

MODULE 5:

Data collection

Data collection procedures and quality assurance principles will help ensure that it best supports the policy objectives of the land-use finance mapping exercise.

OBJECTIVE

Collect quantitative and qualitative data to fill out the mapping framework and gaps.

With the project scope and mapping framework defined, the team can focus on data collection efforts in support of the analysis. There are two different categories of data needed, which are equally important for every climate finance mapping:

- **Quantitative** financial data is the basis for the final financial mapping.
- **Qualitative** information is essential for understanding the land-use context within the geography/jurisdiction of interest, and to feed into recommendations to be made on the basis of the analysis. Data on the quantity of flows is of little value without understanding also the underlying drivers, incentives and relationships that may be altered to achieve policy goals.

There are three types of qualitative data that might be useful to inform the study:

- a) Information on the policy framework: to support the scoping (Module 1) and definition setting (Module 3), for example international and national climate and REDD+ strategies, sectoral plans or studies on drivers of deforestation.
- b) Information on actors, instruments, flows and processes to: support the development of a mapping framework (Module 4), as well as data analysis (Module 7), and development of recommendations (Module 8), for example budget/finance laws, documents on budget processes, budget classification, legal framework, annual reports of public agencies, SOEs, funds, audit reports or evaluation reports.
- c) Information on projects: to support the classification of budget lines according to the typology defined (Module 6), for example project documents and reports, funding proposals, terms of reference or bilateral interviews of technical staff.

When starting the data collection process, the project team should identify needs, list sources and develop questionnaires and templates for quantitative and qualitative data. Collecting both kinds of data at the same time can save time and resources and will also help keep stakeholders engaged by approaching them only once.

KEY QUESTIONS

5.1 Where to find data?

5.2 How to identify gaps in data, and how to fill them?

TEMPLATES



Download **Template 7 - Scoping data sources by actors**



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5.1 Where to find data?

A list of potential data sources can be the start for a systematic search for data sources.

Guiding questions are:

- ▶ Looking at actors: Who are the key actors within scope (see Module 4) in planning/ implementing/financing land-use activities? What related sources of data are available?
- ▶ Looking at activities: What are the key land-use programmes/projects/activities within scope? Who is involved? What related sources of data are available?

Data gathering is best conducted in close collaboration with key stakeholders. This will increase the likelihood that: (a) all relevant data is accessed and gathered; and (b) data analysis or interpretation issues are easily solved. Hence, key contacts and data providers need to be engaged from the beginning (See Module 2 on stakeholder engagement).

A template is provided at the end of the module that can be used to scope potential data sources. Project champions, steering committee and core stakeholders can help identify contacts within the relevant ministries/departments/organisations to approach for data and information. The same template can be used to keep a record of all the data and information sources used for inclusion in eventual publications, and to support any future updates.

Templates are also provided to catalogue data sources for qualitative and quantitative information respectively, and to assess them for data quality.

The next sections describe the key data sources for domestic public, international public and private actors/organisations/structures in more detail. They indicate whether they can meet data quality objectives regarding timeliness, completeness, consistency and accuracy (for further details on data quality concept see Table 8).

5.1.1 Domestic public actors

The government budget is a key source of quantitative information covering domestic public actors, such as central government/federal ministries, local government or national funds. They also offer a gateway to understanding more in-depth qualitative information about finance flows to provide context to the analysis and feed into recommendations.

Answering the following questions will be necessary to access, analyse and interpret the government budget:

- ▶ What is the planning and budgeting process?
- ▶ How is the government budget structured?
- ▶ How and by whom are the central government budget and related data managed?

- ▶ Where can qualitative data on projects be found to interpret the information from the government budget?
- ▶ What is the role of provinces in implementing national programmes? Is information on sub-national budgets centralised and/or sub-national budgets shared with the national government?
- ▶ Are there specific funds, funding mechanisms or fiscal measures related to the land-use sectors that are captured in the budget?

Ways to answer these questions include: carrying out interviews with stakeholders; and reviewing documents on budget processes, budget classification, legal framework, budget/finance laws, audit reports, evaluation reports, annual reports of funds, etc. Next, potential challenges to consider will be identified.

What is the planning and budgeting process?

You should understand how the budget planning and monitoring processes work to support data requests and interpretation. Usually, different actors will be responsible for leading the processes for developing national development plans, sector strategies and budget plans.

The budget cycle comprises different phases. First, each line ministry typically formulates its budget and submits it to the ministry of finance/planning for further consideration and approval. Once approved and enacted by the parliament/presidency/ministry of finance, the estimated budget will then be implemented by the line ministries. At the end of the fiscal year, each line ministry will provide an annual report to the ministry of finance, who is responsible for consolidation into the actual (unaudited) budget for auditing. It can take more than a year before budget audits are finalised. Hence, if a land-use finance mapping is to reflect the latest fiscal year, it might need to be based on the actual (unaudited), or even estimated, budget numbers. Different departments within the same ministry might need to be consulted to access data on the different elements of the budgeting process, such as budget planning, budget management and debt management.

Challenge: Estimated, actual (unaudited) and audited budgets differ in their amounts, and deciding which one to use depends on the objective, methodology and timeline of the land-use finance mapping.

How is the government budget structured?

The government budget can be national or local. It represents the government's projected revenues and expenditures for a fiscal year.

- Expenditures show how the revenues are planned to be spent. They are usually divided into:
 - Recurrent expenditures that cover operational/ongoing running costs (salaries, stationary, utilities, rentals, communication and fuel).
 - Investment expenditures that are meant to create future benefits (infrastructure), expenditures (public works programmes), and subsidies for crop insurance of the agricultural industry and research in the agricultural sector.
 - Transfer payments that are made without the exchange of goods or services (unemployment or retirement benefits).
- Revenues are the resources that the planned activities will be covered from. They come from:
 - Taxes (land and building tax on local level/export tax on national level).
 - Non-tax revenues (excise and customs duties, user fees like parking fees), fees for the issuance of permits or licences (plantation business permit/licence to harvest existing timber on land with a plantation concession, revenues/royalties/proceeds from SOEs, official development assistance, borrowing/loans, private donations, revenues from the sale of state assets and/or oil revenues).

While some budgets are highly aggregated, others are broken down into budget line items that relate to a specific development goal or programme, such as the establishment of forest management units. Only a disaggregated government budget enables the analysis of how much is spent on what kind of land-use related activities. Domestic public budgets are generally structured into different categories and attributes. To make the right data request, it is necessary to understand how the domestic public budget is structured. Finance tagging and mapping generally requires the most detailed breakdown of information possible.

Challenge: Some budgets/budget divisions might not be suitable as data sources, since their format might not allow tracing allocations to specific policy objectives. Additional data (project documents, interviews) might be needed to complement.

The Central Highlands study in Vietnam focused only on investment data, not on recurrent budgets. Although the latter represent the biggest share of government spending, consultations with stakeholders confirmed that the classification of recurrent budget (cost norms) hinders the categorisation and allocation to specific policy objectives (EFI, 2018).

In Côte d'Ivoire, the breakdown to nine-digit levels provided information on individual programmes at the most granular level and provided useful attribute information, such as the type of finance or the associated actors.

How and by whom are the central government budget and related data managed?

Usually, management of different types of government expenditure and revenues will be under the lead of different ministries/departments. To ensure access to different budget divisions, for example investment or recurrent budget, it is necessary to engage key stakeholder(s). In many cases, these will be coordinating ministries – ministries that have consolidated data about domestic and potentially international budgets like finance/budget, planning, and/or the prime minister or president's office.

Furthermore, budget expenditures are presented in the form of allocations for each ministry or department, such as forestry, agriculture or health. The implementation of land-use related programmes and activities happens in various ministries. It is therefore important to track land-use issues in the various ministries relevant to the scope of the study, but take care not to double count (see Module 3 on definitions for the policy areas/line ministries potentially relevant to land use, and Module 2 for the identification and engagement of key stakeholders).

Challenge: Assessing and analysing the different divisions of the government expenditure (recurrent/investment expenditure or transfer payments) and revenue might require intense engagement with various actors, as different ministries and departments might be responsible for managing budget data.

In Vietnam, recurrent budgets are the responsibility of the Ministry of Finance and its provincial departments of finance. Investment budgets are the responsibility of the Ministry of Planning and Investment and its provincial departments of planning and investment (EFI and CIEM, 2018).

What is the role of sub-national government in implementing national programmes? Is information on sub-national budgets centralised and/or shared with the national government?

Parts of the government budget might be implemented by local divisions of ministries in the regions and the methodology for tracking the land-use relevance of these funds could be the same as for tracking the use of funds implemented at the central level. Other parts of the government budget will be transferred and blended into local government budgets, as local governments often have limited capacity to finance their expenditures using their own revenues. Tracking the land-use relevance of these parts of the central government budget might require the analysis of local government budgets, which can be time- and resource-intensive. Especially, if numbers are not shared/centralised/documented at the central level, the project team would need to engage closely with local governments to access data, analyse and verify results.

In some countries, local government budgets may not follow the same structure, making a comparison and consolidation of local budgets more difficult. They may also be available in detailed form at a further divisional level, for example municipal or district level, and may not be available in electronic format.

Challenge: Tracking the land-use relevance of local government budgets and central government budget transferred to and implemented by local governments might be time- and resource-intensive, as local budget data might neither be centralised nor shared with the central government.

Are there specific funds, funding mechanisms or fiscal measures related to the land-use sectors?

Revenue collection and expenditure are both fiscal policy tools that the government uses to influence the economy, for example to create demand and economic growth (see Module 1). Government or government agencies may have established fiscal measures, as well as policies and regulations, that guide (private) investment behaviours and impact the actions of land users and commodity supply chain actors, for example:

- Budget revenue instruments that raise funds from land-use related sectors and are collected by either local or central government bodies, for example taxes (export/import tax, production tax) and levies.
- Instruments used to stimulate private investments in the land-use sector in the province, for example freight or production subsidies, or tax holidays.

In addition, specific funding mechanisms and/or funds might be designed and managed by government actors to incentivise sustainable land use, for example Reforestation Fund in Indonesia targeting private sector investment in sustainable land use.

The value of some of these instruments may be found in the government budget. However, to assess their land-use relevance, identify beneficiaries/targeted actors or to understand how they work, the project team will need to collect further information. This information can be gathered through the review of legal and technical documents and expert interviews (see qualitative data collection template).

Finding qualitative data on domestic public projects

In most cases, budgetary and financial data collected from public actors will contain very little detail about project components, objectives and potential results. Budget line descriptions are usually limited to a few words. To be able to understand the extent to which budgets and related programmes are aligned with policy objectives, supplementary qualitative information on programmes has to be collected.

Qualitative information, such as project documents, programme description, implementation reports, evaluations or audits, is usually not managed by the same actors as quantitative information. This might complicate the data collection process. In some cases, budget planning is preceded by a programming phase, during which line ministries formulate programme or project proposals based on their policy priorities. This information might be collected centrally by cross-cutting ministries such as ministries of planning. However, the most detailed information is likely to be available from line ministries' planning directorates or individual departments responsible for programmes.

Additional qualitative information might be necessary to assess the potential impact on forests of certain financial flows, for example land cover data and replanting cost data. The quality and level of detail needed will greatly depend on the scope and level of detail of the typology developed (see Module 3).

Challenges: Collecting qualitative project data can be resource intensive, particularly if data quality is poor, or information is fragmented and/or inconsistent. For example, projects may have different names or codes in the budget compared to policy documents. The objective or the typology of the analysis might need to be revised alongside the project if the availability or quality of qualitative data is an issue.

5.1.2 International public actors

The following questions may be useful to consider in collecting qualitative and quantitative data on the funding of international public actors in the analysis:

- ▶ Do donors directly support the national government/province on sustainable land use? What are performance requirements to release the funds?
- ▶ What reporting requirements are in place for international development partner funding and how is the compliance rate?
- ▶ What other reporting initiatives exist?
- ▶ Should a survey approach be followed?

Do donors directly support the national government/province on sustainable land use? What performance requirements are needed to release the funds?

There are typically two types of grants and loans:

- **Budget support:** the funds are directly transferred to the government's budget where it can be managed with national systems. As the government decides what to use the funds for, 'budget support [can be] a means to strengthening country ownership, financing national development strategies (including poverty reduction strategies), and promoting sound and transparent public finances.' (EU, 2018). However, it depends on the budget structure/aggregation level whether one can track the final use of budget support and map whether it is related to land-use activities or not.
- **Programmatic support:** funds given/earmarked to finance a certain programme. In some cases, programmatic support grants might go directly from the (international) partner to the government or non-government agency/organisation implementing the programme and hence may not be detailed in the budgetary records at all (off-budget) or in a timely manner. It is therefore necessary to cross-check budget information with information provided by international partners.

What reporting requirements are in place for international development partner funding?

Governments have a clear interest in tracking international partners' activities in country. Government budgets will include information on international actors' contributions in the case of (on) budget support, but might lack information on programmatic support. Reporting requirements and monitoring systems are in place in some countries to collect information on all international inflows to the country, and may provide valuable information for a land-use finance mapping. Whether or not related data can be useful for a climate finance mapping depends on compliance with these requirements and the timeliness, completeness, consistency and accuracy of these monitoring efforts.

Some countries have dedicated departments or agencies monitoring international donor contributions, with databases detailing commitments and disbursements.

In Côte d'Ivoire, international development partner disbursement data was obtained from the External Resources Mobilisation Committee (Comité de Mobilisation des Ressources Extérieures or COMOREX), which monitors and manages finance from development partners (Falconer et al., 2017). The dataset was comprehensive and provided a valuable source of information on land-use finance.

Under Ministry of Finance processes in Indonesia, cash grants should be reported by the relevant Indonesian agency through the revenue recognition process. As reporting requirements did not appear to be well understood, there was low compliance with them and significant differences between information held by the Ministry of Finance on international development partner funding, versus survey information submitted by the development partners themselves (Ampri et al., 2014).

What other reporting initiatives exist?

National level initiatives

In many countries, donors collect information themselves about their own, and their peers', spending and programmes. Donor coordination groups might be useful partners to engage to access available data.

International level initiatives

There are initiatives that aim to harmonise definitions and methods for reporting climate finance across multilateral and/or bilateral providers, and to consolidate data in joint, publicly-available reporting/data management systems. Although these are valuable data sources for global climate finance tracking efforts, they might only be used for cross-reference in a national land-use finance mapping since:

- Information is not always broken down to country or jurisdictional-level, and hence cannot be extracted for the geography of interest. The IDFC, for example, breaks down into regions like Sub-Saharan Africa only.
- Indicators describing the use of funds might not be broken down to the level needed for detailed categorisation of land-use activities, for example, the Climate Funds Update website summarises mitigation activities under 'Mitigation – general' and 'Mitigation – REDD+'.
- Numbers often reflect commitments, while some climate finance mappings might require numbers on actual disbursements to be consistent with other flows included, such as domestic budget expenditures. For example, the Development Assistance Committee (DAC) Creditor Reporting System (CRS) database of the Organisation for Economic Co-operation and Development (OECD) provides project-level commitment data comprehensively, but disbursement data is often more limited.

Should a survey approach be followed?

A direct way to obtain accurate and detailed data from international donors is to request it bilaterally through donor surveys. This approach allows you to collect all necessary information for the study but is resource-intensive. Data received can be used as a primary data source or to cross-check the accuracy of other data sources. The survey approach is particularly useful to collect information on off-budget flows (see section on ‘Acquiring unpublished data and dealing with confidentiality’). Donor coordination groups, if they exist, can help facilitate data collection.

5.1.3 Private sector finance

Private sector land-use finance might be the most challenging to cover, as it is not a homogenous group of actors and their role in land-use finance might be wide-ranging. Hence, before setting out to collect data, it will be important to understand:

- ▶ What are the main industries/private sector actors active in the land-use sectors? Where are investors mostly from (national/international)? See Module 4.
- ▶ What are the main policies and instruments used to stimulate private investments? See Template 8 for assessing qualitative data from sources.
- ▶ Is there data available on the amount of investment?

Climate finance is not systematically and comprehensively tracked by the private sector. There is neither an established definition of climate-aligned finance, nor an established process or common framework for monitoring, reporting and verifying. For many companies, climate-aligned investments are largely indistinguishable from ‘normal’ expenditures in the re-investment cycle, such as acquisition of new equipment (Juergens et al. 2012). As a result, former climate finance mappings at the country-level experienced major difficulties in obtaining data for private actors and in comparing tracking methods, so the private sector was often excluded from the mapping entirely.

However, some approaches are being developed and tested by researchers to gather information on private investment flows. In particular, work by FAO (see Lowder et al., 2015) estimates the relative size of on-farm and foreign direct investment in agriculture, as well as official development assistance and government investments. COWI has also developed approaches to quantify direct and indirect private REDD+ finance (COWI, 2018).

In addition, bottom-up sources of information may be available, but collection and aggregation of information is time-consuming and challenging. For instance, company reporting by some private sector actors provides details on their climate-aligned investment, for example corporate social responsibility/sustainability/annual or market reports, while the reporting of others do not. Although private land-use sector players might well be aware of the global climate regime and its influence on their business strategy, ‘private funding for REDD+ is yet to be compiled and compared in a consistent manner with public funding for REDD+’ (COWI, 2018).

Industry associations may also be a good source of data on investments or production that can be used as proxies to estimate investment flows. In some countries, industry associations and support programmes may have a strong influence on production patterns.

A recent study introduced an approach where 'private funding is mapped using a financial instrument-centric approach (instead of an actor-centric approach), as a context to discuss how various financial instruments can channel funding and at the same time leverage inclusion of sustainability or deforestation considerations into supply chains and production investments' (see COWI, 2018). The study finds that the principal private funding sources can be divided into:

- Direct REDD+ finance - defined as financial flows supporting projects/programmes identifying themselves using the term 'REDD' or 'REDD+'.
- Indirect REDD+ funding - defined as financial flows supporting projects/programmes that do not identify themselves using the term 'REDD' or 'REDD+', but supporting the objectives of REDD+, for example reducing emissions from deforestation, forest degradation, forest conservation, enhancing carbon stocks and sustainable management of forests.

The study aimed to quantify direct and indirect REDD+ funding channelled through:

- Carbon markets, for which both direct and indirect REDD+ funding were quantified.
- Conservation and restoration finance, using direct loan, notes, bonds, private equity and funds. Neither direct nor indirect REDD+ funding could be estimated for this category.
- Funding channelled into deforestation-free soft commodity production systems and value chains, using climate-aligned and green bonds, loans, private equity and trade finance. Indirect REDD+ finance could be quantified for dedicated impact investors' equity only.

For the estimation of finance channelled to each of the three above-mentioned categories, through the different financial instruments, the study team consolidated information from:

- Analysis published by other organisations or initiatives, for example Ecosystem Market Place, Climate Focus, Overseas Development Initiative and Center for Global Development.
- Publicly-available databases, such as the database of REDD+ projects (ID-RECCO), which contains data on private sector financing for more than 300 REDD+ projects.
- Data extracted from publications, for example a report on carbon pricing in the corporate world published by CDP (formerly Carbon Disclosure Project).

5.2 How to identify data gaps and fill them?

Data access, availability and quality are consistently reported as challenges. To address this, one should develop a data acquisition strategy where publicly-available data does not meet (quality) requirements for the reasons listed in Table 8.

Challenge	Reason	Approach taken
Accessibility	Data source not centralised, for example local governments	Bottom-up approach to aggregate available data Case study
	Publicly-available data highly aggregated and does not show sufficient level of detail to be accurately classified	Acquire unpublished data directly through bilateral requests, surveys and interviews
Timeliness	There are records in the datasets describing a period before or after the chosen project period/year	Engage with data manager/provider to see whether an update is possible, for example using the latest estimated budget data accepting its uncertainty
		Expert judgement on whether expenditure described by this record was constant in time Document carefully
Quality: Content incomplete	Insufficient qualitative information available on project scope, objectives, sub-components, activities realised and so forth, to assess the use of funds and their potential impact on forests	Engage with data providers to collect qualitative information bilaterally (for example project notes, reports.) Interview of technical staff engaged in the project
	Not all relevant fields covered (columns incomplete, while rows are complete, information on financial instruments missing)	Consultation with government and data providers and experts Engage with data manager/provider and check why dataset incomplete (database query did not cover all fields) Cross-check against other data sources to identify problems
	Not all data points covered (columns complete, while rows are incomplete) intl. programme grants only partly covered	Consultation with government, data providers and/or experts Fill missing information with default/proxy data Consolidate with other data sources
Quality: Inconsistent content	Discrepancies between different datasets (govt. budget and public donor reporting show different numbers on international expenditures)	Consultation with government and data providers and experts
	Data on land-use finance provided based on a different definition/methodology than the one used for the land-use finance mapping	Acquire unpublished data to double-check Expert judgement
Quality: Inconsistent content	See Module 6, consolidation of datasets	See Module 6, consolidation of datasets

▲
Table 8: Data quality requirements and challenges

5.2.1 Acquiring unpublished data and dealing with confidentiality

It can be valuable to initiate a survey to acquire unpublished data, if there are data gaps for categories/areas that are key to the land-use finance mapping objective, as it is useful to know the largest funders, actors or instruments that have the greatest potential to change, or which might be potential bottlenecks. In most cases, it will only be feasible to survey relevant stakeholders from the most important stakeholder groups, since each survey needs careful preparation and follow up, and this can be very time consuming. One needs to prepare survey templates that are specific to each stakeholder group, identify/contact stakeholders, and analyse/consolidate the survey responses.

To receive a significant number and high quality of responses, one should:

- Keep the survey simple, so the respondent understands the task quickly and can fill the survey with a minimum effort.
- Explain methodologies and give examples for how to apply them, so the answers of different respondents are comparable.
- Try to address existing contacts/stakeholders and explain why they should help.
- Identify and partner with intermediaries (donor coordination group, industry association) that can collect data on behalf of the project team.

The level of data that survey respondents will be willing to provide can vary from:

- Ideally, project-level information that enables the application of a climate finance definition.
- At the least, the climate finance data at the aggregation-level needed.
- Qualitative information.

Data providers might restrict access to information because it is confidential, unpublished or not yet finalised. It is advisable, where possible, to cooperate with data providers to find solutions to overcome their concerns by:

- Explaining the intended use of the data.
- Agreeing, in writing, to the level at which it will be made public.
- Identifying the increased accuracy that can be gained through its use in inventories.
- Offering cooperation to derive mutually-acceptable datasets.
- Giving credit/acknowledgement in the inventory to the data provided (IPCC, 2006).

5.2.2 Case studies

A case study might be conducted when data sources are not centralised, and a bottom-up approach is not feasible. This can be for various reasons, including because local government budgets vary too much in their structure and cannot be consolidated, or expenditure data are not accessible for all relevant SOEs.

Although case studies are only an excerpt of the whole picture, they can provide valuable insights to:

- Understand current land-use investment trends.
- Understand the extent to which REDD+ objectives are mainstreamed into particular actors' planning and budgeting.
- Fill existing knowledge (and finance) gaps.

5.2.3 Qualitative assessments

Like case studies, qualitative assessments can help understand trends and challenges where access to, or quality of, data prevent a quantitative analysis. Timeframe, budget estimates and sources of funding might, at least, be made in qualitative terms by reviewing policy context and institutional arrangements, and conducting interviews with key stakeholders understanding land-use activities and investments in the region, such as local government and other (non) governmental implementing agencies. Also, public subsidy data (including fiscal incentives or disincentives) and their application, can be very hard to obtain, and it is often unclear if a particular fiscal incentive has had an impact on the private sector in practice. Qualitative assessments of fiscal incentives can be more feasible than quantitative.

5.2.4 Surrogate/adapted data

Surrogate data are 'alternative data that have a correlation with the data that they are replacing. [...] It is preferable to use data that is directly related to the item being quantified rather than to use surrogate data [...]. In some cases, however, directly applicable data may be unavailable or have gaps [...]. In these cases, surrogate data can help fill gaps and generate a consistent time series or a country average' (IPCC, 2006). It is important to confirm and document the relationship between surrogate data and the subject to be quantified.

Examples of surrogate data or data adapted for land-use finance mapping include:

- Annual financial reports of statutory authorities that list the amounts collected through various non-tax instruments, as well as domestic trade data collected monthly by state agencies.
- Sustainable certification schemes, such as the Forest Stewardship Council and others, may be used as proxies for sustainable land use in specific plantations, industrial production, or project activities. Volume of agriculture or timber commodities sold or produced and price encapsulate investments made throughout the value chain. This is an imperfect proxy, however, as it captures revenue, not investment, in a given year and is, therefore, inconsistent with annual disbursement or commitment data on the public side.
- Data on planned expenditures have been easier to obtain than actual expenditures in some countries. When using planned expenditures, the user should report this transparently and be aware that there will be updates or corrections to data after reconciliation and audits.
- Commitment data might be more readily available than disbursements data. However, commitments might be cumulative, spanning multiple years, for example commitment for a specific multi-year programme. One might equally break such cumulative numbers down to equal annual shares. However, while data on annual disbursements would allow interpretation, for example zero disbursements could suggest that there are barriers in the system for delivering or absorbing finance, commitment data cannot substantiate such assumption.
- Private funding can be mapped using a financial instrument-centric approach (instead of an actor centric approach), as a context to discuss how various financial instruments can channel funding, and at the same time, leverage inclusion of sustainability or deforestation considerations into supply chains and production investments (see COWI, 2018).

5.2.5 Expert judgement

Experts can be consulted to help identify important financial flows and assess their relative importance in the absence of official information and data. In addition, when assessing the potential impact of land-use investments and categorising financial flows, the project team might systematically consult land-use experts and officials with close knowledge of particular programmes (see section 6.3 on categorisation).

If possible, it is best to consult more than one expert to come to a consensus (Benoit, Wiesehomeier, 2009). Experts may be from government, industrial trade associations, technical institutes, industry or universities (IPCC, 2006).

In the Landscape of Public Climate Finance in Indonesia, representatives of line ministries were consulted to quantify the climate-aligned share of large programmes with several goals, including climate change. As they were familiar with these programmes, they made this judgement, especially since there was no official documentation.

Template 7 - Scoping data sources by actors



Template 7 - Scoping data sources by actors

Kind of actor	Actor	Potential data source	Nature of the data	Where and how to collect the data, key contacts
Domestic public actors	Central govt./ line ministries	Detailed disaggregated central government budget information system	quantitative	Check if detailed disaggregated data is available publicly or request detailed budget database extracts from the ministry of finance/budget
		Project databases and documents	qualitative	Search for publicly available project information documents or request them from line ministries or a central coordinating ministry such as the ministry of planning
		Legal texts and strategies	qualitative	Official journal or legal databases may include relevant legal texts
	Local govt.	Local govt. budgets	quantitative	Check if detailed disaggregated data is available publicly or request detailed budget database extracts from local government
		Mid-term investment plans	quantitative	Publicly available or request from local government
		Project database and project documents	qualitative	Publicly available or request from local government
		Central govt. budget allocation and transfer data	quantitative	Check if detailed disaggregated data is available publicly or request detailed budget database extracts from the ministry of finance/budget
	Public agencies	Agency websites, annual reports	qualitative and quantitative	Check online or obtain bilaterally
		Central govt. budgets and finance laws	quantitative	Check if detailed disaggregated data is available publicly or request detailed budget database extracts from the ministry of finance/budget
	National funds	Fund websites and reports	quantitative and qualitative	Check online or obtain bilaterally
		Central govt. budget	quantitative	Check if detailed disaggregated data is available publicly, or request detailed budget database extracts from the ministry of finance/budget
	SOEs/ public financial institutions	Reports (annual reports, audits)	quantitative and qualitative	Check online or obtain bilaterally
		Donor survey on intl. loans/grants to SOE	quantitative	Survey and bilateral consultations
		Donor reporting/ survey on intl. loans/grants to SOE	quantitative	Survey and bilateral consultations

Template 7 - Scoping data sources by actors

Kind of actor	Actor	Potential data source	Nature of the data	Where and how to collect the data, key contacts
International public actors	Bilateral govt.	Reports and project documents	quantitative and qualitative	Check online or obtain bilaterally
	Multilateral agency/fund	Joint reporting (OECD DAC CRS, Joint MDB reporting, Climate Funds Update, IDFC)	quantitative	Usually available online
	Multilateral/regional/bilateral development finance institution	Donor survey	quantitative	Survey and bilateral consultations
		Central govt. budget	quantitative	Indonesia: used to map international flows captured in government budget and cross-check with other sources
		National statistics/databases	quantitative	Check with government departments overseeing international grants, usually in the ministry of finance/budget or specialised agencies, for example REDD+ office
Private	Financial sector (impact) funds	Reports (annual reports, audits)	quantitative and qualitative	Check online or obtain bilaterally
	Producers			
	Project developers			
	Service providers	National statistics/databases	quantitative	Check online or obtain bilaterally
	Traders			
	Industry associations/Unions			
Civil society	NGOs	Reports (annual reports, audits)	qualitative	Check online or obtain bilaterally
	Academic and research centres	Central govt. budget	quantitative	Check if detailed disaggregated data is available publicly or request detailed budget database extracts from the ministry of finance/budget
	Philanthropists			
		Donor reporting/survey on intl. loans/grants to SOE	quantitative	Survey and bilateral consultations

Template 8 - Cataloguing qualitative data sources and quality



Template 8 - Cataloguing qualitative data sources and quality

Information to be gathered	Example/ guiding questions
Name of instrument/mechanism/project	
Supporting legislation, if any	What is the regulatory framework that establishes the instrument or mechanism?
Purpose of instrument/mechanism/project	What is the entity to manage monitoring of forest concessions, fund development activities, and subsidise certain sectors of the economy?
Year the instrument/mechanism was effective from (current/historic)	
Governing structure	Who decides how funds are spent?
Structure of instrument	% of revenue from stumpage
Supporting instruments	How is the entity capitalised? (levy, tax, loans, equity or bonds)
Total receipts/flow in the year(s) of analysis (local currency)	
Source of information	Where was this information captured from (provide supporting documents)?
Use of funds	What were the funds used for? (government staff, development projects, etc.) Are there targeted beneficiaries in the case of subsidies?
Classification	(green, grey or brown)
Recipient of finance	national government, provincial government, community, supplier, project developer, etc.
Analysis of effectiveness of instrument	How well were the funds being used? Are there any issues with, for example, disbursement, governance, use of fund, accessibility, needs, collection, governance, financial impact?
Lessons/potential to reform or change behaviour	What is the potential for amending measures or new incentives to drive behaviour change? For example, the higher the hierarchy of the regulation, the harder it is to enact or make amendments. Is there potential to adjust how a revenue is allocated and/or distributed? Will profit incentives or regulatory improvement alter investment decision making?

Template 9 - Cataloguing quantitative data sources and quality



Template 9 - Cataloguing quantitative data sources and quality

Data source	Actors covered	Timeliness	Completeness	Consistency, accuracy
		<i>What is the frequency of publication of data in relation to the scope of analysis</i>	<i>Is land-use related finance covered? Is it possible to track the recipients?</i>	<i>Is the applied definition of climate finance/tracking method transparent? Can results be replicated? Other challenges?</i>
Domestic public actors				
Government budget	<p>Coordinating/line ministries and/or local govt. as actors in response</p> <p>Donors as sources of funds</p> <p>Local govt., govt. agencies, national funds, NGOs, academic and Research centres as funding channels/recipients</p>	<p>Year before (estimated)</p> <p>Same year (actual/unaudited)</p> <p>1-2 years after (audited)</p>	<p>Depending on the budget structure, one can identify for the central/local govt.:</p> <ul style="list-style-type: none"> • Source of funds including (non-)tax revenues, (intl.) grants/ loans • Channels/recipients of funds including central/local government agencies, national funds, etc. • Use of funds, including land-use related activities <p>Challenges:</p> <ul style="list-style-type: none"> • Centralised data sources not available for (local) budgets and the approach needs to aggregate available data (bottom-up) • Lack of accessible, detailed project-level qualitative information to enable budget marking for climate relevance and application of definitions related to sustainability, for example green vs. grey • Intl. funds not, or only partly, reflected in budgets since donor funding partially reported • Data on public subsidies (including fiscal incentives or disincentives) and their application are hard to obtain 	<p>Discrepancies between different datasets on international expenditures</p> <p>Inconsistency between years since ministries often change, merge, close or expand, with implications for budget coding/structure</p> <p>Updates/corrections to disbursement data after reconciliation and audits</p> <p>Structure of local budgets differs, which hinders reconciliation</p>

Template 9 - Cataloguing quantitative data sources and quality

Data source	Actors covered	Timeliness	Completeness	Consistency, accuracy
		<i>What is the frequency of publication of data in relation to the scope of analysis</i>	<i>Is land-use related finance covered? Is it possible to track the recipients?</i>	<i>Is the applied definition of climate finance/tracking method transparent? Can results be replicated? Other challenges?</i>
International public actors				
Government budget (also see section 5.1.1)	Donors as sources of funds	Year before (estimated) Same year (actual/ unaudited) 1-2 years after (audited)	Depending on the budget structure, one can identify for the intl. grants/loans <ul style="list-style-type: none"> • Channels/recipients of funds • Use of funds including land-use related activities Challenges: <ul style="list-style-type: none"> • Intl. funds not or only partly reflected by (local) budgets since donor funding poorly planned/reported or not yet approved 	Discrepancies between different datasets on international expenditures
National databases	Intl. public and private expenditure and investment within a jurisdiction	Country-specific	Country-specific and depends on the compliance with national reporting requirements. If the compliance rate is low, it may not pick up information on budget flows that are not channelled via the domestic public budget	Country-specific
National level initiatives	Usually intl. public expenditure within a jurisdiction	Country-specific	Country-specific	Country-specific
International level initiatives				
Members of the OECD's DAC: CRS database	Public: Govt. budgets, Agencies, Public FI Private: Commercial FI For full list see http://www.oecd.org/dac/dacmembers.htm	One and a half years after (June) Data on commitment	Project level bilateral and multilateral official development assistance data including information on countries, donors, instruments, (disbursement) channels and uses/ sectors	Risk of double-counting: some funds are also tracked by IDFC or Climate Funds Update

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Data source	Actors covered	Timeliness	Completeness	Consistency, accuracy
		<i>What is the frequency of publication of data in relation to the scope of analysis</i>	<i>Is land-use related finance covered? Is it possible to track the recipients?</i>	<i>Is the applied definition of climate finance/tracking method transparent? Can results be replicated? Other challenges?</i>
MDB that jointly report on climate finance	World Bank Group; European Bank for Reconstruction and Development; European Investment Bank; Inter-American Development Bank Group; African Development Bank; Asian Development Bank	Data on commitments published in Q2/Q3 of the following year	Aggregate sector level data on agriculture, forestry as a group Country level data is provided for climate finance only (MDB 2018) Not applicable for national mapping to sectors, instruments, recipients, or uses	MDBs also report to the OECD CRS on a longer timeframe
IDFC reports	23 national, regional and bilateral development finance institutions	Q3/Q4 in the following year Data on commitments	Aggregated data, less useful for national mapping (no breakdown to countries, instruments, recipients or uses)	Risk of double-counting: some IDFC members will also be OECD DAC members
Climate Funds Update	Climate funds For full list, see: https://climatefunds-update.org/the-funds/ and https://public.tableau.com/profile/gbantoni#!/vizhome/CFU-REDDfinance/REDDfunds	The following year, in July Data on approval and disbursement	Project-level data, including information on country, funds (note: some are excluded), instruments, implementers Breakdown of uses 'only' into: • Adaptation • Mitigation – general • Mitigation - REDD • Multiple foci • Unknown	Risk of double-counting: some funds are also tracked by OECD DAC CRS database
Donor survey initiated for climate finance mapping exercises		Depends on the reporting cycle of surveyed organisations	Depends on the quality/number of responses	

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Private actors				
Bloomberg terminal	Agriculture and food industry companies	Constantly updated including with annual disclosures	Findings are often illustrative, as not all actors are covered	Depends on level of disclosure in corporate reporting from individual corporations
Industry associations	Depends on association membership	-	Depends on the nature of data collected	Would likely not track the impact of investments, but may offer data on overall investments
Annual report Corporate social responsibility report Sustainability report	Individual organisations	1-2 years after	Climate finance is not systematically and comprehensively tracked by all actors Centralised datasets unavailable	Tracking methods and results not consistent/ comparable, and rarely transparent Difficulties in accounting for the incremental cost of investments hamper comparability of different types of finance flows
Sustainable reporting or certification platforms, for example • Voluntary REDD+ Database/ REDD+ Partnership, • REDD X- Tracking Forest Finance/ Forest Trends, • Verified Carbon Standard database	Individual projects by public and private actors	Depends on the platform	Depends on the platform, but often do not cover: • financial information • private actors • activities beyond readiness arrangements • complete list of projects for each country	Depends on the platform. Can range from potentially-biased voluntary reporting to verified entries providing standardised complete and accurate reports