirements.

60. Administration of harvesting licenses and permits		
Object of assessment:		
EOQ	Y/N	Explanation
Procedural clarity		
Nondiscrimination		
Convenience		
Accessibility		
Timeliness		
Additional notes:		

Values	**Select**
Not applicable/assessed	
Zero to one elements of quality	Low ___
Two elements of quality	Low-Medium ___
Three elements of quality	Medium ___
Four elements of quality	Medium-High ___
Five elements of quality	High ___

Documentation:	
Researcher name and organization:	
Secondary sources: Record the following: document or source title, author or organization, date published, chapter or page, website (if relevant)	
Primary sources: For each of the above conducted, record: - Interviewee/participant name(s) and title - Institution/company/organization -Location and date of interview	

61. Community participation in forest management
To what extent are communities able to effectively participate in forest management planning and implementation?

Indicator Guidance:
This indicator evaluates the degree to which communities are involved in forest management activities led by external actors (e.g., forest agency, park service, concession managers). This indicator should be applied as a case study to a particular area or type of forest (e.g., protected area, forest concession) where local communities are engaged in forest management activities. Researchers should interview relevant forest managers and community members about the level of community participation and engagement.

Element of Quality	Guidance
1. Transparency. Government and forest managers regularly inform communities about forest management issues and activities.	Researchers should assess what information has been provided to communities by relevant forest managers. To assess this, researchers should review any documentation provided to communities, as well as conduct interviews with communities to assess their awareness of the contents of the information provided.
2. Communication. Effective mechanisms exist to promote two-way communication about forest management between communities, government, and forest managers.	Researchers should evaluate how information is provided to communities and whether the method of disclosure is appropriate (e.g., in appropriate languages, through community representatives). In addition, they should assess whether there is regular information exchange between the forest manager and community groups, for example through community meetings, regular workshops, or committees.
3. Participation. Management plans are developed with participation of local communities.	Researchers should review whether communities participate in the development of management plans for the forest management area of interest. For example, communities may be engaged through workshops to solicit input. Researchers should identify what opportunities for input exist, how many community members are typically involved in these processes, as well as whether community feedback is typically incorporated into the management plan.
4. Capacity. Communities have adequate capacity to effectively participate in forest management planning and implementation.	Researchers should review whether communities have both the expertise and the resources to participate in forest management activities led by external groups. Expertise may refer to knowledge and experience of traditional forest knowledge and practices, as well as modern methods. Resources refers to whether communities have the resources (e.g., time, finances) to attend meetings related to forest management planning or implementation.

61. Community participation in forest management		
Object of assessment:		
EOQ	Y/N	Explanation
Transparency		
Communication		
Participation		
Capacity		
Additional notes:		

Values	Select
Not applicable/assessed	
Zero to one elements of quality	Low ___
Two elements of quality	Medium ___
Three elements of quality	Medium-High ___
Four elements of quality	High ___

Documentation:	
Researcher name and organization:	
Secondary sources: Record the following: document or source title, author or organization, date published, chapter or page, website (if relevant)	
Primary sources: For each of the above conducted, record: - Interviewee/participant name(s) and title - Institution/company/organization -Location and date of interview	

62. Implementation of community-based forest management
To what extent is community-based forest management promoted and supported in practice?

Indicator Guidance:
This indicator should only be applied if community-based forest management is formally recognized in the country of assessment both by law and in practice with specific administrative requirements. If such a program exists, researchers should assess the overall level of participation in the program, as well as identify one or more operational community-managed forests for collecting primary data. Researchers should review laws, management plans, and other documentation related to community-managed programs. They should also conduct interviews with government staff that administer or otherwise support community forestry programs, community managers themselves, and, if relevant, CSOs or other groups that provide technical assistance.

Element of Quality	Guidance
1. Awareness. Efforts are made to raise the awareness of communities about their rights and duties under the law with respect to community-based forest management.	Researchers should assess the level of awareness of communities by researching the extent of participation in the community forestry program nationally. Researchers can identify the number of community forests that have been established and/or the number of pending applications to assess the geographic scope of participation. In addition, they should interview community representatives in case study areas to assess their knowledge of the requirements of the program.
2. Financial assistance. Communities can access financial assistance in order to implement forest management activities.	Researchers should assess whether any dedicated programs exist to support communities with applying for management rights, management planning, or implementing forest management activities. Financial assistance may come from forest agency programs, CSOs, donors, or implementing agencies.
3. Technical support. Communities can access extension services or technical support related to forest management activities.	Researchers should assess whether any dedicated programs to provide technical assistance exist to support communities with forest management. Technical support may be provided by government agencies or CSOs. Support services may include training related to developing management plans, conducting inventories of managed areas, or silviculture methods.
4. Community institutions. Community institutions exist to oversee forest management operations and decision-making.	Researchers should assess whether the community forest management arrangements have established a governing entity. For example, in Nepal the community forestry program sets up Community Forestry User Groups that oversee community forestry activities and finances. Researchers should review any documentation such as terms of reference, rules of procedure, or reports from these groups on their operations.
5. Gender equality. Women participate equally and can hold leadership positions in community institutions.	Researchers should assess the level of involvement of women in community institutions involved in decision-making, planning, or implementing forest management activities, including any women in leadership positions. If possible, they should assess whether community women are able to share opinions and whether their comments are respected and incorporated into decisions. Since women's participation may be a sensitive issue, researchers can convene women-only focus groups discussions to collect this information.

6. Access to markets. Communities have access to markets or other opportunities to sell their timber or nontimber forest products at market rates.	Researchers should assess whether communities are allowed to manage forests for commercial purposes. In addition, they should review the conditions for the community's access to markets, such as proximity and resources for travel. Where market access is limited, researchers should assess whether any systems are in place to support communities to sell their resources, either by providing financial or transportation assistance to markets, or by selling timber to wood processors or other forest managers nearby. If timber is often sold to processors or companies, researchers should assess these arrangements and whether they enable communities to receive a fair price for their forest products.

62. Implementation of community-based forest management		
Object of assessment:		
EOQ	Y/N	Explanation
Awareness		
Financial assistance		
Technical support		
Community institutions		
Gender equality		
Access to markets		
Additional notes:		

Values	**Select**
Not applicable/assessed	
Zero to one elements of quality	Low ____
Two elements of quality	Low-Medium ____
Three elements of quality	Medium ____
Four elements of quality	Medium-High ____
Five or more elements of quality	High ____

Documentation:	
Researcher name and organization:	
Secondary sources: Record the following: document or source title, author or organization, date published, chapter or page, website (if relevant)	
Primary sources: For each of the above conducted, record: - Interviewee/participant name(s) and title - Institution/company/organization -Location and date of interview	

63. Management of protected areas
To what extent are protected areas effectively and inclusively managed?

Indicator Guidance:
This indicator should be applied to assess management of one or a group of protected areas. Researchers should select protected areas that are relevant to the scale of the assessment, and could potentially assess management of several different protected categories (e.g., national park, forest reserves). Researchers should review documentation from protected areas such as management plans and performance reports. In addition, they should interview managers, park rangers, law enforcement personnel, or other groups involved in protected area management.

Element of Quality	Guidance
1. Demarcation. Boundaries of protected areas are clearly demarcated.	Researchers should review whether protected area boundaries have been clearly demarcated. For example, geographic boundaries including GPS coordinates should be agreed upon and formally recognized in regulations creating the protected area, as well as documents such as management plans. Physical boundaries should also be marked using signs, boundary posts, or other forms of public notification.
2. Use restrictions. Stakeholders clearly understand what activities are allowed and not allowed within the area, and restrictions do not unnecessarily limit the forest uses of local communities.	Researchers should review protected area management plans as well as any materials distributed to nearby populations about use restrictions in protected areas. They should review whether consultations were held in the development of the protected area or management plan to create buffer zones or otherwise support existing uses of the land, such as harvesting of nontimber forest products. Interviews with affected populations should also be conducted to gauge their understanding of use restrictions.
3. Information basis. Protected area managers have access to adequate scientific and technical information as a basis for management planning.	Scientific and technical information related to management of protected areas may include information on the geography and climate of the protected area, an inventory of the protected area's natural resources (e.g., biodiversity and ecosystem services), information on nearby forest-dependent populations and their land uses, and information on potential threats to the protected area such as fires or other disturbances. Researchers should evaluate whether protected area managers have routine access to such information through forest information systems, online resources, or other channels.
4. Management plans. Protected areas have comprehensive and appropriate management plans.	Researchers should verify whether the protected areas being assessed have management plans setting out the goals for managing the area's resources and strategies for achieving them. Plans should also summarize strategies for staffing; stakeholder engagement; zoning; supporting tourism, research, or recreation; governance; financial management; and monitoring and evaluation of how management goals are being met.
5. Capacity. Protected area managers have access to adequate financial, human, and technical resources to implement the management plan.	Researchers should review budgets and staffing plans for the protected area. They should also review whether the protected area has the necessary technical equipment to manage and monitor the area, such as vehicles for monitoring park activities and communications equipment. They should review whether

	the staff and resources available are sufficient to implement the activities in the management plan, and collect field data to compare planning with implementation. Significant delays or challenges with implementation may indicate insufficient resources.
6. Community engagement. Effective mechanisms enable transparent engagement with local communities and resolution of disputes that may arise.	Engagement may range from simply providing information to communities on management decisions to actively consulting communities or engaging them as co-managers in the protected area. Researchers should assess the degree to which protected area managers engage nearby forest communities in the management of the protected area. They should identify any formal engagement or dispute resolution plans set out in the management plan. If conflicts have occurred, they should document how they were resolved.

63. Management of protected areas		
Object of assessment:		
EOQ	Y/N	Explanation
Demarcation		
Use restrictions		
Information basis		
Management plans		
Capacity		
Community engagement		
Additional notes:		

Values	**Select**
Not applicable/assessed	
Zero to one elements of quality	Low ___
Two elements of quality	Low-Medium ___
Three elements of quality	Medium ___
Four elements of quality	Medium-High ___
Five or more elements of quality	High ___

Documentation:	
Researcher name and organization:	
Secondary sources: Record the following: document or source title, author or organization, date published, chapter or page, website (if relevant)	
Primary sources: For each of the above conducted, record: - Interviewee/participant name(s) and title - Institution/company/organization -Location and date of interview	

3.5 Forest law enforcement

64. Legal basis for forest-related offenses and penalties
To what extent does the legal framework define a clear system of forest-related offenses and penalties?

Indicator Guidance:
To apply this indicator, researchers should review laws and regulations defining forest-related offenses and corresponding penalties. Offenses and penalties are likely to be defined in the forest law; additional laws related to wildlife crime, the environment, or general criminal codes may also be relevant.

Element of Quality	Guidance
1. Definition of offenses. The legal framework clearly and comprehensively defines all major types of forest infractions.	The legal framework should ensure that major types of forest infractions are clearly defined as illegal. Forest infractions should include unauthorized harvesting, exploitation, use, processing, or sale of forest resources (e.g., timber, NTFPs); noncompliance with forest contracts; failure to comply with forest charges (e.g., taxes, fees, royalties); violation of environmental laws; illegal hunting or poaching of wildlife; illegal fires; or clearing forests without a permit.
2. Definition of penalties. The levels and types of penalties prescribed vary according to the nature and severity of the infraction.	Penalties for forest infractions may include fines, seizure of assets, jail time, compensation requirements, or a combination of multiple penalties. Researchers should review whether penalties are clearly defined in the legal framework and whether they are differentiated by the nature and severity of the crime. For example, penalties could include higher financial fines or mandatory minimum sentences for more serious types of crimes.
3. Calculation of penalties. The legal framework prescribes clear methods for assigning penalties and calculating fines for forest-related offenses that minimize administrative discretion.	The legal framework should provide clarity on how the severity of a penalty for a forest crime is determined. For example, if the legal framework lists either a fine or jail time as a penalty for a given infraction, it should provide some parameters or guidance for how this is determined in practice. Guidance should minimize the power of officials to reduce fines or waive jail time without justification.
4. Updating of penalties. The legal framework allows for regular updating of financial penalties or indexing for inflation.	The legal framework should ensure that financial penalties for forest infractions are routinely updated. Methods for ensuring this may include indexing fines in the legal framework such as the minimum wage or a foreign currency, regular revisions to the law or regulation itself, or authorizing the relevant minister to increase the level of fines when necessary.
5. Compensatory measures. The legal framework calls for compensatory penalties such as restitution or restoration where appropriate.	The legal framework should define compensatory measures for forest infractions, where appropriate. For example, the law may require fines to pay for restoration in cases of illegal logging or forest clearing. Such measures may be based on the amount of harm caused by the illegal action, the cost of repairing damage caused, or the benefit to the actor who perpetrated the crime (e.g., profit made, fees avoided).

64. Legal basis for forest-related offenses and penalties		
Object of assessment:		
EOQ	Y/N	Explanation
Definition of offenses		
Definition of penalties		
Calculation of penalties		
Updating of penalties		
Compensatory measures		
Additional notes:		

Values	**Select**
Not applicable/assessed	
Zero to one elements of quality	Low ___
Two elements of quality	Low-Medium ___
Three elements of quality	Medium ___
Four elements of quality	Medium-High ___
Five elements of quality	High ___

Documentation:	
Researcher name and organization:	
Secondary sources: Record the following: document or source title, author or organization, date published, chapter or page, website (if relevant)	
Primary sources: For each of the above conducted, record: - Interviewee/participant name(s) and title - Institution/company/organization -Location and date of interview	

65. Legal basis for forest law enforcement
To what extent does the legal framework define clear powers and procedures for forest law enforcement?

Indicator Guidance:
This indicator assesses whether the law defines clear rules, powers, and procedures governing the functioning of institutions tasked with forest law enforcement. Researchers should review laws and regulations for forest law enforcement operations, as well as mandates for all institutions with responsibilities for forest law enforcement. Relevant agencies may include the forest agency, police, military, ombudsman, corruption commissions, and the judiciary.

Element of Quality	Guidance
1. Institutional mandates. The legal framework establishes clear institutional roles and responsibilities for forest law enforcement.	Researchers should identify all institutions with responsibilities for forest law enforcement tasks at both national and subnational levels. They should review whether the legal framework clearly defines the roles of institutions in a way that is coherent and does not create conflicts or overlaps.
2. Clear procedures. The legal framework defines clear procedures for pursuing and documenting forest law enforcement investigations.	Researchers should identify whether the legal framework defines a clear set of procedures or protocols to govern forest law enforcement investigations. Rules may establish protocols for the frequency of law enforcement monitoring, the type of information that should be documented and recorded during field inspections, handling of evidence, or reporting of infractions to superiors.
3. Inspection powers. The legal framework grants law enforcement officers authority to conduct inspections and gather evidence.	Researchers should review the range of inspection powers granted to forest law enforcement officials and assess whether they are sufficient to support effective enforcement of forest laws. Powers should enable law enforcement personnel to collect proof of violations. Relevant powers may include the authority to conduct routine inspections of licensed areas such as forest management operations, transport, and processing facilities or the power to seize evidence. The legal framework should also define clear rules for custody and disposal of seized assets or evidence (e.g., illegal forest products).
4. Enforcement powers. The legal framework grants law enforcement officers authority to arrest suspects.	Researchers should review whether powers of forest law enforcement personnel enable them to arrest suspected perpetrators of a forest infraction. The law may limit powers of arrest to certain circumstances, for example if the perpetrator is likely to flee or is caught during the commission of a crime. They should also review whether forest law enforcement officers have the authority to prosecute forest crimes.
5. Performance incentives. The legal framework establishes incentives for forest law enforcement actors to carry out their responsibilities consistent with the law.	Researchers should review whether the legal framework defines performance incentives for forest law enforcement officers. For example, revenues from fines collected or sales of seized products may be distributed to field staff. Such incentives are usually designed to discourage corruption among law enforcement officials working in remote areas.

65. Legal basis for forest law enforcement		
Object of assessment:		
EOQ	Y/N	Explanation
Institutional mandates		
Clear procedures		
Inspection powers		
Prosecutorial powers		
Performance incentives		
Additional notes:		

Values	**Select**
Not applicable/assessed	
Zero to one elements of quality	Low ___
Two elements of quality	Low-Medium ___
Three elements of quality	Medium ___
Four elements of quality	Medium-High ___
Five elements of quality	High ___

Documentation:	
Researcher name and organization:	
Secondary sources: Record the following: document or source title, author or organization, date published, chapter or page, website (if relevant)	
Primary sources: For each of the above conducted, record: - Interviewee/participant name(s) and title - Institution/company/organization -Location and date of interview	

66. Capacity of law enforcement bodies
To what extent do law enforcement bodies have the capacity to effectively enforce forest laws?

Indicator Guidance:
This indicator evaluates the capacity of law enforcement agencies to carry out their roles and responsibilities. Relevant agencies may include the forest agency, police, military, ombudsman, corruption commissions, and the judiciary. Researchers should apply this indicator once to each relevant agency with a role in forest law enforcement. They should conduct interviews with agency staff and collect information on forest law enforcement procedures and operations (e.g., monitoring reports, agency budgets).

Element of Quality	Guidance
1. Budget adequacy. Law enforcement bodies have adequate and sustainable financial resources to carry out enforcement responsibilities.	Researchers should review whether the budget supports law enforcement bodies to fulfill responsibilities for monitoring forest activities (e.g., field inspections to monitor forest management or follow up on reports of illegal activities) as well as enforcing fines and penalties. Researchers should verify how often monitoring or enforcement activities are carried out, how many staff are typically involved, and how much territory staff are required to cover. Evidence of delays, failure to complete routine inspections, or assigning staff to large territories may indicate budget constraints.
2. Technical resources. Law enforcement bodies have adequate technical resources to carry out field inspections and monitoring activities.	Researchers should assess whether law enforcement officers have the necessary equipment for carrying out their roles and responsibilities. Key resources may include transportation equipment for conducting field inspections, communications equipment, and information technology such as GPS and computers to manage information on inspections and enforcement actions.
3. Field staff supervision. Field investigation staff are subject to effective monitoring and supervision.	Researchers should identify whether any mechanisms are in place for review, oversight, or supervision of staff that monitor activities in the field. For example, regional or national law enforcement bodies may occasionally assist in field operations, or agencies may have their own internal systems of monitoring field staff performance. Some countries have also put in place independent forest monitors[15] that support and monitor the operations of law enforcement field staff.
4. Legal expertise. Law enforcement bodies have staff with expertise on the forest legal and regulatory framework.	Researchers should interview law enforcement personnel regarding their knowledge of the forest legal and regulatory framework. Relevant laws and regulations include controls on forest and environmental management (e.g., harvesting of forest products, forest clearing, biodiversity, and watershed protection), as well as laws governing forest offenses and penalties. Researchers should also note whether staff are required to pass certain exams, have educational qualifications that include training on the legal framework, or receive ongoing

[15] Independent forest monitoring (IFM) refers to a formal approach in which a government enters into an agreement with an independent third party to assess legal compliance in the forestry sector and observe the operations of official forest law enforcement systems.

	training on the legal framework for forests.
5. Enforcement expertise. Law enforcement bodies have staff with expertise in procedures for monitoring and reporting of illegal activities.	Researchers should interview law enforcement personnel regarding their knowledge of procedures for monitoring and reporting illegal activities. Relevant topics may include legal procedures for reporting and prosecuting forest infractions, or powers of law enforcement personnel. In addition, personnel should have expertise in collecting evidence and preparing cases for prosecution. Researchers should note the level of experience of law enforcement personnel with enforcement activities, as well as identify any ongoing training opportunities that are provided.

66. Capacity of law enforcement bodies		
Object of assessment:		
EOQ	Y/N	Explanation
Budget adequacy		
Technical resources		
Field staff supervision		
Legal expertise		
Enforcement expertise		
Additional notes:		

Values	**Select**
Not applicable/assessed	
Zero to one elements of quality	Low ____
Two elements of quality	Low-Medium ____
Three elements of quality	Medium ____
Four elements of quality	Medium-High ____
Five elements of quality	High ____

Documentation:	
Researcher name and organization:	
Secondary sources: Record the following: document or source title, author or organization, date published, chapter or page, website (if relevant)	
Primary sources: For each of the above conducted, record: - Interviewee/participant name(s) and title - Institution/company/organization -Location and date of interview	

67. Monitoring of forest management operations
To what extent do law enforcement bodies effectively monitor forest management activities and detect illegal activities?

Indicator Guidance:
This indicator should be applied to efforts to monitor compliance of forest management activities with forest laws and regulations. Forest management operations may encompass a range of activities including management of forests for timber harvesting, extraction of nontimber forest products, conservation, or other uses. In general, researchers should focus on activities that may be enforced through legal contracts or other formal arrangements that require monitoring of compliance. Researchers should identify the entity responsible for monitoring, which may include local forest officials, a law enforcement arm of the forest agency, or national law enforcement bodies such as the police or military. They should conduct interviews with field staff that implement monitoring, relevant oversight staff, and with forest managers whose operations are monitored to assess the overall functioning of monitoring efforts.

Element of Quality	Guidance
1. Adherence to procedures. Law enforcement officers follow clear procedures for carrying out inspections, collecting evidence, and documenting offenses.	Law enforcement procedures may be described in the legal framework, regulations, or a manual of procedures. Researchers should collect information on whether law enforcement operations comply with legal procedures. For example, researchers could review documentation of forest infractions to assess their compliance and quality. In addition, researchers could review whether court cases related to forest infractions have exposed any problems related to the performance of law enforcement agencies such as incorrect documentation or violations of the chain of evidence.
2. Access to documents. Law enforcement officers have access to relevant documents to determine whether forest operations are in compliance.	Researchers should verify whether law enforcement personnel have routine access to up-to-date information on forest contracts and management plans in order to monitor forest activities. For example, personnel may have access through forest information systems, or forest operators may be required to provide information at regular intervals based on contract terms.
3. Access to information. Law enforcement officers have access to up-to-date information as a basis for targeting inspections of illegal forest activities.	Researchers should verify whether law enforcement personnel have access to up-to-date information on illegal activities such as illegal logging, clearing, poaching, or mining in forested areas. Relevant information may include systems that monitor forest cover change and forest degradation through remote sensing, as well as reports from the public of forest infractions.
4. Frequency of inspections. On-the-ground inspections occur with adequate frequency.	Researchers should assess how often law enforcement personnel conduct on-the-ground inspections. Frequency may vary depending on the geographic area covered by law enforcement, as well as whether monitoring is being done to assess compliance or follow-up on illegal activity. Inspections should be frequent enough to ensure that all operations are inspected and to discourage illegal activity.
5. Reporting of infractions. Infractions identified by field officers are reported to relevant authorities in a timely manner.	Researchers should assess whether there are protocols in place for reporting infractions to relevant authorities for follow-up action (e.g., prosecutors, senior staff of the forest agency). Researchers should then review whether forest law enforcement

	personnel routinely report on field missions and infractions found. They should note any significant delays between field missions and reporting.
6. Citizen reporting. Citizens have easily accessible channels to report illegal forest activities to relevant authorities.	Researchers should identify any mechanisms that enable citizens to report instances of illegal activity to forest law enforcement bodies or other authorities.

67. Monitoring of forest management operations		
Object of assessment:		
EOQ	Y/N	Explanation
Adherence to procedures		
Access to documents		
Access to information		
Frequency of inspections		
Reporting of infractions		
Citizen reporting		
Additional notes:		

Values	**Select**
Not applicable/assessed	
Zero to one elements of quality	Low ____
Two elements of quality	Low-Medium ____
Three elements of quality	Medium ____
Four elements of quality	Medium-High ____
Five or more elements of quality	High ____

Documentation:	
Researcher name and organization:	
Secondary sources: Record the following: document or source title, author or organization, date published, chapter or page, website (if relevant)	
Primary sources: For each of the above conducted, record: - Interviewee/participant name(s) and title - Institution/company/organization -Location and date of interview	

68. Monitoring of timber supply chains
To what extent do law enforcement bodies effectively monitor forest product supply chains and detect instances of illegality?

Indicator Guidance:
This indicator assesses how relevant agencies monitor the forest product supply chain, including harvest, transport, processing, and export. It should be applied to all agencies with a role in law enforcement along the supply chain, which typically involves many actors including the forest agency, police, customs, and, in some countries, independent forest monitors. Researchers should review the procedures in place for monitoring the supply chain, which may be set out in laws, regulations, or law enforcement manuals, and collect information on how monitoring is carried out in practice. Researchers should interview staff of all relevant agencies involved in supply chain monitoring, as well as forest managers who transport, process, or export timber. Records of infractions identified by supply chain monitoring, performance reports of law enforcement agencies, or independent monitoring reports should also be reviewed.

Element of Quality	Guidance
1. Documentation. Tamper-resistant documentation is used to track timber from point of harvest throughout the supply chain.	Researchers should assess whether documentation for timber such as harvesting or transit permits is often subject to fraud such as counterfeiting or reuse of permits. They should also review whether the forest agency takes steps to limit fraudulent paperwork, for example through design of tamper-resistant permits.
2. Tracking technology. Adequate technology is used to track the legality of logs.	Researchers should identify whether there are systems in place to track legality of harvested timber. Common methods include painted serial numbers, plastic serial number tags, barcodes, or computer chips. Researchers should analyze whether the methods used enable law enforcement officers to easily detect illegal logs across the supply chain.
3. Reconciliation of data. Law enforcement officers regularly reconcile official data on allowable extraction rates with field data obtained from inspection of harvest, transport, processing, and export facilities.	Researchers should assess whether data from inspection of harvest, transport, processing, and export is routinely reconciled to ensure timber legality and identify potential infractions (such as underreporting of timber harvested to avoid taxes). Researchers should review how law enforcement personnel cross-reference information on volumes of species harvested at point of extraction, checkpoints, and processing facilities. Data may be reconciled by comparing paperwork (e.g., permits, certificates), but this approach is considered less reliable than computer systems that reconcile data across the forest product supply chain.
4. Inspection of processing facilities. Law enforcement officers conduct inspections and supply audits of processing mills with adequate frequency.	Researchers should review whether law enforcement personnel inspect processing facilities, including audits of timber supply. They should identify how often facilities are inspected, as well as ensure that processing facilities are up-to-date on permits and licenses required for operation.
5. Transport inspections. Law enforcement officers conduct inspections at major transport points with adequate frequency.	Researchers should assess whether forest law enforcement personnel conduct inspections of timber in transit. For example, researchers should review whether there are scheduled or unscheduled checkpoints for inspecting vehicles transporting logs, and how often such inspections occur.

6. Reporting of infractions. Infractions are reported to relevant authorities in a timely manner.	Researchers should review how infractions in the timber supply chain are reported, who they are reported to, and whether reporting is carried out as soon as infractions have been identified. Researchers should verify whether personnel involved in inspecting all relevant points of the supply chain are aware of reporting procedures and routinely follow them.

68. Monitoring of timber supply chains		
Object of assessment:		
EOQ	Y/N	Explanation
Documentation		
Tracking technology		
Reconciliation of data		
Inspection of processing facilities		
Transport inspections		
Reporting of infractions		
Additional notes:		

Values	**Select**
Not applicable/assessed	
Zero to one elements of quality	Low ___
Two elements of quality	Low-Medium ___
Three elements of quality	Medium ___
Four elements of quality	Medium-High ___
Five or more elements of quality	High ___

Documentation:	
Researcher name and organization:	
Secondary sources: Record the following: document or source title, author or organization, date published, chapter or page, website (if relevant)	
Primary sources: For each of the above conducted, record: - Interviewee/participant name(s) and title - Institution/company/organization -Location and date of interview	

69. Prosecution of forest crimes
To what extent are forest crimes fairly and effectively prosecuted in a timely manner?

Indicator Guidance:
This indicator assesses the functioning of systems to prosecute forest infractions. Many countries use judicial systems for prosecution of serious infractions and administrative systems for minor infractions. Researchers should identify which systems are typically used in the country of assessment and conduct interviews with government officials responsible for administering these processes (e.g., prosecutors, judges, forest agency staff). Researchers should review the legal procedures for prosecuting forest crimes, as well as collect information from several recently completed cases to assess the functioning of the system in practice.

Element of Quality	Guidance
1. Access to evidence. Prosecutors have access to evidence on reported forest infractions.	Researchers should verify whether prosecutors can obtain evidence to pursue cases of forest infractions, for example by collaborating with forest law enforcement field staff who in charge of detecting forest infractions.
2. Timeliness of prosecution. Prosecutors act on reported forest infractions in a timely manner.	Researchers should collect information on how often reported cases of forest infractions are pursued through a judicial or administrative process, as well as the average length of time for prosecuting forest infractions.
3. Legal support. All defendants have access to a lawyer, regardless of their financial resources.	Researchers should review whether the judicial or administrative enforcement system provides legal support to people accused of forest infractions regardless of their financial situation. Researchers should also review whether these services are accessible in practice.
4. Transparency of proceedings. Procedures for hearing cases are transparent and rules-based.	Researchers should review whether there are clear administrative rules governing prosecution of forest infractions, and whether legal proceedings are transparent. Transparency of proceedings may be evaluated by whether there are publicly available court records of cases or whether proceedings are open to the public. If some cases of forest infractions are resolved through administrative rather than judicial procedures, researchers should still verify whether there are records of how cases were resolved (e.g., whether fines were levied and how they were determined).
5. Timeliness of rulings. Rulings are delivered in a timely manner.	Researchers should review whether the law includes any requirements on the length of legal proceedings related to forest infractions. For example, in Brazil, federal law establishes a requirement of 30 days to judge administrative proceedings. Researchers should review recent cases to prosecute forest infractions and document the average time to a ruling.
6. Appeals. Convicted offenders have the opportunity to appeal decisions.	Researchers should review whether administrative procedures enable those convicted of forest infractions to appeal decisions. If forest infractions are resolved by the executive branch (e.g., through an administrative process), researchers should also determine whether these proceedings can be appealed through the courts.

69. Prosecution of forest crimes		
Object of assessment:		
EOQ	Y/N	Explanation
Access to evidence		
Timeliness of prosecution		
Legal support		
Transparency of proceedings		
Timeliness of rulings		
Appeals		
Additional notes:		

Values	**Select**
Not applicable/assessed	
Zero to one elements of quality	Low ___
Two elements of quality	Low-Medium ___
Three elements of quality	Medium ___
Four elements of quality	Medium-High ___
Five or more elements of quality	High ___

Documentation:	
Researcher name and organization:	
Secondary sources: Record the following: document or source title, author or organization, date published, chapter or page, website (if relevant)	
Primary sources: For each of the above conducted, record: - Interviewee/participant name(s) and title - Institution/company/organization -Location and date of interview	

70. Application of penalties
To what extent are appropriate penalties applied and enforced in a timely manner?

Indicator Guidance:
This indicator reviews how penalties for forest infractions are applied and enforced, including whether they are consistent with the legal framework. Researchers should collect judicial or administrative case records, performance reports, or other documentation on application of and compliance with penalties in the forest sector. They should also conduct interviews with government staff in charge of issuing, enforcing, and monitoring compliance with penalties.

Element of Quality	Guidance
1. Legal expertise. Decision-makers issuing penalties are trained in the legal framework for forest offenses and penalties.	Researchers should review whether judges, prosecutors, forest agency staff, or other decision-makers involved in applying penalties for forest crimes are knowledgeable of the legal framework for forest offenses and penalties. Researchers should assess whether such officials have education or receive formal training on the legal framework.
2. Consistency. Assigned penalties are generally consistent with the law and appropriate given the nature of the offense.	Researchers should review information on both civil and criminal penalties applied to cases of forest infractions. They should review cases handled by the judiciary as well as examples of administrative sanctions if relevant. Researchers should note whether the penalty is consistent with the guidelines in the legal framework and whether the penalty is appropriate to the crime.
3. Compliance. Financial penalties are paid in full in a timely manner.	Researchers should document the proportion of financial penalties issued by courts or administrative proceedings that are paid in full, partially paid, or remain unpaid. Staff of the agency in charge of issuing and collecting fines should maintain this information.
4. Monitoring of compliance. Compliance with penalties is monitored and further legal action is taken in cases of noncompliance.	Researchers should assess the level of compliance with penalties issued for forest crimes by gathering information on payment of fines, compliance with compensatory measures (e.g., restoration requirements), or other types of penalties. They should also review whether the forest agency or other relevant institution monitors and enforces compliance.
5. Public disclosure. Information about penalties and their state of compliance is publicly disclosed.	Researchers should review whether information on penalties issued and paid for forest crimes is routinely documented and made available to the public.

70. Application of penalties		
Object of assessment:		
EOQ	Y/N	Explanation
Legal expertise		
Consistency		
Compliance		
Monitoring of compliance		
Public disclosure		
Additional notes:		

Values	**Select**
Not applicable/assessed	
Zero to one elements of quality	Low ___
Two elements of quality	Low-Medium ___
Three elements of quality	Medium ___
Four elements of quality	Medium-High ___
Five elements of quality	High ___

Documentation:	
Researcher name and organization:	
Secondary sources: Record the following: document or source title, author or organization, date published, chapter or page, website (if relevant)	
Primary sources: For each of the above conducted, record: - Interviewee/participant name(s) and title - Institution/company/organization -Location and date of interview	