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***Tackling the drivers of land use emissions – the role of  
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## Abstract

Unlocking investments in highly productive and climate-resilient agriculture and forestry, “greening” the hundreds of billions spent annually on land use investments and public incentives around the world is essential to deliver global food security and human development. Forests and agriculture support the livelihoods of 2.6 billion people worldwide (Hoffman 2011) but are responsible for around a quarter of global greenhouse gas (GHG) emissions (Tubiello et al. 2013) and both are highly vulnerable to the impacts of climate change.

This thesis is made up of three research papers, which seek to identify and explore how public and private actors can scale up finance to reduce GHG emissions from land use. The first provides a theoretical framework for understanding the entry points for public and private actors to support mitigation and adaptation in the land use sectors. The second and third papers focus down on Indonesia, the world’s top land use related GHG emitter (WRI, 2015), to explore two different enablers of private investment in detail - international public support and domestic government fiscal incentives.

The thesis finds the role of public actors, be they domestic or international, is three-fold:

(1) providing a solid investment enabling environment (2) paying for some public goods such as the maintenance of protected areas and (3) incentivizing private investments in mitigation and adaptation by reducing risks and costs. Private actors on the other hand, aside from merely following incentive signals, can be market leaders by identifying new approaches to greening their land use investments, and by lobbying governments to provide tailored support and improved enabling environments, and by investing their own resources to improve efficiencies and bring down investment costs where costs and future returns are in balance.

In Indonesia, we find that the enabling environment for land use investments remains weak. Continued international development partner support across multiple stakeholders is needed to improve spatial information availability, clarify land ownership and improve governance to promote more efficient use of land. Parallel support to public and private actors as well as civil society can help scale up direct implementation activities including developing sustainable agriculture and agro-forestry value chains, ecosystem restoration, and sustainable livelihood options for rural communities. We found that although international partners can help financially support and accelerate government activities, cooperation faces many implementation challenges and there is room for systematic improvements.

Moving to domestic public finance, we find that the Indonesian tax system, as it stands, does not incentivize sustainable land use business models among palm oil industry actors. Relatively low levels of tax collection as well as low levels of revenue redistribution to local governments give rise to several opportunities to modify the tax system to incentivize higher productivity land use and production.

Governments need to carefully evaluate potential entry points for interventions designed to stimulate private investment flows and make best use of international development finance. Although this study has partially explored the Indonesian context, much more work is needed to design a comprehensive and coherent land use financing strategy which also takes account of broader economic and social development needs.

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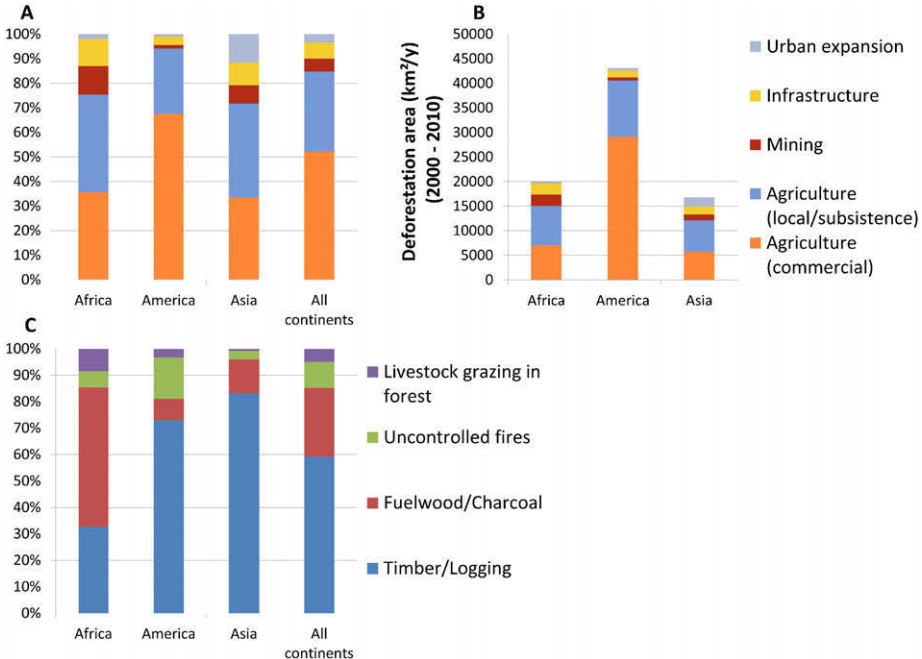
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# Introduction

## 1 The imperative of tackling global land use emission drivers

Combating tropical deforestation has been estimated to have the potential to mitigate up to 25-35% of global greenhouse gas emissions, if both avoided emissions and carbon dioxide uptake from forests are taken into consideration (Goodman and Herold 2014). Several studies have attempted to identify and quantify the various drivers of deforestation (Geist and Lambin 2002; DeFries, Rudel et al. 2010; Boucher et al. 2011). Hosonuma et al (2012)'s by region assessment of deforestation and forest degradation drivers in lower and middle-income countries is shown in Figure 1. It clearly shows agriculture, subsistence and commercial, as the major driver of deforestation globally, estimated to have driven more than 80% of global deforestation between 2000 and 2010.

Figure 1 Major drivers of deforestation and forest degradation (A shows proportion of deforestation by area, B shows absolute net forest area change for the period 2000-2010 and C shows forest degradation based on data for 46 tropical and sub-tropical countries).



Source: Hosonuma et al (2012)



As well as driving emissions from forest and peat land conversion and tree loss, agriculture as an activity itself was responsible for 11% of global GHG emissions in 2012 (WRI 2015). The mitigation potential of land use sectors, in particular agriculture, is therefore very high and plays a key role in meeting global climate stabilization targets.

Of course not all land use emissions can be avoided, as humans need the resources that forests and agriculture provide. Indeed, forests and agriculture support the livelihoods of 2.6 billion people worldwide and account for 20 - 60 % of the gross domestic product of many developing countries (Hoffman 2011). But these resources can be used more efficiently in order to maintain as far as possible the social, environmental and future economic functions of natural ecosystems. At the same time, solutions will need to be mindful that land use sectors are highly vulnerable to the impacts of climate change.

There are opportunities to reduce the pressure caused by agriculture and other drivers on forests and high carbon land, by increasing the productivity of existing agricultural activities and implementing strict regulations to protect non-production land. But this necessitates changes to current legal designations for land use and concessions,<sup>1</sup> as well as improvements in business models, agricultural practices and adjustments to agriculture and forestry investments, supported by appropriate public policies, regulation and financial incentives - in short a “production protection approach” as put forward in CPI 2014. As such public and private, national and international finance have a key role to play in the transition to low carbon, climate resilient land use.

## **2 Land use financing needs and gaps**

There are no widely accepted estimates of the amount of finance needed to mitigate and adapt to the effects of climate change in the land use sectors. The Stern Review (Stern 2006) estimated opportunity costs of forest conservation at USD 5 billion per year, estimates which have since been revised upwards (Grieg-Gran 2008). Indeed, Angelsen (2015) estimates that USD 10-15 billion per year is needed from the

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<sup>1</sup> according to the capital value of the land, or according to its environmental, social and economic value.

international community to compensate developing countries for a 50% reduction of deforestation. However very high per-hectare agricultural returns (Smith, 2015; Irawan et al 2013) suggest opportunity costs may be far greater, although full opportunity costs probably do not need to be paid if regulatory improvements are made to protect natural capital (The Global Commission on the Economy and Climate 2014). Several authors also estimated financing needs for tackling deforestation by considering the potential of carbon markets – on this basis the Eliasch Review (Eliasch 2008) estimated financing needs of USD 11-19 billion per year, while Morris and Stevenson (2011) estimated needs of up to USD 60 billion per year, to produce a 50% reduction in global deforestation by 2020. However carbon markets have not emerged on the scale expected at the time, especially not for the land use sectors.

Our analysis shows that annual total expenditure and investment in agriculture and forestry in developing countries, that is land use finance not land use *climate* finance, are in the several hundreds of billions of USD and only USD 5.8 billion of international development finance can be clearly identified as targeted at land-use mitigation and adaptation objectives (see Paper 1). The bulk of the remainder is domestic private investment and public expenditure in business as usual land use and agricultural practices. While some of that may be consistent with mitigation and adaptation objectives, we assume most is not given emissions from the land use sectors continue to climb. Public support will be required to ensure the hundreds of billions of BAU private agriculture and forestry investments get in line with mitigation and adaptation objectives. This is echoed in Lee and Pistorius's (2015) recommendation to governments to "Integrate REDD+ into mainstream economic planning so that REDD+ finance leverages development finance, rather than funding isolated efforts that are likely to be undermined by much larger, traditional investments in agricultural expansion and/or infrastructure" (p.5).

Under the United Nations Framework Convention on Climate Change (UNFCCC) negotiations, developed countries have committed to a goal to mobilize USD 100 billion in climate finance annually by 2020 to help developing countries address their low-carbon and climate-resilient needs. Meanwhile, goal 15 of the UN Sustainable Development Goals ratified in September 2015 specifies in its targets that deforestation should be halted by 2020 as well as sustainable management of all types of forests,

restoration of degraded lands and an increase in afforestation and reforestation achieved globally. The targets also call for 'significant resources' to be mobilized to finance achievement of the goal.<sup>2</sup>

However, the design of international financing mechanisms to deliver climate consistent land-use investments, including REDD+,<sup>3</sup> have only recently been finalized and it is not yet clear what scale of finance they will be able to deliver.<sup>4</sup> It is therefore necessary for countries and their development partners to explore all potential solutions to stimulate private investment flows and use available resources to best effect.

### 3 Content of the thesis

This thesis is made up of three research papers, which seek to identify and explore how public and private actors can scale up finance to reduce greenhouse gas emissions from land use. The first provides a theoretical framework for understanding the entry points for public and private finance actors to realize climate change mitigation and adaptation projects in the land use sectors. The second and third papers focus down on Indonesia as a case study, exploring two different enablers of private investment in detail - on one hand international public finance, and on the other, domestic government fiscal incentives. Indonesia deserves particular attention, accounting for 44% of global land use and forestry emissions in 2012. It also has a rich history of international development partner support and ambitious domestic action plans for reducing emissions— extensive recent donor activity and a progressive government provide good material for a case study.

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<sup>2</sup> Goal 15 is “Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss”. Specific targets include “By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally” and “Mobilize significant resources from all sources and at all levels to finance sustainable forest management and provide adequate incentives to developing countries to advance such management, including for conservation and reforestation.” (UN, 2015)

<sup>3</sup> Reducing Emissions from Deforestation and forest Degradation, the green management and conservation of forests, and the enhancement of carbon stocks.

<sup>4</sup> The Warsaw Framework for REDD+ (WFR) was adopted under the UNFCCC in 2013 and provides criteria for developing countries to receive results-based finance for emission reductions or enhancements against established benchmarks, including a verification process. The Green Climate Fund has been given a role to channel results-based finance according to the WFR methodological guidance and has already produced a logic model and performance measurement network. But requests for GCF funding will have to go through the regular GCF proposal approval process, via accredited entities, so it is not given that countries complying with WFR criteria will receive GCF funding or what portion of funding will go to land use activities (Voigt and Ferreira 2015).

The first paper puts forward a theoretical framework to understand overarching land use finance flows and identify financial instruments with potential to redirect public and private finance from BAU towards more green land use practices. The framework consists of a number of different tools, which governments, development partners or analysts could use to plan and coordinate financing strategies for low carbon climate resilient land use. As a basis for the framework, the paper provides an assessment of the current status of land use finance and land use *climate* finance, the roles and motivations of key actors, and the entry points and financial instruments available to incentivize increased investment in sustainable land use activities. Finally, the paper offers conclusions about how the framework might be used and discusses its limitations.

The second paper discusses the role of international development partners in financing mitigation and adaptation actions in the land use sector in Indonesia, and evaluates what progress has been made to date, what challenges have been met, and what opportunities lie ahead to effectively support Indonesia to achieve its climate change mitigation and adaptation objectives. The paper provides a ‘deep dive’ sectoral analysis of international development partner data on disbursements for the past four years, supplemented by literature review and expert interviews.

The third paper analyses whether the Indonesian national tax system incentivizes sustainable or unsustainable land use business models within the palm oil industry. It aims to quantify how much tax is collected from the industry and how much revenue is redistributed to local governments. We then identify several opportunities to adjust the tax system in order to incentivize higher productivity models of palm oil land use and production.

## 4 Methodology and key research questions

### Key research questions and contribution

This thesis is interdisciplinary in its approach and contributes to the fields of climate finance, public finance, public policy and agriculture development economics. It provides a theoretical framework for understanding the entry points for public and private actors to support mitigation and adaptation in the land use sectors. The theoretical framework and tools could be applied to any developing country. It also

explores in depth the role of international development cooperation and domestic budgeting and fiscal policy to achieve climate change mitigation and adaptation objectives in the land use sectors in Indonesia.

The key research questions posed in the thesis are:

- How much finance is flowing to land use sectors at present and how much of it is going to investments aimed at climate change mitigation and adaptation?
- What roles can public and private actors play in increasing the amount of investment in mitigation and adaptation in the land use sectors, and what financial instruments can they use?
- In Indonesia, what role have international development partners played so far in financing mitigation and adaptation in the land use sectors; what challenges have been met and where can they add most value going forward?
- What role could fiscal policy play in reducing the environmental impact of palm oil production in Indonesia?

In recent years, a plethora of publications by think tanks and consultants have catalogued the financial instruments through which governments are providing or could provide public financial support for sustainable land use activities including REDD+ (see e.g. Cranford and Parker, 2012; Parker et al. 2012; Oakes et al., 2012; Karesenty et al., 2012; Sills et al., 2014; Huwyler et al. 2014; Lee and Pistorius, 2015; Fishbein and Lee, 2015; Conway et al. 2015; Streck et al, 2015, Norman et al., 2015). Largely funded by international development partners and thus constituting “REDD+ climate finance” outputs, there is quite some duplication of efforts to identify existing and potential financial instruments for REDD+ but this body of literature has drawn together useful lessons on REDD+ finance implementation experiences to date and provided case studies documenting success factors that can help improve implementation going forward.

This thesis aims to provide a streamlined visual framework and practical tools to help integrate this body of information on land use financial instruments, actors, entry points and activities at the national or sub-national level. It is hoped that the framework and its tools could be applied and adapted usefully in particular country or sectoral contexts by governments, development partners or practitioners to plan and coordinate financing strategies for low carbon, climate resilient land use.

## Theoretical frame

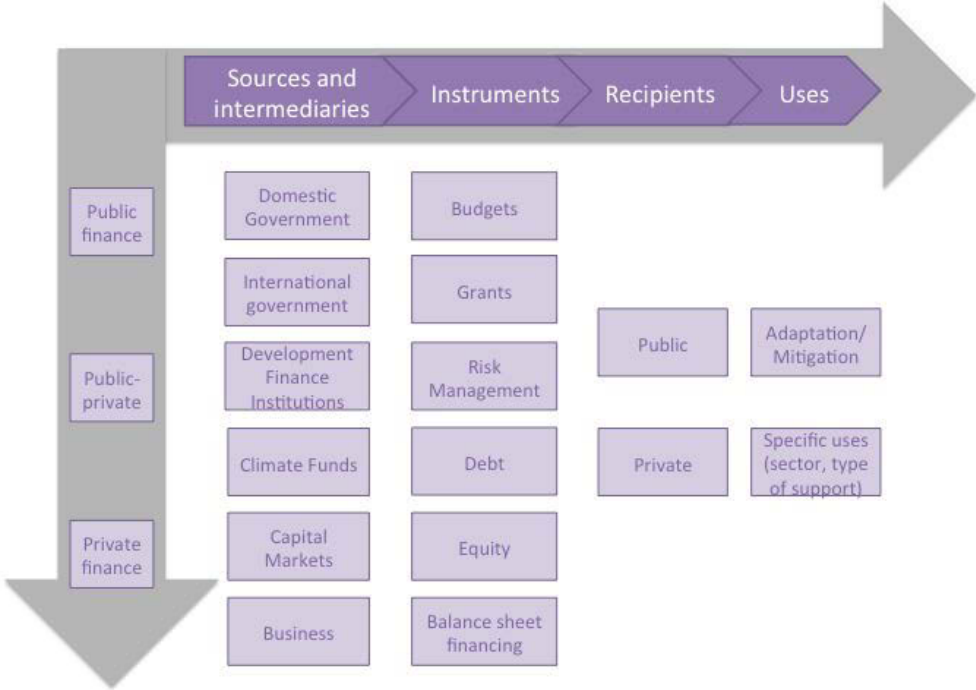
**The theoretical framework on land use climate finance flows (Paper 1, Chapter 7)** provides a series of four **frameworks to understand land use finance flows and identify financial instruments to redirect public and private finance** towards more green land use practices. The framework consists of a number of different tools, which governments, development partners or analysts could use to plan their financing strategies for the low carbon climate resilient land. The framework is based on an extensive review of the literature on REDD+, conservation and land-use finance including thinking developed in Ampri et al. 2014, Falconer and Stadelmann 2014, Rosenberg and Wilkinson 2013 and other case studies in the CPI San Giorgio Group series<sup>5</sup> as well as CPI's Climate Finance Landscape series (Buchner et al. 2011, 2012, 2013, 2014, 2015). The framework was also consulted widely through expert meetings and a workshop and subsequently refined.

Both the framework and the analysis on **international cooperation for low carbon, climate resilient land use in Indonesia (Paper 2)** use the "landscape of climate finance" analytic framework as a basis, developed through Climate Policy Initiative's Landscape of Climate Finance reports (see Buchner et. al 2011, 2012, 2013, 2014, 2015; Ampri et. al, 2014; Juergens et. al, 2012) whereby the lifecycle of selected climate finance flows are mapped out visually for the latest year for which data is available. As shown in Figure 2, the approach maps flows along the horizontal axis, identifying the sources of finance, who intermediates and disburses the finance and what financial instruments they use and finally what mitigation or adaptation activities money is spent on. The vertical axis instead moves from public to private actors and instruments. The landscape framework allows us to have a good overview or 'snapshot' of *who is investing* in emission reduction and climate resilience efforts around the world or in a particular country, through *what instruments*, and *what they are investing in*. By identifying what is already happening on the ground, the landscape approach can provide a baseline against which to measure progress toward economic and environmental goals and plan scale up. It also reveals investment patterns that pinpoint where the biggest barriers and opportunities lie. The landscape approach can also help international partners and governments identify best ways for tailoring international support to complement domestic efforts and improve coherence across a range of actors.

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<sup>5</sup> <http://climatepolicyinitiative.org/sgg/publications/>

Figure 2 The Climate Finance Landscape framework



Source: Buchner et al. 2011a, 2011b, 2012, 2013, 2014, 2015.

**Limitations of the framework**

The “landscape of climate finance” framework is a simplified view of selected elements of the public and private financial systems, which can be used for policy planning and tracking purposes. It is therefore not comprehensive. For instance, the framework does not show the revenue sources for domestic government or the revenue transfer mechanisms that exist in most countries to distribute budgets vertically across different levels of government (see Paper 3 Annex II Figure 1 for the Indonesian example). The framework also excludes “shadow budgets” which include ‘tax expenditures’ and some subsidies. Paper 2 does however explore aspects of revenue collection, allocation and distribution in Indonesia in the palm oil sector in detail.

The landscape focuses on government budget spending (including those of international governments) on, and private investment in, mitigation and adaptation outcomes, be they physical assets such as replanted forests or soft measures such as policy or training. The thesis is also interested in private investors (be they individual businesses or banks) providing debt or equity for such activities. The thesis

is not concerned however with purchase and sale of assets by investors or issuance or (re)payment of debt by businesses, which sees money moving around but is not concerned with the final use of that money.

Throughout the thesis the term “finance” is used generically to refer to both public expenditure and public and private investment. The terms “investment” and “expenditure” are used interchangeably too to refer to flows of finance from both public and private actors. In addition, the terms “green”, “low carbon, climate resilient”, “mitigation and adaptation” are used interchangeably to refer to activities that help to reduce GHG emissions or improve climate resilience or adaptation.

### **Data sources and analysis**

The three thesis papers make use of publically available data on climate finance (Papers 1 and 2) and oil palm related production, taxation and GDP (Paper 3). In addition, Paper 2 uses international development partner data collected for the *Indonesian Landscape* (Ampri et al. 2014) via a survey of 25 international development partners active in Indonesia on climate change issues. Reported data was supplemented with additional information on project objectives and implementation partners taken from publically available project documentation, as well as 2010-2013 data on donor commitments from the OECD’s Creditor Reporting System (CRS) database. For paper 3, estimates for Export Tax revenues were derived using a simple spreadsheet model of export volumes, prices, and tax rates of 28 different palm oil products.

### **Expert input**

Climate finance is a fast evolving and active area of research and heavily interdisciplinary. As such, the author sought to include as much expert input to the papers as possible to enhance the findings presented in the thesis, including through data surveys, semi-structured interviews, workshops and peer review of the draft papers.

In particular, materials presented in Paper 1 have been presented to the UNFCCC’s Standing Committee on Finance at several of their meetings and forums. Draft versions of the theoretical framework were also presented at a workshop held in Paris on 27 April 2015 attended by 18 leading experts from developed and developing country governments and research organizations.



For paper 2, seven telephone interviews were conducted with selected experts on international donor support in Indonesia. The draft report was also peer reviewed by several additional experts.

For paper 3, 13 in person semi-structured interviews with Indonesian tax and palm oil experts were carried out. The interviewees and a selection of additional international experts working on similar topics subsequently reviewed the paper to gain additional insights and clarifications.

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# Paper 1: A framework for understanding the role of public and private finance for land-use mitigation and adaptation<sup>6</sup>

## Abstract

Alongside regulatory measures, finance and financial incentives play a central role in overcoming viability, risk and information gaps that prevent the adoption of green production and land use models. However, our understanding of the scale and nature of finance available for mitigation and adaptation in the land use sectors within specific contexts remains uncertain, incomplete and inconsistent. Nor do we fully understand the proportion of finance that is going to *green* versus *BAU* activities and the opportunities that may exist to address barriers, or create incentives to shift land use activities towards greener outcomes. As many developing countries prepare national strategies to guide the management of land and natural resources in ways consistent with economic growth and reducing emissions and the private sector takes on supply chain sustainability commitments for key commodities driving deforestation, it is not yet clear how these strategies and commitments will be financed and what role public and private actors should play.

This paper puts forward a **theoretical framework to analyze land use finance flows** and **identify financial instruments to redirect public and private finance from BAU towards more green land use practices**. The framework consists of a number of different tools, which governments, development partners or analysts could use to plan and coordinate financing strategies for low carbon climate resilient land use. As a basis for the framework, the paper also contains an assessment of the current status of land use finance and land use *climate* finance, the roles and motivations of key actors and the entry points and financial instruments available to incentive increased investment in sustainable land use activities. Finally, the paper offers conclusions about how the framework might be used and discusses its limitations.

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<sup>6</sup> This paper is based on material published in the following working paper and brief:

- Falconer A., Parker C., Keenlyside P., Dontenville A., and Wilkinson J. 2015. Three tools to unlock finance for land-use mitigation and adaptation. Available at: <http://climatepolicyinitiative.org/publication/three-tools-to-unlock-finance-for-land-use-mitigation-and-adaptation/>
- Falconer A. and Stadelmann M. "What is Climate Finance? Definition to improve tracking and scale up climate finance". 2014. Venice: CPI. Available at: <http://climatepolicyinitiative.org/wp-content/uploads/2014/07/Brief-on-Climate-Finance-Definitions.pdf>

# 1 Introduction

Forests and agriculture support the livelihoods of 2.6 billion people worldwide and account for 20 - 60 % of the gross domestic product of many developing countries (Hoffman 2011). Terrestrial ecosystems also provide a wide variety of key environmental and social benefits. However, land use, including agriculture and forestry, is responsible for around a quarter of global greenhouse gas (GHG) emissions (Tubiello et al. 2013). At the same time, these sectors are highly vulnerable to the impacts of climate change. Growing global demand for food and fuel, increasingly scarce resources and climate risk, mean that unlocking investments in highly productive and climate-resilient agriculture and forestry is a pre-condition for delivering global food security and human development.

In 2009, developed countries committed to a goal to mobilize USD 100 billion per year by 2020 from public and private sources of finance to support climate change mitigation and adaptation in developing countries (UNFCCC 2010). Slow multilateral progress on delivering the financial mechanisms that were intended to underpin REDD+<sup>7</sup> under the UNFCCC, such as carbon markets and payment for performance mechanisms, mean that new approaches are urgently needed to unlock shifts in investment patterns across entire economies, to preserve valuable natural capital assets and deliver benefits to communities. Alongside regulatory measures, finance and financial incentives can play a central role in overcoming viability, risk and information gaps that prevent the adoption of green production and land use models. However, our understanding of the scale and nature of finance available for mitigation and adaptation in the land use sectors within specific contexts remains uncertain, incomplete and inconsistent. For example, estimates for the annual scale of climate finance for mitigation and adaptation in the land use sectors in developing countries vary from USD 1.3 billion (Buchner et al. 2012) to over USD 20 billion (Parker et al. 2012) depending on how broadly or narrowly boundaries are defined and data availability.

In short, we do not know *how much* finance is being channeled to the land-use sector, *how* it is being delivered, *what* is being paid for and *by whom*. Nor do we fully understand the proportion of finance that is going to *green* versus *BAU* activities and the opportunities that may exist to address barriers, or

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<sup>7</sup> Reducing Emissions from Deforestation and forest Degradation, the sustainable management and conservation of forests, and the enhancement of carbon stocks.

create incentives to shift land use activities towards greener outcomes. Multiple issues impede a good understanding of the issue.

Firstly, most financial estimates omit significant sources of investment and focus instead on a limited set of public international financial instruments (e.g. Official Development Assistance [ODA] and carbon markets). Domestic budgets, and private sector finance, for example, are much harder to quantify, and are not included in most assessments of land use finance, while it is likely that they are the most important flows. In addition, many studies focus on land use finance that is specifically labeled as climate finance, i.e. international flows of REDD+ finance to developing countries (see e.g. Simula 2010; Norman and Nakhouda 2014). Other studies have included a broader range of finance that might contribute to forest conservation and green outcomes, while not being labeled as climate-specific (e.g. Streck and Parker 2012; Parker et al. 2012).

Secondly, our understanding of finance for green<sup>8</sup> land-use activities is equally unclear. Many countries are now developing national strategies to guide the management of land and natural resources in ways consistent with economic growth and reducing emissions. In addition, the private sector has been taking on supply chain sustainability commitments for key commodities driving deforestation. It is not yet clear how these strategies and commitments will be financed however and what role public and private actors should play. While there are good opportunities to shift investments from BAU to green practices, it is complex and challenging for donors and domestic governments to coordinate their support, and to assess the effectiveness of land use interventions.

This paper puts forward a **theoretical framework to understand land use finance flows** in order to **identify financial instruments to redirect public and private finance from BAU towards more green land use practices**. To achieve this, we assess the current status of land use finance and land use *climate* finance (**Section 3**), the roles and motivations of key actors (**Section 4**) and the entry points (**Section 5**) and financial instruments (**Section 6**) available to incentive increased investment in sustainable land use activities. The resulting framework and tools, summarized in **Section 7**, help to reveal the opportunities available for domestic governments, international donors, private investors and businesses to finance mitigation and adaptation in the land use sectors and to coordinate their efforts. **Section 8** offers

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<sup>8</sup> “Green” is used for short in this paper to refer to both climate resilient and low greenhouse gas emissions activities.



conclusions about how the framework might be used and discusses its limitations. **Section 2** provides an overview of the methodological approach followed for this analysis.

## 2 Approach

The background analysis presented in this paper and prototype versions of the framework were prepared following an extensive review of the literature on REDD+, conservation and land-use finance. The framework design elements draw on thinking developed in Ampri et al. 2014, Falconer and Stadelmann 2014, Rosenberg and Wilkinson 2013 and other case studies in the CPI San Giorgio Group series<sup>9</sup> as well as CPI's Climate Finance Landscape series (Buchner et al. 2011, 2012, 2013, 2014).

Draft frameworks were presented to the UNFCCC's Standing Committee on Finance's ninth meeting in Bonn in March 2015 and the Standing Committee on Finance's Forum on Forest Financing, held alongside the World Forestry Congress in Durban in September 2015. Draft versions of the framework were also presented at a workshop held in Paris in April 2015 attended by 18 leading experts from developed and developing country governments and research organizations (Table 1). Using feedback gathered during these events and the workshop in particular, the framework was refined and further developed.

Data on the current status of land use finance was derived from various publications cited accordingly as well as CPI's 2014 Landscape of Climate Finance database (Buchner et al. 2014).

**Table 1** List of workshop participants

Andrew Wardell	Center for International Forestry Research (CIFOR)
Charlie Parker	Climate Focus
Jane Wilkinson	Climate Policy Initiative (CPI)
Angela Falconer	Climate Policy Initiative (CPI)
Ignacio Gavilan	Consumer Goods Forum
Adeline Dontenville	European Forest Institute (EFI)
Stefan Agne	European Union (EU)
Mika Bucki	European Union (EU)
Nick Oakes	Global Canopy Programme (GCP)
Christiane Ehringhaus	KfW, Germany
Marcel Yao	Government of Ivory Coast

<sup>9</sup> <http://climatepolicyinitiative.org/sgg/publications/>

Daniel Ole Sapit	Government of Kenya
Inthavy Akkharath	Government of Laos
Momade Nemané	Government of Mozambique
Marte Sendstad	Government of Norway
Charlene Watson	Overseas Development Institute (ODI)
Anna Drutschinin	OECD
Kenneth Peralta	Government of Peru
Beth Nelson	Government of UK
Pipa Elias	The Nature Conservancy (TNC)
Chris Dragisic	Government of US

### 3 The current status of land use finance

This section presents a summary of what we know about current flows of land use finance as well as an analysis of the key barriers to, and entry points for, scaling up finance for mitigation and adaptation in the land use sectors and the role of key actors, and financial mechanisms therein. Data currently available suggests that the balance of investment in land use heavily favors BAU approaches, and that private domestic actors are dominant. Taking these potential sources of finance into account there is, in theory, more than enough finance to meet the investment needs of cleaner, more productive forms of land use that can meet governments' economic and environmental goals.

While there are no widely accepted estimates of the amount for finance needed to mitigate and adapt to the effects of climate change<sup>10</sup>, BAU land use finance estimates are orders of magnitude greater than estimates of green land use finance. BAU investments do not mitigate or adapt to the effects of climate change, and in some cases may actually increase emissions or climate vulnerability. As such, there is an opportunity to redirect investments and public financial support from BAU to support green activities.

Estimates of total flows of finance for mitigation and adaptation in the land use sectors range from USD 1.3 billion to 51.8 billion<sup>11</sup> per year, but different approaches<sup>12</sup> used to calculate those numbers mean they are neither comparable nor comprehensive. CPI's 2014 recent Global Landscape of Climate Finance (Buchner et. al, 2014) captures USD 5.8 billion of project-level finance commitments from international public actors for mitigation and adaptation in the land use sectors in 2012/2013, representing about 3.5 - 5% of total public climate finance (USD 137 billion) tracked in that year (see Figure 3).

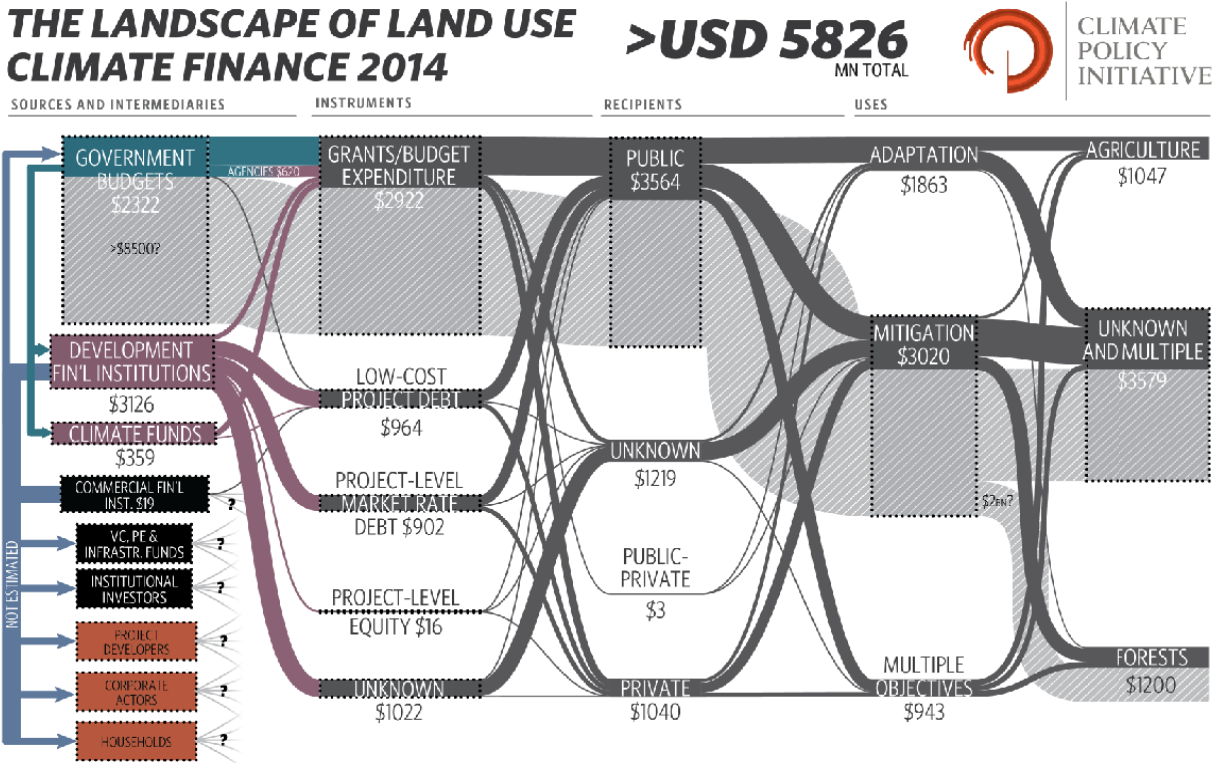
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<sup>10</sup> The Stern Review (Stern 2006) estimated opportunity costs of forest conservation at USD 5 billion per year but agricultural returns suggest opportunity costs are far greater although full opportunity costs probably don't need to be paid if regulatory improvements are made to protect natural capital (The Global Commission on the Economy and Climate 2014). Considering the potential of carbon markets to produce a 50% reduction in global deforestation by 2020, the Eliasch Review (Eliasch 2008) estimated financing needs of USD 11-19 billion per year, while Morris and Stevenson (2011) estimated needs of up to USD 60 billion per year.

<sup>11</sup> For instance, Norman and Nakhooda (2014) estimated cumulative public and private REDD+ finance pledges at USD 8.7 billion between 2006-2014, 90% of which came from public sector. Streck and Parker (2012) estimated USD 14.5 billion REDD+ finance in 2010, almost entirely public and mostly from domestic sources. Parker et al (2012) estimated USD 51.8 billion globally 'available for conservation', more than USD 25 billion of which is domestic public money. Finally, CPI (Buchner et al. 2012) tracked USD 1.3 -11.8 billion of REDD+ finance in 2011, most of which was bilateral commitments.

<sup>12</sup> Sectoral scope, pledges vs commitments vs disbursements, time period, country coverage etc.

Figure 3 Estimated finance for mitigation and adaptation in the land use sectors in 2012/2013



Source: Buchner et al. 2014; Falconer et al. 2015

This includes USD 2.3 billion of finance from bilateral donors and USD 3.1 billion from Development Finance Institutions (DFIs)<sup>13</sup>, plus an additional USD 0.4 billion from various multilateral, bilateral and national climate funds. An estimated 71% of the finance captured flows from OECD to non-OECD countries.<sup>14</sup> The data suggests a 40:60 ratio between adaptation and mitigation spending and a slight bias toward financing forestry as opposed to agricultural activities but there is also a significant proportion of finance flowing to multiple objectives and sectors.<sup>15</sup>

Bilateral donors provided finance almost wholly in the form of grants (99%) while development finance institutions (DFIs), provided finance for mitigation and adaptation in the land use sectors mostly in the form of low cost (29%) and market rate (29%) loans, with smaller portions in the form of grants (9%) and

<sup>13</sup> DFIs include national, bilateral and multilateral development banks and financial institutions with development objectives.  
<sup>14</sup> Just two thirds of our public land use climate finance data has geographic source and destination information. We assume that the remaining one third has a similar geographic source/destination profile.  
<sup>15</sup> It may also be the case that agriculture ODA is less often climate marked compared to forestry ODA.

equity (1%). As well as providing direct support, many donors provide grants through multilateral, bilateral and national climate funds. The Landscape tracks grants totaling USD 346 million for mitigation and adaptation in the land use sectors in 2012/2013.

Figure 3 also shows a conservative estimate of domestic government budgets for adaptation and mitigation in four countries (Indonesia, Mexico, Brazil and China). It is represented in grey crosshatch since the available data is less robust It is likely to be an underestimate. Due to limited data availability, Figure 3 does not include south-south flows, philanthropy and, most importantly, private sector flows, which represents the majority of land use finance. For instance, we estimate that private sector may be investing around USD 4.2 billion annually in selected certified timber and palm oil alone.<sup>16</sup>

In terms of BAU land use finance estimates, the UN's Food and Agriculture Organization (FAO) estimated that annual total financial flows in agriculture and forestry in developing countries are in the hundreds of billions, the vast majority made up of domestic private sector flows (USD 168 billion)<sup>17</sup>. These domestic private investments are often supported by domestic public government investment (estimated at USD 38 billion)<sup>18</sup>, subsidies and incentives and international public financial assistance (USD 14 billion)<sup>19</sup> mostly delivered as Overseas Development Aid (ODA). Other sources report much higher levels of domestic public expenditures in agriculture however: the International Food Policy Research Institute (IFPRI) reports domestic public expenditures in the agriculture sector of USD 114 billion in 2010<sup>20</sup> while FAO estimated public expenditure on agriculture in developing countries in 2002 at USD 225 billion (Koochafkan 2012).<sup>21</sup> Total agriculture credits in Brazil alone are estimated at USD 52.3 billion in 2009/10 and average annual total support via agricultural subsidies of USD 27 billion in Indonesia during 2010-2012, making support as a percentage of gross domestic product the highest in Indonesia at over 3%, of all countries reviewed by the OECD (OECD in McFarland et al. (2015).

While data should not technically be combined due to differences in approaches and years, Figure 4

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<sup>16</sup> Investment data is not available. USD 4.2 billion is a mid-point between two "back of the envelope" estimates based on data presented in Streck and Parker (2012) and Parker et al (2012).

<sup>17</sup> FAO 2012a.

<sup>18</sup> Ibid.

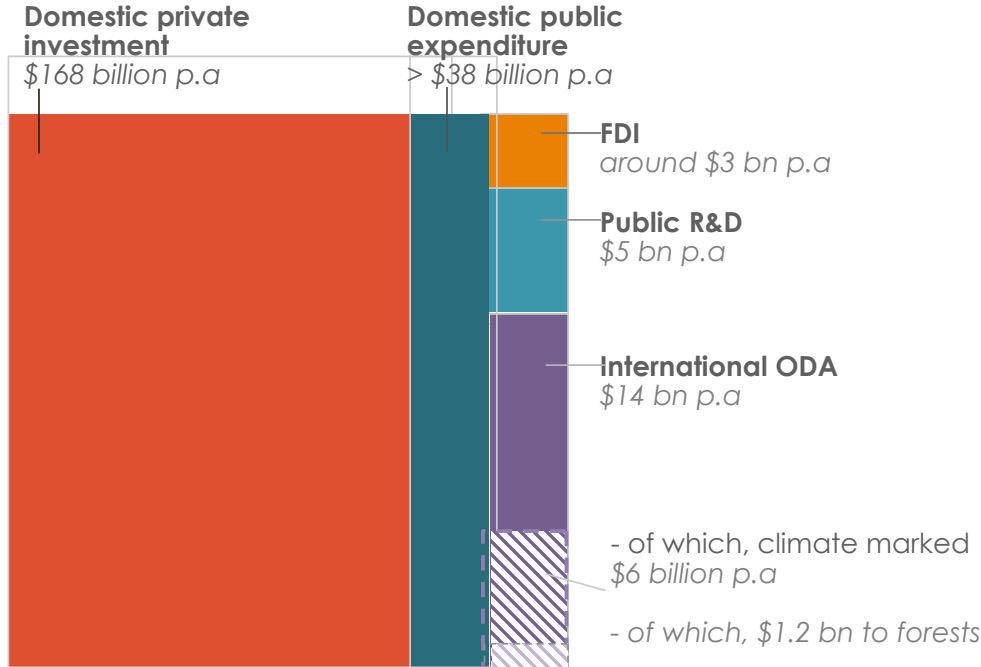
<sup>19</sup> OECD 2015.

<sup>20</sup> IFPRI 2013. Data is for EAP, LAC, MENA, SA and SSA regions. The total for all regions is USD 190 billion in 2010.

<sup>21</sup> Meanwhile OECD (2014) estimates total public support for agriculture at USD 350 billion in 2012 in OECD countries. Total Support Estimate (TSE) is defined as the annual monetary value of all gross transfers from taxpayers and consumers arising from policies that support agriculture, net of the associated budgetary receipts, regardless of their objectives and impacts on farm production and income, or consumption of farm products (OECD, 2010).

provides a visual representation of some of the best estimates available for different finance providers, highlighting the importance of domestic private investment and domestic public government expenditure. Information is not available on what portion of these flows are in line with climate mitigation and adaptation objectives, except in the case of climate marked ODA, as shown in the diagram. However, it is expected that the majority of investments and expenditures are not in line with climate mitigation and adaptation objectives.

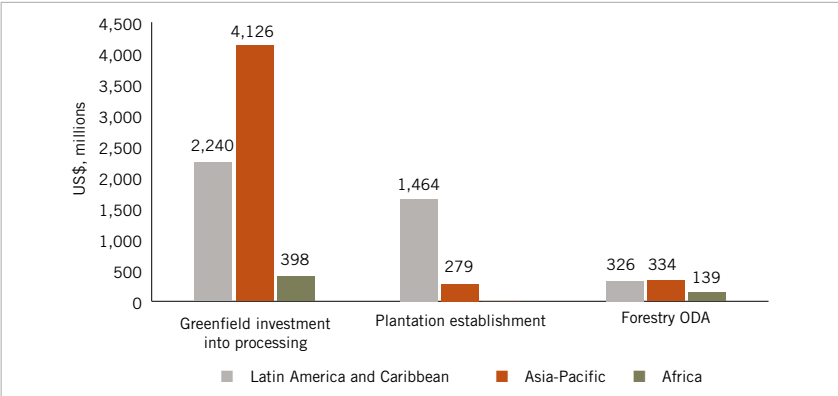
**Figure 4 Agriculture and forestry finance in low and middle income countries - the big picture**



Source: author’s elaboration based on data from FAO 2012a, OECD 2015, Buchner et al. 2014.

It should be noted that the estimates presented in Figure 4 for domestic private investment and domestic public government do not include forestry data. Castrén et al. 2014 provide some additional insights on the potential scale of private forest financing (Figure 5).

Figure 5 Annual average investment flows to forest sector in developing regions (USD millions)



Sources: ECLAC/fDi Markets, Indufor Plantation Databank, OECD Creditor Reporting System (CRS).

Source: Castrén et al. 2014.

The authors estimate annual average greenfield investments into wood and pulpwood *processing* (that is investments into the establishment of new wood and wood product production capacity or assets) at USD 6.8 billion, including international FDI data only, suggesting the FDI box should be larger than shown in Figure 4. Total private sector investments into wood and pulpwood producing *plantations* in developing countries are estimated at USD 1.8 billion in 2011, excluding investments in Reducing Emissions from Deforestation and Forest Degradation (REDD) and landscape restoration. Data is however missing on private investment in forest management and plantations, as well as domestic investments in plantation development and wood processing in most developing countries. Private finance in forestry is deemed to be mostly “BAU” as opposed to “green”: “Despite recent positive developments in Africa, for example, in Tanzania and Mozambique, private sector investments in sustainable forestry (both plantations and natural forests) are there still quite limited, and pale in comparison to the investments aimed at exploiting the forest resources, frequently unsustainably ...foreign and domestic forestry operations still mainly focus on the exploitation of existing natural forests, including areas within the national protected area system” (Castrén et al. 2014, p. 36, p.111).

To summarize, hundreds of billions of USD are being invested annually in developing countries in the agriculture and forestry sectors. And this needs to increase to meet growing needs, by an estimated USD 50 billion annually to eradicate hunger by 2025 (FAO 2012a). The majority of investment is deemed to be “BAU” as opposed to “green”. The key challenge is then how to green these investments as far as



possible. Public finance has to be used carefully to incentivize and support a wholesale shift toward climate compatible investments. For instance in Colombia, FINAGRO, the Colombian Fund for Financing the Agricultural Sector, along with the Ministry of Agriculture and Rural Development plans to ensure that the USD 4 billion in agricultural and forestry loans and subsidies currently provided support low emissions development activities as far as possible (Nepstad et. al 2013).

## 4 The role of public and private actors in land use finance

To begin to understand ways in which land use finance can be channeled towards greener outcomes we first need to understand the various actors involved in both financing BAU and green land use activities. The following table provides a brief overview of key actors in land-use financing and roles in terms of the financial support or investments they provide, and some examples of these. The remainder of the section then looks into each group of actors in more detail to explore their financial motivations, return expectations, risk tolerance and what we know about their current land use finance activities in terms of volume and instruments used.

Table 2 Key actors in land use finance, their roles and examples

Actor	Role	Example investment/support
<b>Public</b>	Governance and enabling environment	R&D, agricultural extension services, clarifying land tenure, spatial planning and mapping systems
	Domestic government agencies, Bilateral donors, Development Finance Institutions (DFIs)	Budget expenditure. Invest equity and debt in strategic enterprises and infrastructure
		Investments in state-owned enterprises and parastatal companies. Protected areas control and policing.
		Provide incentives and penalties to drive green private investments
	State owned enterprises	Grants, revenue support subsidies, tax incentives, and the purchase of offsets
	Invest own resources or access finance from above actors	Balance sheet financing
<b>Private</b>	Banks, Private equity, Venture capital, High net worth individuals (HNWI), Households and Institutional Investors	Provide finance to businesses
		Market rate debt and equity
	Impact investors	Invest in companies and projects with social and environmental objectives
	Invest own resources or access finance from above actors	Longer term capital with possible concessional terms
	Businesses and project developers	Balance sheet or debt / equity finance from investors

## 4.1 Domestic public actors

Governments usually provide public goods and services (such as regulatory environments, protected areas, enforcement, some infrastructure) that private actors either cannot or unwilling to pay for. They are the primary providers of policies and incentives that can help private actors to reduce risks and costs, or to improve returns. Where risks and returns are in balance, private investment will follow. While good data is not available on domestic government expenditure, investments and incentives, flows are expected to be very large as discussed in Section 3 and illustrated in Figures 3 and 4, second only to domestic private flows. Domestic public actors take on governance and political risks associated with selecting beneficiaries and allocating resources.

### **DOMESTIC PUBLIC BUDGET EXPENDITURE PAYS TO BUILD A SUPPORTIVE REGULATORY ENVIRONMENT AND OVERCOME KNOWLEDGE BARRIERS AND RISKS**

Central and local governments and their agencies spend domestic budgets on many different governance and **enabling environment activities** related to land use, including:

- Research, Development and Demonstration including agricultural extension services and training programs
- Developing and implementing regulation, policies and incentives including e.g. securing tenure, development of offset or trading schemes or setting price floors (here the cost is met by the private sector and consumers but the cost of developing the policy borne by the government)
- Structural/institutional reform
- Law enforcement programs and monitoring systems e.g. for managing, restoring and / or maintaining protected areas
- Land use/spatial planning/mapping systems, or reform
- Development of national studies and strategies, systems

### **GOVERNMENTS INVEST EQUITY AND DEBT IN STRATEGIC ENTERPRISES AND INFRASTRUCTURE**

Domestic governments sometimes also take an **ownership** stake (equity) in or provide **debt** to private companies, in which they have some kind of public strategic interest or full ownership in the case of state-owned enterprises. This finance can also be channeled through a national financial institution or national development bank. For instance, China National Cereals, Oils and Foodstuffs Corporation

(COFCO) is a food processing holding company fully administered by China's State Council, with subsidiaries operational throughout the value chain of numerous crops, fruit and livestock products, from cultivation to final distribution.

Castrén et al. 2014 (p.1) indeed point out that “There still remains a role for public sector funding as a source for sustainable delivery of global public goods or as frontier funding for high-risk investments.” As such most protected areas are secured and restored using public resources (or public-like resources via philanthropy, see below). Conway et al. (2015) highlight protected areas, afforestation/reforestation and sustainable forest management as activities most likely to require public support.

#### **GOVERNMENT INCENTIVES AND PENALTIES CAN HELP DRIVE GREEN PRIVATE INVESTMENTS**

Domestic governments provide public money via a suite of instruments to **incentivize** private investors (including consumers) to take particular actions in line with government economic development objectives. Instruments include **upfront grants, revenue support subsidies, tax incentives, and the purchase of offsets**. On the demand side, governments can implement procurement policies in their own operations to stimulate demand for higher standard goods e.g. certified green goods. Governments can also impose penalties for behaviors to encourage the enforcement of standards designed to protect valuable ecosystems and services.

## **4.2 International public actors**

International public actors also act in the interest of public good and seek to support domestic public and private actors' economic development objectives as well as social and environmental objectives. They usually have zero financial return or at least lower return expectations than private actors.

International public actors include bilateral donors and development financial institutions (DFIs) including bilateral, multilateral and regional financial institutions.

**Grants** do not have to be repaid, and typically support the establishment of **enabling environment and capacity building**. Grants may also be used to pay for **incentives** for projects and programs, through e.g. debt-for-nature schemes, purchase of carbon offsets (through bilateral, voluntary or mandatory schemes) including ex-post payment for performance –type schemes. International public actors can also adapt their own procurement policies in support of green land use.

Philanthropic actors, including private individuals, families or businesses, act like public in that they provide grant support almost exclusively. Recent data on the contribution of philanthropic actors to (land use) mitigation and adaptation is not available, but grants for “environment and animals” in 2012 was estimated at USD 1.6 billion in 2012 by the Foundation Centre (Foundation Centre, 2015).

**Low cost and market rate debt** are instead provided for project or program development, where there are returns available to pay for the loan but where commercial capital generally would not lend due to **high risks**. Indeed market rate debt provided may also have some **concessional lending** elements or associated structures designed to **share or mitigate investment risks** through e.g. first-loss protection, guarantees and insurance and public-private partnerships.

At present DFIs are providing the lion’s share of climate mitigation and adaptation finance in the land use sectors according to available data (Figure 3) while centralized reporting and climate marking of finance is uncommon by private actors.

### 4.3 Investors

Investors are a very diverse group of actors with varying risk-return preferences. They include local/International/regional financial institutions (may be public or private); private equity, venture capital and infrastructure funds and High Net Worth Individuals (HNWI). These actors typically provide market rate debt and equity and have a medium to high risk-return appetite. We do not see a lot of activity from these types of investors in green agriculture and forestry at present, highlighting the high level of (perceived) risk, transaction costs and viability gaps involved.

Households and institutional investors are more risk adverse but have longer time horizons than professional investors and, in some cases, social and environmental preferences. So far, investment volumes are thought to be low however. For instance, less than USD 10m of investments by institutional investors for green forest plantations in developing countries are tracked by the Global Investor Coalition (GIC, 2015).

Impact investors are more active in green agriculture and forestry. Often backed by donor finance, they invest into projects, companies, organizations or funds with social and environmental objectives while generating financial profit (GIIN, 2015). Local agricultural banks and rural credit schemes are also

important and active providers of finance for agriculture and forestry but are less likely to have sustainability among their primary objectives.

Project developers invest their own capital or channel that of other investors and are very active in developing mitigation and adaptation projects in the land use sectors, particularly with public support or private support through bilateral and voluntary offset programs.

No centralized data source is available detailing the investment volumes of the actors discussed here.

## 4.4 Businesses

Agri-forestry businesses are another very diverse group of actors, in terms of their role in the value chain (producers, processors, traders, distributors); their size, from individual smallholder and family farmers and cooperatives through to SMEs and multi-national corporations; and in terms of their risk-return appetite.

Private businesses invest their own resources from their savings / balance sheet or raise debt/equity finance from the investors discussed above. FAO data shows that the domestic private sector is the largest investor in agriculture and forestry but we have a very limited understanding of how green any of those investments are and what we can therefore consider as mitigation and adaptation finance.

For instance, we estimate that private sector may be investing around USD 4.2 billion annually in selected certified timber and palm oil alone.<sup>22</sup>

To summarize, the investments that have to change in order to increase spending on climate mitigation and adaptation are those that happen on the ground, made by farmers and foresters or project developers. This real economy is often supported by investors of some form however. Public actors can influence the behavior of businesses and investors through regulation and financial incentives. In the land use space, there are public goods without revenue streams which require public support and

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<sup>22</sup> Investment data is not available. USD 4.2 billion is a mid-point between two “back of the envelope” estimates. The first, USD 1 billion, is an estimate of premiums generated by certified green commodities (Streck and Parker, 2012), taken as a proxy for the maximum a business would invest to gain the additional revenue stream. The second, USD 7.4 billion, is arbitrarily and conservatively assumes investment costs equal to 10% of the estimated annual certified market revenue for green commodities. This estimate is based on FSC, PEFC and RSPO standards’ respective shares of the world’s managed forests and global timber export values and palm oil global export volume and values total palm oil export data, resulting in estimated certified market value of USD 74 billion in 2014. Data sources: Potts et al. 2014, PEFC 2014, The Economist 2014, RSPO, 2015.

investment. The following section looks more into the incentives needed to move businesses and investors toward sustainable land use activities.

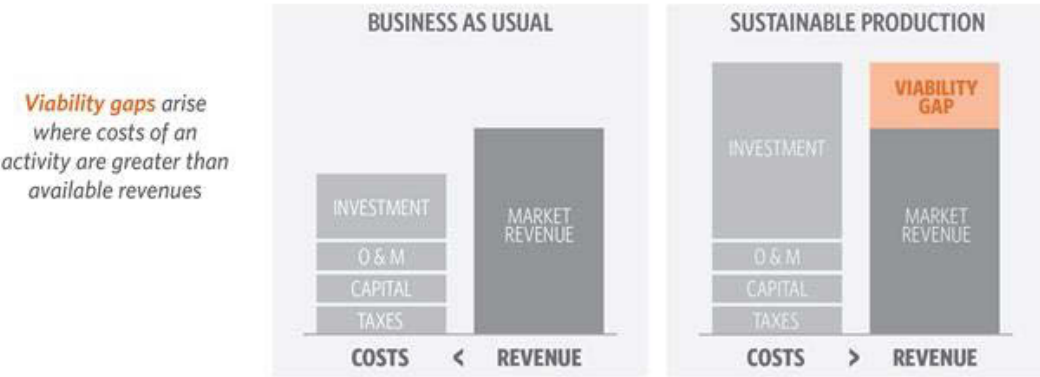
## 5 Entry points for public and private finance

Given the limited flows of finance for mitigation and adaptation in the land use sectors (Figures 3 and 4), countries interested in increasing productivity and reducing emissions from the land use sector are analyzing the challenges and opportunities for scaling up flows of finance. This section explores the key barriers and possible entry points or ways in which public finance can be used to unlock private finance for mitigation and adaptation in the land use sectors. We can identify three key barriers that impede the flow of finance to greener land use activities (e.g. Buchner et al. 2012):

- **Viability gaps.** These arise where the costs of an activity are greater than available revenues, considered on a net present value basis (see Figure 6 below). For a private investor viability gaps mean a negative return on investment; for the public sector it is the difference between the economic or political costs and benefits. Where viability gaps are not addressed, the private sector will not invest.
- **Risk gaps.** These specific investment risks, real and perceived prevent public and private entities from providing climate finance and include, e.g. technology risks, financial risks, currency risks, political risks, environmental or social risks, reputational risks, market risks. These risks increase the cost of financing and executing land use activities. They can also put expected revenues at risk. As such, risk gaps can widen viability gaps. As Castrén et al. 2014 put it, “Investment decisions are ultimately dependent on risk-adjusted return expectations” (p. xii).
- **Information gaps.** In some cases, public and private actors lack the knowledge or institutional capacity to make investments, to develop policy frameworks or to design interventions to target specific risks and costs. Kato et al., 2014, identify several possible information gaps including information on technologies, financial structures, and enabling environments.



Figure 6 Viability gaps for green land use production



To successfully scale up investments in green land use, governments will need to adopt policies and measures that address one or more of these gaps in different land use sectors.

For instance, some green land use activities are more expensive than BAU ones or completely lack revenue streams, resulting in a viability gap. Here activities need to be publically<sup>23</sup> funded or supported e.g. protection and restoration of high conservation value (HCV)<sup>24</sup> ecosystems currently has limited sources of market revenue. Other green land use activities are not intrinsically more expensive but face risks or information gaps, which discourage investors. Here public financial instruments can help overcome those barriers.

In most regions, we expect that most public finance supports BAU land use investments rather than green investment at present. Attention is therefore needed to shift public financial instruments towards supporting greener alternatives.

We identify **three main entry points for public interventions to scale up climate finance**, to address viability, risk and information gaps that impede both public and private investments (building on Falconer and Stadelmann, 2014). The three entry points, illustrated in Figure 7, are:

1. **Targeting viability gaps by increasing /creating /protecting project revenues**, e.g. through carbon offset payments, subsidies, insurance, price premiums for green commodities, pay for

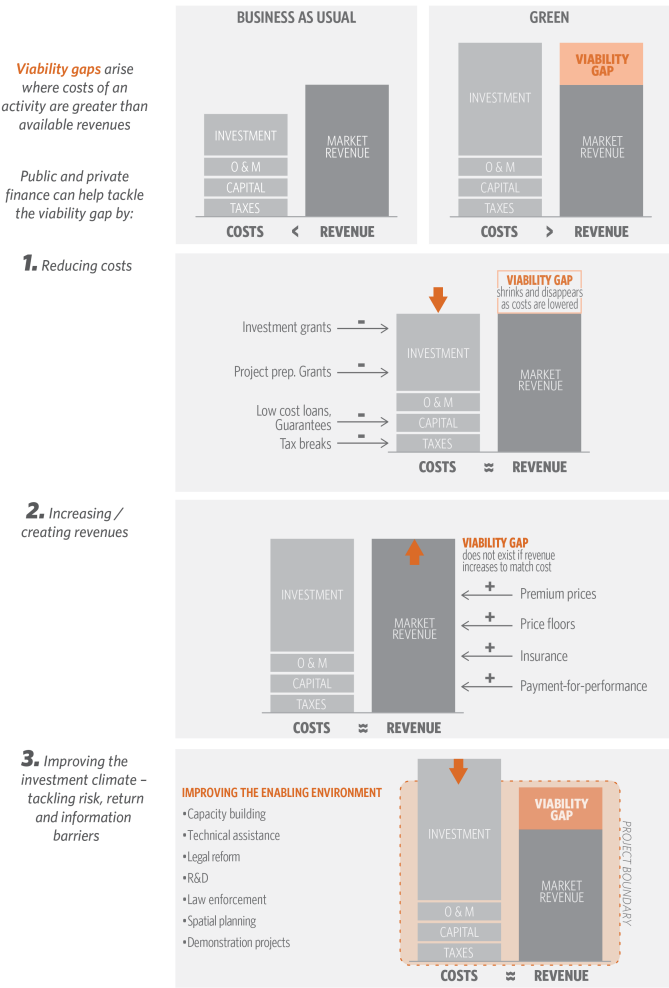
<sup>23</sup> Including philanthropic and international public funding.

<sup>24</sup> “The concept of High Conservation Value Forests (HCVF) was first developed by the Forest Stewardship Council (FSC) in 1999 as their 9th principle. The FSC defined HCVF as forests of outstanding and critical importance due to their environmental, socio-economic, cultural, biodiversity and landscape value.” See more at: [http://gftn.panda.org/practical\\_info/basics/sound\\_forest/certification/forest\\_certification/hcvf/#sthash.ObG01sNL.dpuf](http://gftn.panda.org/practical_info/basics/sound_forest/certification/forest_certification/hcvf/#sthash.ObG01sNL.dpuf)

performance and compensation payments. There may also be opportunities to create investment products whereby private investors temporarily invest capital in protecting high conservation value land (Credit Suisse et al, 2014).

2. **Targeting viability and risk gaps by reducing (public and private sector) project costs** through different measures. Traditional instruments include investment grants to reduce private investment needs, concessional loans to reduce the cost of capital, and tax breaks. For instance, returns for installing new technologies on small farms in Africa and Asia are typically low, and access to credit is often difficult, pointing to the need for public support in the form of concessional loans and grants to scale up viable technologies (The Global Commission on the Economy and Climate 2014). More innovative instruments to reduce private sector costs are project preparation facilities to lower pre-investment costs, and a range of risk mitigation instruments (e.g. guarantees, insurance) which can also reduce lenders' cost of capital, and debt for nature funding.
3. **Targeting risk and information gaps via public framework expenditures.** Public framework expenditures include capacity building for closing public and private actors' knowledge gaps; developing, implementing and monitoring climate policies to remove technical, legal and administrative barriers to investment; R&D; law enforcement; land-use/spatial planning and mapping; building measuring, reporting and verification systems; and developing demonstration projects. All of these measures help to improve to reduce investor risks and hence improve the investment climate. Occasionally, individual project developers or businesses are willing to bear these costs if they feel that it could give them an advantage in a new market, but they are more regularly addressed by the public sector. In some cases, they can also help to reveal revenue streams and demand.

**Figure 7 Entry points for public interventions to scale up climate finance for mitigation and adaptation in the land use sectors**



This framework could be used by governments and development partners to evaluate individual climate mitigation or adaptation investments or interventions. The framework can help to identify and understand the cost and revenue barriers that may be preventing greener options from being the norm and in order to examine potential risk-sharing structures for different actors involved and cost effectiveness of different financial instrument options. The framework can also be used to support case study analysis of a specific investments or a group of similar investments already under way (ex-post) or of a group of investments yet to take place (ex-ante).

Evaluating investments using this framework helps illustrate the needs of particular investors, as well as the range of financial instruments available that might make an investment viable (or not). If used ex-post, it also helps to explain how effective public support has been, how risks have been overcome and to what extent the project could be replicated and scaled up, potentially with alternative public support structures.<sup>25</sup>

In the forestry sector, for example, Castrén et al. 2014 highlight the lack of domestic and foreign equity and loan financing for forestry investments in developing countries, where interest rates are frequently excessively high, and loan payback periods very short (up to three years) and debt finance is only provided once equity is already in place, which is also often missing due to lack of collateral. The authors suggest that concessional finance or “patient capital” can help raise equity by providing co-finance. They also stress that public actors can help reduce country risks by working on improving the investment environment (improving land tenure, improving information on land banks, improving forest governance and transparency, R&D, improving infrastructure) as well as reducing investment risks with guarantees, public-private partnerships, and innovative financing or organizing smallholders and communities to enable them to access finance.

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<sup>25</sup> See CPI San Giorgio Group series, which applies a similar approach: <http://climatepolicyinitiative.org/sgg/publications/>

## 6 Public financial instruments

ODA and carbon market offset mechanisms have shown limited capacity to induce large-scale shifts of finance from *BAU* to *green*, and cannot compete with the scale of public subsidies for investments that increase land use emissions. There is, however, an opportunity to redirect the hundreds of billions spent globally on agricultural input subsidies to research and development (R&D) and extension services to support adoption of green production methods (The Global Commission on the Economy and Climate 2014).

Table 2 provides a summary of public financial instruments aimed at incentivizing land use activities. Various publications have catalogued the instruments through which governments can provide public financial support for green land use including REDD+ investments (see e.g. Cranford and Parker, 2012; Parker et al. 2012; Oakes et al., 2012; Lee and Pistorius, 2015; Conway et al. 2015; Streck et al, 2015, Norman et al., 2015) but in many cases these appear as complicated shopping lists of potential instruments without an understanding of their objectives or suitability to fund different land use activities in particular national contexts. This paper aims to provide a consolidated and simplified overview of possible financial instruments that can be linked into the broader framework presented in this paper, including actors, entry points and activities. It is hoped that this more simplified and integrated framework could be applied and adapted usefully in particular country or sectoral contexts.

**Table 3 Public financial instruments available to support land use investments<sup>26</sup>**

Instruments	Key features	Land Use examples
Grants	<p>Payments are often used to fund capacity gaps including R&amp;D and extension services or can cover upfront investment costs.</p> <p>Payments can supplement revenues and are often made on demonstration of predefined outcomes, sometimes as part of</p>	<ul style="list-style-type: none"> <li>In Peru, the Ministry of Agriculture, through the AGROIDEAS program, acts as a strategic partner of agribusiness, providing grants for small and medium agricultural, livestock and forestry producers.</li> <li>Multilateral donor and domestically financed Amazon Fund provides grants for numerous activities to prevent, monitor and</li> </ul>

<sup>26</sup> Debt-for-Nature schemes, which cancel or reduce historic debt in return for countries investing their own funds in measures to protect natural habitats, are not included here since funds raised can be spent through any one of the instruments listed. Similarly, proceeds raised from green bond issuances can be used by public or private actors to provide grants, equity or debt (Oliver 2014) and public actors can support issuance with tax breaks, guarantees, insurance etc. CBI (2014) explain that the low volume of bonds in the agriculture and forestry sectors is a reflection of the sector more generally, which does not tend to use bonds to finance its activities. Indeed, given the high level of risk usually involved in land use investments and the small scale of individual investments, bonds are probably not the best-suited instrument for the sector.

	carbon reduction funds/schemes Payments can also fund price floor subsidies.	combat deforestation, and to promote the conservation and green use of forests in the Amazon <ul style="list-style-type: none"> <li>The German funded REDD Early Movers Programme supports Acre’s Jurisdictional REDD program, including through ex-ante payments</li> <li>The FCPF Carbon Fund is currently worth USD 465 million and will provide payments for emission reductions backed by international donor contributions.<sup>27</sup></li> <li>New Government of Indonesia CPO Supporting Fund<sup>28</sup> will subsidize biodiesel and fund palm oil research and development<sup>29</sup></li> </ul>
Concessional loans	Below market interest rate loans and/or other concessional terms such as longer tenors and grace periods. Microcredit is often provided to households or small businesses without security.	<ul style="list-style-type: none"> <li>IDA contributions to China Loess Plateau Watershed Rehabilitation Project<sup>30</sup></li> <li>Government of Indonesia pays interest rate subsidy to commercial banks who provide concessional debt to biofuel crop farmers<sup>31</sup></li> </ul>
Equity	Equity investments in state-owned or private enterprises. Involves higher risk but can also provide a higher return on investment.	<ul style="list-style-type: none"> <li>KfW Investments in Agro-silvopastoral land use systems</li> <li>The EU Natural Capital Financing Facility provides equity investments for bankable nature-based climate adaptation projects in the EU</li> </ul>
Market Rate loans	Debt provided at market rates by public institutions usually has additional support provided alongside e.g. technical assistance and/or is provided for riskier investments that commercial capital would not normally invest in.	<ul style="list-style-type: none"> <li>The IDB and regional government funded Acre Green Development Program (PDSA-II) will expand protected areas and promote green agroforestry value chains and recovery of degraded land.<sup>32</sup></li> <li>Backed by donor financing, AgDevCo impact investors provide seed capital to small to medium sized farmers, alongside technical and management support to improve farming operation.<sup>33</sup></li> </ul>
Tax incentives	Governments can provide tax incentives in the form of exemptions, credits or deferrals. They can be provided to different actors e.g. producers or input providers.	<ul style="list-style-type: none"> <li>Income tax reductions, exemptions and deferrals for soy and soy-based biofuel producers in Brazil<sup>34</sup></li> <li>Tax breaks for commercial timber producers in Indonesia<sup>35</sup></li> </ul>

<sup>27</sup> See: <https://www.forestcarbonpartnership.org/fcpf>

<sup>28</sup> Funds raised through a levy on Crude Palm Oil exports

<sup>29</sup> It is noted that this example would more likely be classed as “BAU” than “green” but would depend on the definitional boundaries set.

<sup>30</sup> See: <http://www.worldbank.org/projects/P056216/second-loess-plateau-watershed-rehabilitation-project?lang=en>

<sup>31</sup> McFarland, W et al. 2015

<sup>32</sup> <http://www.iadb.org/en/projects/project-description-title,1303.html?id=BR-L1289>

<sup>33</sup> <http://www.agdevco.com/portfolio.php>

<sup>34</sup> McFarland et. al, 2015.

<sup>35</sup> Ibid.

Guarantees / First-loss protection	Protects lender (of debt or bonds) against borrower default up to a defined limit in return for a fee. Public actors can pay the fee or provide the guarantee instrument.	<ul style="list-style-type: none"> <li>MIGA US-backed EcoPlanet Bamboo supports the conversion of degraded land in Nicaragua into green bamboo plantations. MIGA's cover is for a period of up to 15 years against the risks of expropriation, war and civil disturbance.<sup>36</sup></li> </ul>
Insurance	Protects producers, developers and/or buyers against losses resulting from political, technical, financial, natural hazard, production and market risks in return for a fee. Public actors can pay fee or provide the insurance instrument.	<ul style="list-style-type: none"> <li>OPIC political risk insurance for Terra Global Capital Cambodia REDD project<sup>37</sup></li> </ul>

No single instrument provides a silver bullet however; rather governments need to establish a combination of different financial instruments and policies to make any one project or program viable and to bring together the necessary actors to make a particular investment happen. An example initiative currently being developed which involves multiple financing sources and instruments is provided in Box 1.

**Box 1: Combining multiple financing sources and instruments – an example**

The Althelia Climate Fund is a closed end fund drawing on public and private investors through a private equity investment vehicle. It is aimed at developing multiple revenue streams from forest protection and sustainable farming. The fund operates a ‘payment for performance’ approach, whereby less than 30% of the total investment is normally allocated upfront to cover capital expenditures and initial operating costs. The remainder is allocated to projects upon demonstration of successful performance. The Fund is backed by a risk-sharing loan guarantee from USAID enabling the fund to provide commercial financing up to a total of USD 134 million. In Peru, the fund has invested USD 7million into a USD 12 million initiative, which will protect 570,000 hectares of natural forest in two Peruvian national reserves and restore 4,000 hectares of degraded land around the parks, using agroforestry systems that will produce ‘deforestation-free’ cocoa and thus also help to improve the livelihoods of local people. The Peru-U.S. debt swap fund ‘Fondo de las Americas’ (FONDAM), will provide USD 2 million of co-financing and in kind expertise in cocoa-based agroforestry projects. A further source of revenue will be carbon credits registered with the Verified Carbon Standard and the Carbon, Community and Biodiversity Standard.

**Sources:** <https://althelia.com/our-investments/tambopata-bahuaja/>; Ecosystem Marketplace (2014), Hill Clarvis (2014)

<sup>36</sup> <https://www.miga.org/Lists/Press%20Releases/CustomDisp.aspx?ID=488>

<sup>37</sup> <https://www.opic.gov/projects/terraglobal>

Furthermore, in many cases, similar public financial instruments are currently underpinning BAU activities and therefore need to be reformed where possible, while ensuring that economic and social development is not compromised. As Castrèn et al. 2014 put it: “The provision of subsidies in an environment that otherwise is not supportive of sustainable forestry development is likely to result in wasted resources. The Indonesian forestry fund is a good example of this.” Lee and Pistorius (2015) echo this concern: “In many countries, a multiplicity of sectoral policies act in contradiction to efforts to reduce deforestation. Furthermore, land use systems (e.g., concessions and other rights to extract economic benefit from land and forest resources) are often deeply rooted in the political system of countries and the rent-seeking of different actors” (p.23). The authors do however call out good examples where fiscal policies have been reformed in line with environment or development objectives, including Brazil’s efforts to link rural crediting to deforestation rates in municipalities and a series of regulations in Vietnam aimed at reforestation.

Figure 8 illustrates this issue and provides a visual framework for mapping the main public financial instruments in operation in a given country, jurisdiction or sector that provide incentives to support mitigation and adaptation activities in the land use sectors, as well as BAU activities. The framework helps visualize whether individual public incentives in a particular country or sector are mostly supporting BAU or green land-use activities. It can also be used as a tool to understand which incentives could be shifted from incentivizing BAU to green activities.

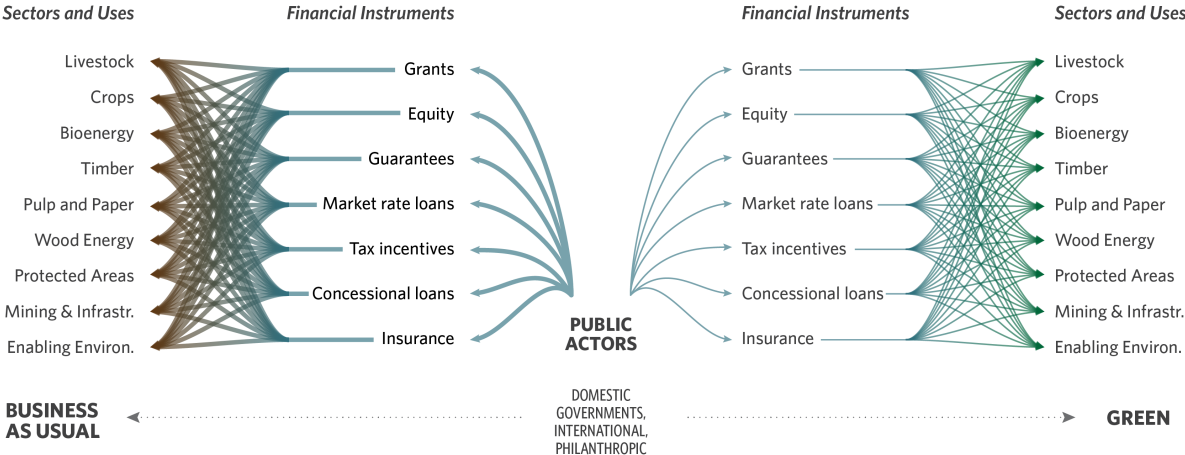
The public finance mapping tool categorizes mitigation and adaptation instruments by sectors to enable countries to highlight the extent to which their public land use finance is in line with the major opportunities they have to meet their economic and environmental goals. Eight primary sources of emission reductions are included illustratively but would differ depending on the country context. While not representing direct emission reduction potential, enabling environment support is also included in the tool, in recognition of its role in providing the appropriate conditions for emission reductions to occur.

In applying this framework, it would be challenging to draw the line between “green” and “BAU” land use activities but this presents an opportunity for governments and their partners to define levels of ambition and understand what level of trajectory of sustainability public funds are supporting. For instance, in Brazil in 2012, the government provided some USD 57 billion in traditional agricultural credit



(Angelo 2012). A detailed assessment would be needed to understand what portion of this credit is supporting high productivity, low emissions or climate resilient land use activities. On the other hand, the ABC program provides credit to support carbon emission reducing agricultural practices, disbursing approx. USD 425 million in its first two years of operation since 2010 (IPAM 2012). A detailed assessment would be needed to evaluate the activities supported to date, against set definitions of “BAU” and “green”.

**Figure 8 Illustrative mapping of public finance instruments showing incentives for green and BAU land use activities**



## 7 Bringing together the pieces of the framework

This paper provides **frameworks to understand land use finance flows and identify financial instruments to redirect public and private finance** towards more green land use practices. The framework consists of a number of different tools, which governments, development partners or analysts could use to plan their financing strategies for the low carbon climate resilient land use (see Figure 9).

Firstly, the **Landscape of Climate Finance approach** can be used to map climate finance flows in the land use sector through their lifecycle to get a good understanding of current flows, key actors, instruments and end uses (Figure 9, Step 1). This provides a baseline against which to measure progress towards economic and environmental goals and plan scale up. It reveals investment patterns that pinpoint blockages and highlight barriers and opportunities. It can inform the design of land-use mitigation and adaptation plans that align bilateral and multilateral support with domestic efforts and needs.

Secondly, an **analysis of broader public and private investments and expenditures** which are not necessarily climate orientated helps to understand the broader suite of finance flows which have to be 'greened' (Figure 9, Step 2).

Additional tools then help to show the role of public finance to support private investors in climate mitigation and adaptation and evaluate the various support options available. **Financial viability gap analysis** (Figure 9, Step 3) can help understand the key barriers and drivers of individual investments or groups of investments. It allows decision makers to identify which policy approaches or instruments would be most effective at redirecting investment to greener land use practices.

Finally, **Public finance mapping** (Figure 9, Step 4) can help identify the full range of public financial instruments supporting BAU and green land use activities to identify the best and most cost-effective opportunities to shift incentives from BAU to green activities. It can also ensure that overall policy and spending is coherent with the economic and environmental goals of governments and their partners.

Figure 9 Framework to understand land use finance flows and identify financial instruments to redirect public and private finance

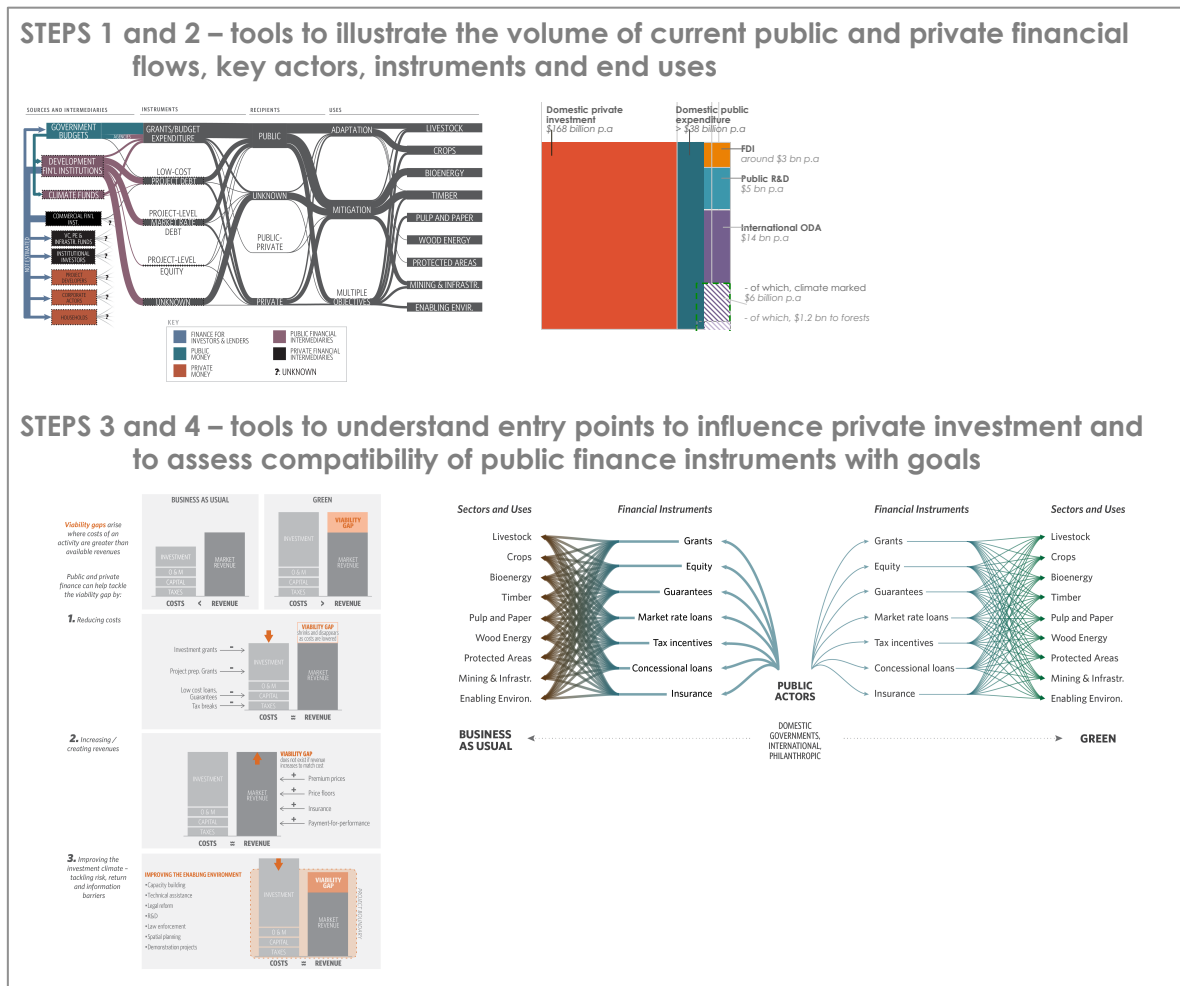
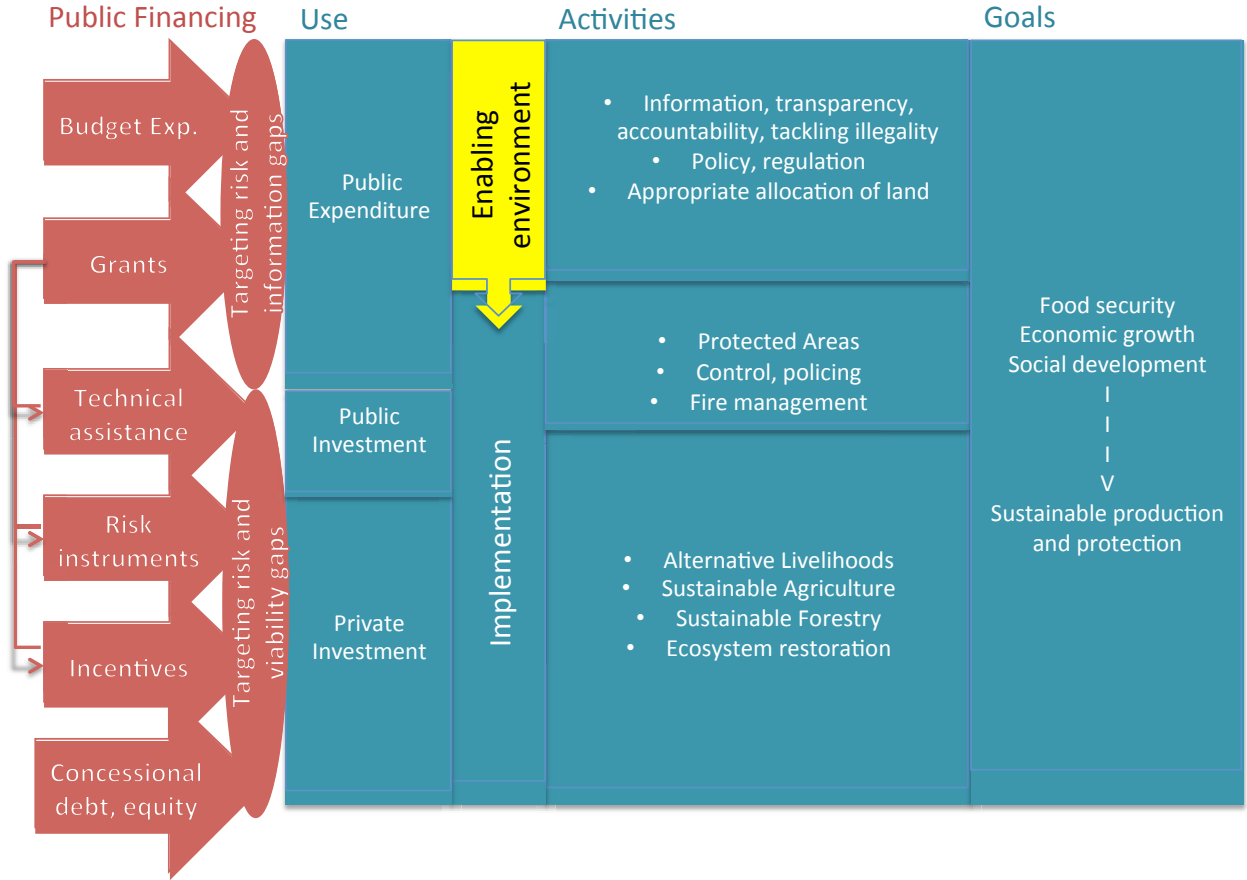


Figure 10 below illustrates at a very high level how this framework or series of tools can be applied to plan financial instruments and resources, from different actors, for different activities, as part of a national or regional development strategy for the land use sectors, based around the concept of production and protection<sup>38</sup> (CPI 2014, Assunção and Chiavari 2015). Public financing instruments may be funded by either domestic governments or international development partners and have three key purposes: (1) providing a solid investment enabling environment (2) paying for some public goods such

<sup>38</sup> “A Production-Protection strategy is an integrated approach aimed at helping nations meet their economic and environmental goals concurrently... focused on increasing oil palm productivity while protecting valuable natural resources.” (CPI 2014, p.1).

as protected areas and (3) incentivizing private investments in mitigation and adaptation activities in the land use sectors.

**Figure 10** Entry points for domestic and international public financing to support sustainable land use and economic development goals



Note: The public financing instruments shown are not mutually exclusive but are listed for illustrative purposes in relation to the gaps identified. For instance, technical assistance and risk instruments are funded by budget expenditures and grants.

## 8 Conclusions

Around the world, businesses and investors, urgently need to identify the changes in public support that can help to drive scaled-up private sector investment in mitigation and adaptation in the land use sectors, to “green” the hundreds of billions spent annually on land use investments and public incentives around the world without sacrificing either productivity or economic development.

Unlocking investments in highly productive and climate-resilient agriculture and forestry is essential to deliver global food security and human development. Forests and agriculture support the livelihoods of 2.6 billion people worldwide and account for 20-60 % of the gross domestic product of many developing countries (Hoffman 2011), generate around a quarter of global greenhouse gas (GHG) emissions, and are highly vulnerable to the impacts of climate change. However, our understanding of the scale and nature of land use finance is incomplete.

The framework presented in this paper can be used by governments and their partners and supporting research organizations to:

- Inform the design of mitigation and adaptation financing strategies in the land use sectors and how those can be supported by multilateral and bilateral programs;
- Track progress towards economic and environmental goals and plan scale up. The framework can reveal investment patterns and pinpoint blockages, barriers and opportunities;
- Identify domestic and international financial instruments to redirect public and private finance towards greener land-use practices; and
- Encourage coordination between public instruments across land-use sectors.

Furthermore, the tools, particularly the viability gap analysis tool, could be used by private sector to understand what it would take to invest in sustainable land use and to lobby government to provide the necessary incentives.

There are some limitations of the framework that should however be highlighted including:

- For the most part, the tools map flows of finance and do not evaluate their effectiveness. Larger flows do not necessarily equate with larger mitigation and adaptation impacts. Applied, the viability analysis tool seeks to address this issue by looking at various options and combinations of financial instruments available to enable investments to happen.

- Data on financial flows, both public and private, can be very difficult to get hold of and often requires primary collection, which is time and resource consuming. Unofficial flows of finance are important drivers of behavior in the land use sectors in many developing countries but data is usually not available. In applying the framework, governments and development partners could choose flexibly which elements of analysis would be most useful.
- The framework presents a static picture of annual flows of finance but investments and public support run over multiple years. Tracking year on year can help to reveal trends in investment patterns and public support.

Land use encompasses a diverse and crosscutting range of political, economic, environmental and social interests. Getting the right combination of policies and financial instruments in place to unlock green investment at scale is politically challenging and often subject to long-standing vested interests. Improving the ability of governments to assess empirically how finance is flowing across land-use sectors, which viability, cost and risk gaps need to be addressed, and whether public or domestic instruments are helpful and coherent, is essential. Success will also depend on whether governments have the capacity to define, test, and verify, green activities in ways that deliver developmental and environmental outcomes. The frameworks, approaches and tools presented in this paper could help lower and middle-income countries and their development partners to identify opportunities to work together with businesses and to jointly finance green land-use transitions. The framework will however have to be adapted according to specific country or sector needs and circumstances.

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## Paper 2: Taking stock of international cooperation for low carbon, climate resilient land use in Indonesia<sup>39</sup>

### Abstract

With its high contribution to global land use, forestry and agriculture emissions, Indonesia has a key role to play in meeting climate stabilization targets. This paper discusses the role of international development partners in financing mitigation and adaptation actions in the land use sectors in Indonesia, evaluating what progress has been made to date, what challenges have been met, and what opportunities lie ahead to effectively support Indonesia. The paper provides a ‘deep dive’ sectoral analysis of international development partner data collected for the *Indonesian Landscape* (Ampri et al. 2014), supplemented by literature review and expert interviews.

The paper finds that the enabling environment for investments in land use in Indonesia remains weak and the focus of international development partners on supporting indirect enabling environment activities is therefore well directed. Support helps to improve information, transparency and governance, to tackle illegality and allocate and manage land more efficiently. But, international cooperation faces many implementation challenges and there is room for systematic improvements to increase its effectiveness. Parallel support is also needed to further support scale up of direct implementation activities to develop sustainable agriculture and agro-forestry value chains, ecosystem restoration and sustainable livelihood options for rural communities.

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<sup>39</sup> The paper is being prepared to be published as a CPI working paper and to be put forward for journal publication as:

- Falconer A and Glenday S. 2015. Taking stock of international cooperation for low carbon, climate resilient land use in Indonesia. Ca Foscari University of Venice / University of New South Wales, Sydney.

The paper builds on and uses data collected for the following publication:

- Ampri I, Falconer A., Wahyudi N., Rosenberg A., Ampere B., Tuwo A., Glenday S., Wilkinson J. 2014. The Landscape of Public Climate Finance in Indonesia. An Indonesian Ministry of Finance and CPI report. Available at: <http://climatepolicyinitiative.org/publication/landscape-of-public-climate-finance-in-indonesia-3/>

## Executive Summary

**Indonesia has a key role to play in meeting climate stabilization targets, with its high contribution to global land use, forestry, peatland and agriculture emissions.**

**This paper discusses the role of international development partners in financing mitigation and adaptation actions in the land use sectors in Indonesia**, evaluating what **progress** has been made to date, what **challenges** have been met, and what **opportunities** lie ahead to effectively support Indonesia, reflecting on the **'value add'** development partners bring to the domestic picture. We provide a 'deep dive' sectoral analysis based on international development partner data collected for the *Indonesian Landscape* (Ampri et al. 2014), supplemented by literature review and expert interviews.

### Key Findings

**International development partners' disbursements in land use sectors constituted 17.6% of their overall USD 323 million climate finance in 2011 in Indonesia.** The *Indonesian Landscape* tracked USD 486 million of finance going to the agriculture and forestry sectors in 2011 but just 12% (USD 57 million) was from international development partners, while the bulk (USD 429 million) was from the Indonesian government.

**Most international finance is bilateral and channeled by international entities.** Ten bilateral partners delivered around 88% of international finance disbursed to land use sectors in 2011. The remaining 12% came from multilateral organizations and funds.

**We estimate that approximately 85% of international development partner finance for forestry and agriculture in 2011 was delivered through managing contractors, international governments, international NGOs, international development banks, international universities and UN organizations, as opposed to through Indonesian government or organizations.** While this approach is often favored to minimize bureaucratic government processes and guard against fiduciary risk, in some cases this may minimize the development impact of the actions on government and other target groups on-the-ground. It may also limit the total volume of finance that can be delivered, as it is split between multiple smaller scale mechanisms.

**International land use climate finance deployed in Indonesia is dominated by grants.** The international land use support that we capture was delivered entirely in the form of grants, apart from concessional loan projects financed by the International Fund for Agricultural Development. These loan finance projects may provide useful lessons about how public finance can be invested to leverage private sector investment and promote sustainable agriculture value chains, including in key sectors such as oil palm.

**Land use activities supported by international development partners have focused thus far on capacity building and strengthening enabling environments.** We classify 48% of international disbursements in land use in 2011 as ‘indirect’ activities, including training, institutional development, systems development, research, strategy and policy advice aimed at creating the enabling environment for emission reductions or resilience improvement. They mostly support strengthened timber legality, developing MRV systems, sustainable forest management and spatial planning. 13% of disbursements are aimed at ‘direct’ implementation (emission reducing or resilience improving) activities. These include ecosystem rehabilitation, as well as management of fire and protected areas to a lesser extent. A further 39% of disbursements had both indirect and direct components, largely for training related to ecosystem rehabilitation and sustainable agriculture.

Since 2011, the major international partners have put increased emphasis on supporting sustainability of agriculture supply chains. So far this work is largely focused on dialogues and building an evidence base (studies), but many related direct implementation activities are also getting started on the ground. There has also been some recent reemphasis on agroforestry and community forestry, recognizing the potential for such projects to be locally beneficial, albeit usually small-scale, and to capitalize on the increasing body of local and international civil society and scientific community knowledge in this area.

**The focus of international development partners is generally well directed**

**Persisting weaknesses in the enabling environment are multiple and impede efficient land use investments pointing to the need for sustained attention in this area.** They include: availability of comprehensive and consistent spatial information including on concessions, licences and permits; lack of recognition of customary land rights; conflict over land rights and illegality in land use; limited capacity of institutions and human resources; and lack of political support and corruption.

**The focus of international development partners on supporting indirect enabling environment activities is therefore well directed.** Support helps to improve information, transparency and governance, to tackle illegality and allocate and manage land more efficiently. Such activities are challenging and do not always provide such visible results as implementation activities, but they have the potential to unlock significant streams of future public and private investment in land use. While such activities generally fall within the domain of Indonesian Government, international partners can help to stimulate action, boost capacity and provide best practice examples from other contexts.

**Nonetheless, parallel support is needed to further support scale up of direct implementation activities** to develop sustainable agriculture and agro-forestry value chains, ecosystem restoration and sustainable livelihood options for rural communities. Such support will help implementation activities scale up as the enabling environment is strengthened, providing proof of concept and also helping to push forward linked reforms in governance and regulation.

**But, international cooperation faces many implementation challenges**

**Development partners and their counterparts face numerous practical cooperation challenges and there is room for systematic improvements to increase effectiveness.** Challenges include: inconsistent, fragmented or reporting and regulatory requirements; complex application procedures and safeguards; staff changes which mean capacity building and outreach are continuous activities; duplication of donor efforts; insufficient understanding of risk or unrealistic delivery timelines; lack of ownership or incentive where money is not channelled through Indonesian organisations; and slow approval processes. Furthermore, there is a mismatch between the short term project approach and political cycles that determine development cooperation agendas, and long-term objectives and delivery timeframes for the necessary changes in the land use sector.

**Interviews provided mixed opinions on the influence and effectiveness of international support in the land use sectors in Indonesia.** Efforts in recent years to explore new and more efficient ways to cooperate and increase aid effectiveness, such as the Indonesia-Norway results-based agreement and Indonesia Climate Change Trust Fund (ICCTF) have thus far encountered challenges and are yet to deliver at the envisaged scale or pace.

**Way forward**

1. **Development partners need to work in partnership with the Indonesian government, at national and regional levels, to reform regulations and improve systems.** High-level political commitments and backing (from GoI at all levels national and local, and development partners) is critically important.
2. **GoI and development partners need to coordinate more systematically, involving all relevant line ministries and development partners to minimize duplication and maximize reach.** Development partner coordination should be driven by GoI and seek to drive forward a new ambitious vision and implementation pathway which is cross-ministerial, cross-jurisdiction and cross-donor, away from current silos.



3. **GoI should establish a comprehensive database of international development partner activities and associated annual disbursements to enhance development partner and practitioner coordination and cooperation, and therefore effectiveness.** It should be publically available to maximize transparency and utility for all stakeholders.
4. **Development partners should aim to provide support over extended durations for land use projects, delinking funding from donor government shorter-duration political cycles, to enhance impact, providing sufficient time to build partner capacity, implement activities on the ground and deliver desired results.** During project inception, care should also be taken to prepare full risk assessments and realistic implementation plans that are understood by all relevant parties.
5. **Development partners have to be flexible, aligned with evolving Indonesian Government priorities at national and regional levels, and aim to provide systems and outputs that can quickly transfer data and information to new officials.** Involving Indonesian local academic or civil society advisors in development programs can help manage knowledge and develop stronger relationships with government partners.
6. **Development partners can assist Indonesian institutions to meet accreditation requirements for international funds and explore innovative public private funding partnerships to leverage additional finance.** Support is needed to build capacity of prospective Indonesian institutions (governmental and external), including state-owned enterprises and reputable foundations and local NGOs, on safeguards, fiduciary standards and on operating policies and procedures.
7. **Development partners can help local organizations to build capacity to implement programs and sustain efforts after development support ends.** Streamlining administrative requirements and offering support to potential grantees on financial management, proposal preparation and program management would help a larger pool of local actors access finance at scale.

# 1. Introduction

Globally, land use change accounted for just 6% of total GHG emissions in 2012 (WRI 2015) but this was largely due to high carbon uptake by forests. The mitigation potential of halting tropical deforestation has been estimated at 25-35%, if both avoided emissions from deforestation and carbon dioxide removals from forests and soils are taken into consideration (Goodman and Herold 2014). Added to agriculture emissions of 11% in 2012 (WRI 2015), the mitigation potential of land use sectors is therefore very high and plays a key role in meeting climate stabilization targets. Of course not all of these emissions can be avoided, as we need the resources that forests and agriculture provide us, but these resources can be used more efficiently. This will require adjustments to current investments and business models, supported by appropriate public policies, regulation and financial incentives. As such, public and private, national and international actors all have a role to play.

Indonesia deserves particular attention given its expansive tropical forests and peat soils. In 2012, 44% of global land use and forestry emissions came from Indonesia, surpassing even Brazil at 29% (WRI 2015). Recent fires in Indonesia in 2015 further highlight the importance of peatland management in addressing emissions from the land use sector.

Building on *The Landscape of Public Climate Finance in Indonesia (Indonesian Landscape)* (Ampri et al 2014), this paper seeks to investigate in more detail the contribution of international development partners to financing mitigation and adaptation actions in the land use sectors in Indonesia. We aim to understand what progress has been made, what challenges have been met, and what opportunities lie ahead to effectively support Indonesia to achieve its emission reduction and adaptation goals for the land use sectors.

We do so by analyzing and categorizing the forestry and agriculture mitigation and adaptation activities international development partners have financed in recent years, and the financial instruments and disbursement channels they have used. To interpret data collected on climate finance disbursements, we draw on development and climate finance literature and expert interviews.

The paper is structured as follows:

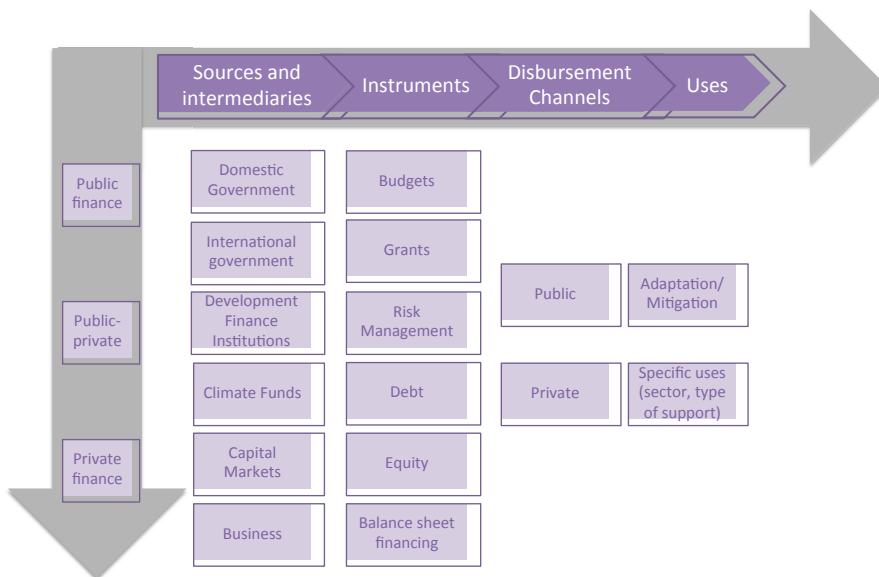
- **Section 2** details our analytical approach
- **Section 3** provides a brief overview of the Indonesian land use context and financing needs

- **Section 4** then presents the main findings from the data analysis, identifying the key actors and financial instruments used, and activities financed.
- **Section 5** reflects on the challenges faced by international development partners and their Indonesian counterparts working in the land use sectors.
- **Section 6** provides conclusions and recommendations regarding international development partner cooperation in the land use sectors in Indonesia.

## 2. Approach

The analysis presented in this paper uses the “landscape of climate finance” analytic framework developed through Climate Policy Initiative’s Landscape of Climate Finance reports (see Buchner et. al 2011a, 2011b, 2012, 2013, 2014, 2015; Ampri et. al, 2014; Juergens et. al, 2012) whereby selected climate finance flows are mapped out visually for the latest year for which data is available. As shown in Figure 11, the approach maps the lifecycle of finance flows along the horizontal access, identifying the sources of finance, who intermediates and disburses the finance and what financial instruments they use and finally what mitigation or adaptation activities money is spent on. The vertical access instead moves from public to private actors and instruments. The landscape framework allows us to have a good overview or ‘snapshot’ of *who is investing* in emission reduction and climate resilience efforts around the world or in a particular country, through *what instruments*, and *what they are investing in*. By identifying what is already happening on the ground, the landscape approach can provide a baseline against which to measure progress toward economic and environmental goals and plan scale up. It also reveals investment patterns that pinpoint where the biggest barriers and opportunities lie. A landscape approach can also help international partners and governments identify best ways for tailoring international support to complement domestic efforts and improve coherence across a range of actors.

**Figure 11 The Climate Finance Landscape framework**



Source: Buchner et al. 2011a, 2011b, 2012, 2013, 2014.

This paper provides a ‘deep dive’ sectoral analysis of international development partner data collected for the *Indonesian Landscape* (Ampri et al. 2014), including information on 69 agriculture and forestry projects reported by 15 of the biggest international development partners operating in Indonesia. Basic project information (donor agency, project name, sector, financial instrument, recipient and channel) and the disbursement value for 2011 was collected for these projects as part a survey carried out for the *Indonesia Landscape*.<sup>40</sup> Data also includes disbursements from two international climate funds.<sup>41</sup> Reported data was supplemented with additional information on project objectives and implementation partners taken from publicly available project documentation where available. We also put our data in context of surrounding years using 2010-2013 data on donor commitments from the OECD’s Creditor Reporting System (CRS) database.

Additionally, this paper was informed by a literature review and a series of seven telephone interviews carried out between August and September 2015 with development partners and Indonesia land use finance experts. The interviews were carried out on an anonymous basis, and hence insights are not attributed in the paper. The interviews were structured around the following key questions, which are explored in this paper:

1. To what extent does current international development partner support in the forestry and agriculture sectors fit with Indonesia’s needs?
2. What type of international development partner support adds most value in the land use sectors in Indonesia?
3. What challenges do international development partners and the Government of Indonesia face to realizing effective contributions? What systematic improvements could help overcome these issues?
4. What contribution from international development partners would be most effective going forward?

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<sup>40</sup> For the forestry and agriculture sectors, our data includes the following partners: AusAID, EU, Germany’s BMUB, KfW, GIZ, JICA, Netherlands, Norway, UK, USAID, IFAD, IFC, UNDP, UNEP and FAO. Additionally *partial* information for the following organizations is included based on information from Indonesia’s state budget: ITTO, ACIAR and Korea Forestry Service. Our data also includes additional unnamed donors for which data has been extracted from the Indonesian state budget, with appropriate checks to avoid overlap with other data sources.

<sup>41</sup> The UN-REDD Program and the International Fund for Agricultural Development (IFAD). International climate fund information was sourced from [climatefundsupdate.org](http://climatefundsupdate.org) plus fund literature and surveys.

## 3. The context for land use finance in Indonesia

### 3.1. Indonesia's land use emissions and deforestation trends

Land use change and forestry comprise the bulk of Indonesia's greenhouse gas (GHG) emissions, accounting for 62% of total emissions in 2012 (Figure 12)<sup>42</sup>.

Including emissions from agriculture, land use accounted for 70% of total emissions in 2012.<sup>43</sup> The primary driver of Indonesia's land sector emissions is agriculture expansion in particular on peat land<sup>44</sup> either through subsistence and commercial, in particular oil palm, timber plantations and logging, as well as, to a lesser extent, mining, infrastructure and urban expansion (Abood et al., 2014; Lawson, 2014, Hosonuma et al. 2012). 2015 has seen unprecedented emissions from forest and peat fires in Indonesia, with emissions expected to reach around 1750 MtCO<sub>2</sub>-eq.<sup>45</sup>, that is almost equal to Indonesia's total GHG emissions in 2012.

Consequently, tackling these drivers is critical to achieving global and domestic climate change goals. As discussed further below, there are opportunities to reduce the pressure of these drivers on forests and high carbon peat lands by increasing agricultural productivity, as well as implementing strict regulations to appropriately protect high value forest and peat ecosystems. Without law enforcement, tenure security and development of local livelihoods, agriculture productivity improvements could risk increasing deforestation given high productivity and profit potential (Busch et al. 2015). These opportunities would necessitate changes to current legal designations for land use and concessions, as well as improvements in business models and agricultural practices (CPI 2014).

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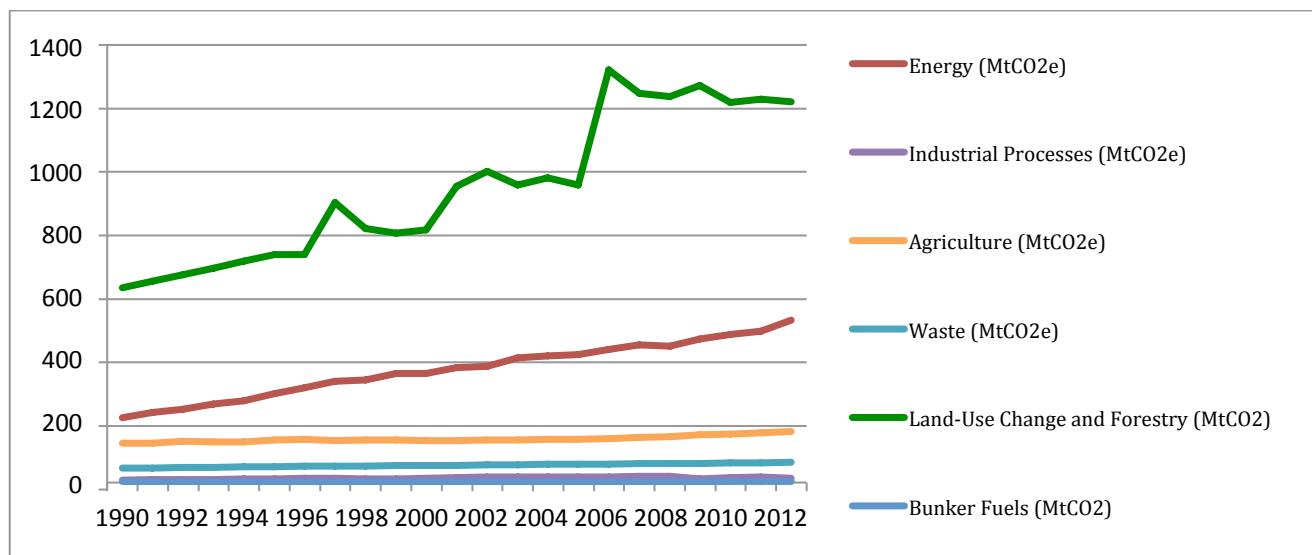
<sup>42</sup> 2012 is the latest available year for comprehensive, international standard data at the time of writing the paper. This data is for net emissions, including carbon sequestration by forests and other land uses.

<sup>43</sup> The data presented in Figure 12 suggest that emissions may have stabilized in 2006 after a huge jump in 2005-6. By contrast, other studies estimate deforestation rates in Indonesia to be the second highest globally (Harris et al., 2012) and satellite imagery has shown Indonesia to have the highest rates of forest loss (1021 km<sup>2</sup>/year) globally over the period 2000 – 2012, with a peak of over 20,000 km<sup>2</sup>/year in 2011-2012 (Hansen et. al 2013). Interestingly, the 2013 update of the same dataset shows a halving of forest loss from 2012-2013, but 2013-2014 data shows it is not yet clear if this is the start of a downward trend or not. This puts Indonesia down to fifth position globally in terms of forest loss over the past 3 years for which data is available (Sizer 2015; Weisse and Petersen 2015).

<sup>44</sup> While emissions vary greatly from year to year depending on farming practices and weather conditions (e.g. El Nino), peat land generally generates the bulk of the Indonesian emissions while they cover 10% of the total land surface. One interviewee suggested that restoring degraded peat land (around 6-7 million ha), would therefore allow Indonesia to meet its GHG reduction targets.

<sup>45</sup> <http://www.globalfiredata.org/updates.html>

Figure 12 Indonesia's GHG emission trends by sector (MtCO<sub>2</sub>-eq.)



Source: WRI 2015

### 3.2.Indonesia's emission reduction targets, plans and policies

Through the 2015-2019 National Mid-Term Development Plan (RPJMN), the new Indonesian government reaffirmed Indonesia's commitments to reduce GHG emissions by 26% by 2020.<sup>46</sup> The Government subsequently announced an extended goal to reduce emissions by 29% by 2030 through the submission of Indonesia's intended nationally determined contribution (INDC) in the lead up to the Paris Climate Conference.<sup>47</sup>

<sup>46</sup> The RPJMN incorporates Indonesia's target announced in 2011 to reduce emissions by 26% against business as usual by 2020. This was regulated as part of their National Action Plan to Reduce Greenhouse Gas Emissions (RAN GRK) through Presidential Regulation 61/2011. A National Action Plan on Climate Change Adaptation (RAN-API) has also been developed.

<sup>47</sup> Indonesia's Environment and Forestry Minister announced that this target would be extended to 29% for 2030 (Christina 2015), as part of its as part of its INDC submitted to the UNFCCC on 24<sup>th</sup> September:

[http://www4.unfccc.int/submissions/INDC/Published%20Documents/Indonesia/1/INDC\\_REPUBLIC%20OF%20INDONESIA.pdf](http://www4.unfccc.int/submissions/INDC/Published%20Documents/Indonesia/1/INDC_REPUBLIC%20OF%20INDONESIA.pdf). The INDC

has been met with some criticism for its lack of ambition and data transparency

(<http://www.greenpeace.org/international/Global/international/briefings/forests/2015/Indonesia%20INDC%20Briefer.pdf>;

<http://www.wri.org/blog/2015/09/indonesia's-draft-climate-plan-indc-good-start-improvements-necessary-success>;

<http://climatepolicyinitiative.org/2015/09/28/indonesias-indc-a-step-forward-or-a-missed-opportunity/>).

Indonesia is striving to realize these reductions while achieving broader sustainable development and economic goals, aiming to meet economic growth targets of 7% on average over the same period. Given the important contribution of land use to both Indonesia’s emissions and economic growth, as well as high vulnerability to climate impacts, transitioning to low carbon climate resilient land use is a key challenge for the Government of Indonesia (GoI) and its development partners. Achieving this goal will require changes in regulation and policy incentives, supported by domestic public budgets and international financial support where appropriate. Indeed, Indonesia’s National Action Plan on Reducing Greenhouse Gas Emissions (RAN-GRK) expects 88% of emission reductions for the 26% target to come from forests and peat land (Table 1).

**Table 4 Emission reduction targets stipulated in the RAN-GRK to reach a 26% reduction**

Sector	GtCO <sub>2</sub> e	% total
Agriculture	0.008	1%
Forest and Peat Land	0.672	88%
Energy and Transport	0.038	5%
Industrial	0.001	0%
Waste	0.048	6%
<b>Total</b>	<b>0.767</b>	<b>100%</b>

In what Halimanjaya and Maulidia (2014) call “a period of enormous experimentation and innovation with institutional arrangements in response to climate change” (p.2), the GoI has implemented some important policies in recent years that aim to reduce emissions from land use sectors. In 2011, a 2-year moratorium on new concessions in primary natural forest and peat land areas was introduced and has since been twice renewed (TLS 2015). While it has been criticized for having several loopholes, the moratorium is estimated to



have reduced emissions by several percentage points since entry into force.<sup>48</sup> The GoI has also introduced its own Indonesia Sustainable Palm Oil standard although it may require some strengthening to deliver the desired sustainability outcomes.<sup>49</sup> Finally progress has also been made towards creating “Onemap”, a database bringing together land use, land tenure and other spatial data to help overcome land title disputes. This progress may have contributed to the downturn in 2013 in tree loss but much more needs to be done to turn this into a stable downward trend (Dharmasaputra and Wahyudi 2014, Sizer et al. 2015, Seymour 2015).

Most recently private sector commitments have further added to the momentum toward achieving sustainable development goals, including commitments to reduce the impact of agricultural commodities on deforestation, through the Kadin-led Indonesia Palm Oil Pledge (IPOP) and related industry commitments to zero deforestation by 2020. However, it remains to be seen how companies will fulfil their pledges and what influence other government policies will have, positive or negative, such as the CPO Crop Estate Fund which is, inter alia, set to subsidize palm oil derived biofuels<sup>50</sup> and palm oil research and development. At the end of 2014, the Ministry of Agriculture launched the multi-stakeholder Indonesia Palm Oil Platform (InPOP) to coordinate existing initiatives and actors working on palm oil sustainability.

### 3.3.Indonesia’s climate finance needs

If first estimates of financial needs and disbursements for climate change are in the right range, much more public and private, domestic and international finance is needed to help Indonesia reach its emission reduction targets and prepare for or respond to climate impacts.<sup>51</sup> In 2012, the Ministry of Finance (MoF), in its first Mitigation Fiscal Framework, estimated that the cost of actions in forestry and peat lands, energy, and transportation sectors consistent with reaching the 26% by 2020 emission reduction target, might reach between IDR 100,000 billion and IDR 140,000 billion (USD 11 - 15 billion) per year in 2020 (MoF, 2012).

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<sup>48</sup> To evaluate the probable effectiveness of the forest moratorium, Busch et al. (2015) estimate that emissions from deforestation from 2000 to 2010 would have been 2.5–6.4% lower if the moratorium had also been in place in those years. They demonstrate that the moratorium would have been more effective had it applied also to existing (not just new) concessions and to areas outside of concessions and protected areas. In addition to those concerns, the moratorium has also been criticized for not covering secondary forests, for a slow start (which allowed concessions to be given out before the regulation was enacted) and for changes in land designations and for strategic exemptions allowed (Busch et al. 2015, Murdiyarso 2011).

<sup>49</sup> The ISPO was designed by the Ministry of Agriculture and is mandatory for all growers, unlike RSPO which is voluntary. However the environmental and social standards in ISPO have been evaluated as lower or less clear in many cases (see Yaap and Paoli 2014).

<sup>50</sup> Presidential Regulation No. 61/2015. Prior to the regulation, GoI was already covering state owned Pertamina’s losses resulting from biofuel blending mandates.

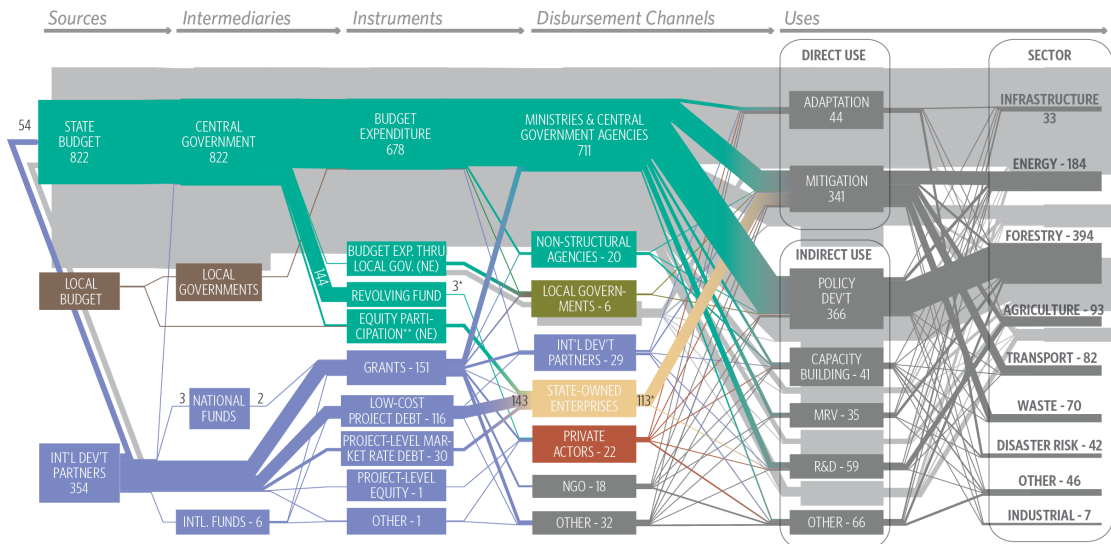
<sup>51</sup> Indonesia’s finance needs for adaptation have not been estimated comprehensively.

Meanwhile, the *Landscape of Public Climate Finance in Indonesia (Indonesian Landscape)* (Ampri et al 2014), found that IDR 8,377 billion (USD 951 million) of climate finance was disbursed from public sources in Indonesia in 2011. Just over half (USD 486 million) was in the agriculture and forestry sectors, showing relatively good alignment with the principal emission sources (Box 1). Spending from public sources alone was however a factor of 10-15 below estimated annual needs by 2020 to achieve the 26% target. Therefore, leveraging private finance and a significant and well-targeted scale-up of public climate finance will be required over the short term.

**Box 1: The Landscape of Public Climate Finance in Indonesia**

The *Landscape of Public Climate Finance in Indonesia* study was carried out by the Fiscal Policy Agency of the Indonesian Ministry of Finance (MoF) in partnership with Climate Policy Initiative (CPI). The study provides a comprehensive snapshot of the life cycle of public climate finance flows in Indonesia, from sources through to intermediaries, instruments, disbursement channels, and final uses. It helps to identify bottlenecks and opportunities to improve the effectiveness of climate finance going forward. It compiled the best available data on public finance from a range of national and international sources. Due to data difficulties, private sector flows were excluded from the scope of the study but flows of finance involving state owned enterprises and commercial businesses and banks are expected to be an increasingly important component. While a lack of data also prevented an accurate estimation of the amount of climate finance being allocated or disbursed by local governments, case study analysis suggested flows were likely, at the time, very low.

# THE LANDSCAPE OF PUBLIC CLIMATE FINANCE IN INDONESIA IN 2011 - USD 951 MN TOTAL



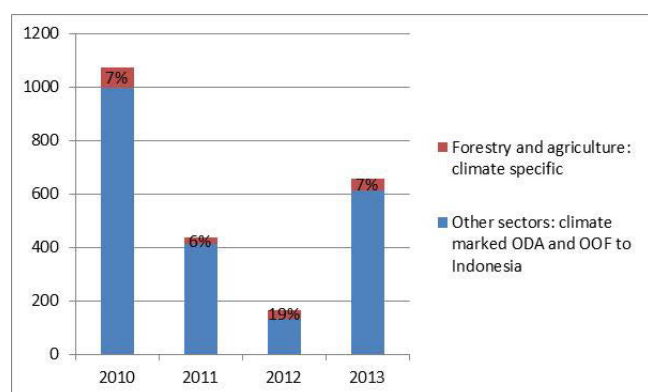
The Government of Indonesia disbursed at least IDR 5,526 billion (USD 627 million) or 66% of public climate finance in 2011, through budget transfer instruments. International development partners added significantly to domestic public resources, contributing an estimated IDR 2,851 billion (USD 324 million) or 34%. Finance disbursed by international development partners was almost evenly split between low-cost project debt (IDR 1,488 billion / USD 169 million) and grant finance (IDR 1,343 billion / USD 152 million). The majority of international finance for mitigation was spent on energy while significant amounts also went to forestry and land use, waste and wastewater and transport. On the adaptation side most finance was spent on disaster risk reduction, and infrastructure and coastal protection, while forestry and land use and agriculture were also important recipients.

Source: Ampri et al. 2014

## 4. The landscape of international land use climate finance in Indonesia

In the agriculture and forestry sectors, international partners provided just 12% (USD 57 million) and the Government of Indonesia 88% (USD 429 million) of finance in 2011, as tracked in the *Indonesia Landscape* (Box 1). Indeed, international partners' 2011 *disbursements* in land use sectors were a small portion of their overall financing; just 17% of their finance was spent on forestry and land use and 0.7% on agriculture and livestock management. Data on development partner *commitments* for 2010-2013 shows a similar trend, with commitments in the forestry and agriculture sectors averaging around 10% of total commitments (Figure 13).

Figure 13 International climate finance commitments to forestry and agriculture in Indonesia compared to other sectors



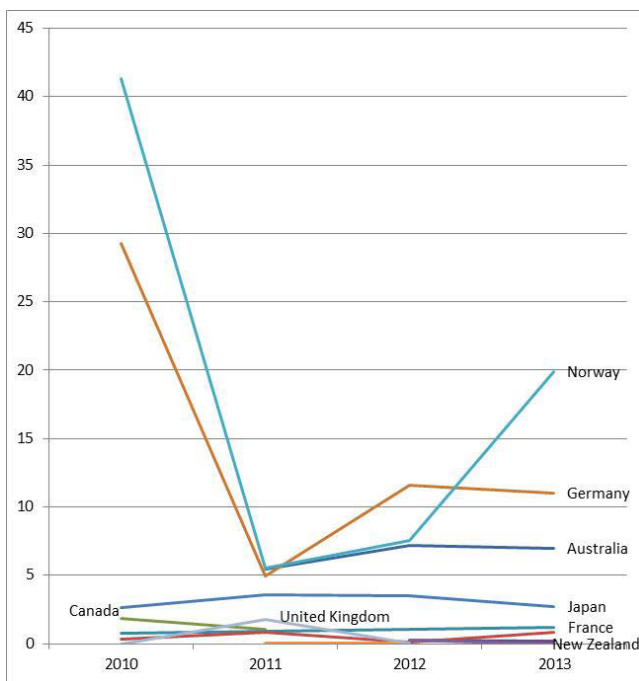
Source: OECD 2015

Several factors may explain the comparatively low levels of expenditure by key international development partners in the land sectors, including the prominence of grant finance which tends to be lower value and slower to implement, as well as various implementation challenges. The remainder of this section and section 5 explore these issues in more detail, first in section 4 by reviewing the nature of current land use climate finance (actors, instruments, types of support and activities supported), as a basis for understanding the added value of international development partners, before section 5 discusses some implementation challenges faced by development partners and their counterparts in greater detail.

### 4.1. Actors channeling and managing land use climate finance

Between 2010 and 2013, Norway, Germany, Australia and Japan committed most financing, while the European Union, the United Kingdom and United States have also been key partners supporting agriculture and forestry mitigation and adaptation activities in Indonesia (Figure 14). The UK refocused its aid program in Indonesia on climate change three years ago, with a particular focus on forestry and land use as well as energy (DfID, 2014).

Figure 14 Trends in climate marked Overseas Development Aid and Other Official Flow commitments in the agriculture and forestry sectors in Indonesia (USD millions)



Source: OECD 2015

Bilateral partners delivered around 88% of international finance disbursed to land use sectors in 2011, with multilateral partners and international climate funds<sup>52</sup> each contributing a minor share (12%). These figures

<sup>52</sup> Including UN-REDD, IFAD, the Forest Investment Program, IFC and ITTO

may suggest that bilateral partners have had more success in building deeper climate change cooperation with the Government of Indonesia than multilateral organizations and funds, to date. Indeed, some bilateral development partners, such as Australia, Germany, Japan and the UK, have provided Indonesian ministries with national experts that work collaboratively with and provide advisory support to the Indonesian Government over periods of years.

Bilateral and multilateral development partners tend to collaborate closely with one or more line ministry, with the most common implementation partners for land use programs being the Ministry of Environment and Forestry, although others have partnerships with ministries such as Ministry of Home or Social Affairs, Ministry of Finance or regional governments. Government partners tend to sit on program/project steering committees<sup>53</sup> and help form country partnership strategies, but funding is typically not physically transferred through government budgets. In fact, only 5% (IDR 22 billion or USD 2.5 million) of agriculture and forestry international climate finance flowed through the Indonesian state budget in 2011, compared to 17% for all international finance. This is likely due to the lower proportion of loans for forestry and land use, which are always transferred through the Indonesian State Treasury system before being passed to government agencies. Grants made direct to government agencies instead only have to be reported to the Treasury as part of the Ministry of Finance's revenue recognition mechanism. However, for 2011, reporting in MoF systems for 2011 was patchy, including just IDR 63 billion (USD 9.6 million or 16%) of international finance in the agriculture and forestry sectors (Ampri et al. 2014).

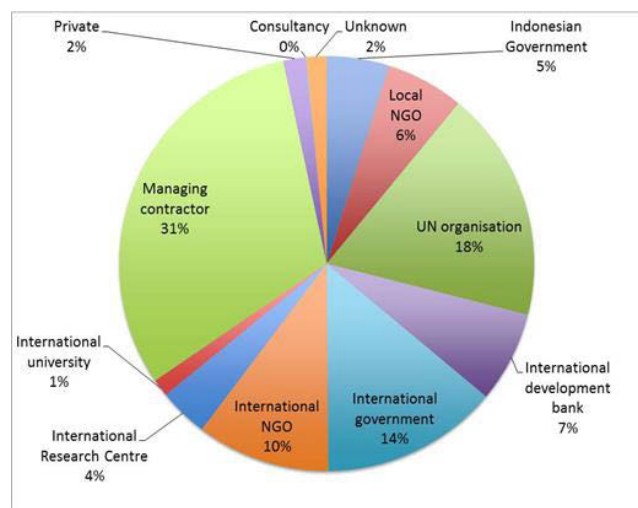
Donors and government have been looking for new and more effective ways to cooperate and increase aid effectiveness. Seymour et al. 2015 reflect on the new form of development cooperation that the Indonesia-Norway results based payment agreement heralded (Box 3), which Indonesian officials viewed as "a departure from previous models of [development] cooperation" largely because it built trust and left autonomy for Indonesia to decide how to implement the requirements of the agreement. However, this agreement and other efforts in recent years to create funds that would permit similar autonomy, pooling of resources and speedy disbursements have thus far also encountered challenges and are yet to deliver at the scale or pace expected (Box 2).

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<sup>53</sup> Steering committees, one interviewee explained, typically include representatives from the main relevant ministries and meet twice per year to agree annual work plans, planning and implementation and budgets.

In terms of implementing agencies, while some close donor-Indonesian institution collaborations are in place, based on a desktop review of publicly available documentation, we estimate that approximately 85% of international development partner finance for forestry and agriculture in 2011 was delivered through managing contractors, international governments, international NGOs, international development banks, international universities and UN organizations, as opposed to Indonesian government or organizations (Figure 15). This may in some cases minimize the impact of the actions on Government and other target groups on the ground in Indonesia (worst case, “reports left unread on shelves” as one interviewee put it, or as another interviewee put it, “like a drop on a hot stone, it doesn’t touch how the government does business”). It may also limit the volume of finance that can be delivered since donors have limited capacity in country to closely oversee programs, which often require close management of stakeholder relations as well as technical and financial aspects. But international development partners chose to use international organizations and consultants partly due to concerns about their ability to adequately monitor funding managed by government or other Indonesian agencies, and avoid misappropriation risk. In other cases, it is also because the government is reluctant to accept funding from development partners.

**Figure 15 Lead implementing organization type**



Source: authors’ interpretation based on publically available project documentation.

Note: we aimed to identify the type of organization that managed the finances of projects and was mainly in charge of the project implementation and direction. In reality most projects have a decision-making structure involving key government partners and stakeholders and beneficiaries are varied and multiple.

## **Box 2: International and domestic funds' experience in Indonesia**

Our survey of 25 donors picked up only two funds which were actively disbursing in 2011, UN-REDD which disbursed USD 2.1 million in 2011 through FAO, UNDP and UNEP and the Indonesia Climate Change Trust Fund which disbursed IDR 21 billion (USD 2 million), only part of which was for agriculture and forestry programs. The International Fund for Agricultural Development (IFAD) was also disbursing significant sums but is discussed separately in the next section. Other important funds for the land use sectors in Indonesia include the Forest Investment Program and the Forest Carbon Partnership Facility; however, country plans for these funds were still under development in 2011. The focus and status of each of these funds is reviewed briefly below.

Elaborate requirements on reporting, application procedures and safeguards through these funds have made transaction costs high and mean that projects take a long time to get off the ground. FCPF and FIP have been criticized for slow and onerous internal processes, and the FIP for lack of innovation away from business as usual forestry activities or sustainable forest management (CFU, 2015). In addition, merging country and MDB safeguard systems has been a challenge (FIP 2015).

Funds in Indonesia have played an important role to date in building up REDD+ readiness but have yet to prove themselves as models for channeling scaled up expedited sustainable land use finance. Several funds are however now moving towards implementation and scale up phases.

**UN-REDD's** national program in Indonesia is now closed after three years of operation and USD 5.4 million of total disbursements. Activities were focused on REDD+ 'readiness', i.e. building capacity at national and sub-national levels on policies, regulatory frameworks, community rights and building MRV systems and Reference Emission Levels.

The **Forest Investment Program** is aimed at "phase 2" REDD+ mechanism activities i.e. piloting investment models for REDD+, building institutional strength and regulatory reforms – aimed at building capacity and experience to move to Phase 3, results based payments. Indonesia expressed interest in the FIP in 2010 and the FIP investment plan for Indonesia was endorsed at the end of 2012 but the first three projects are not yet approved and are likely to start only in 2016. The projects are aimed at Forest Management Units and will work on community forestry (with ADB and WB) as well as strengthening forest enterprises (via a concessional loan with IFC), with funding totaling USD 68 million. A USD 750 000 Dedicated Grant Mechanism for Indigenous Peoples and Local Communities (implemented by IBRD) has already been approved however.

The **FCPF Readiness** preparation grant for Indonesia totals USD 3.2 million of which USD 2.6 million had been disbursed mid-2014. The original grant is aimed at supporting the development of a national REDD+ strategy, national and sub-national reference scenarios and a forest monitoring and carbon accounting system. An extension of USD 5 million has been requested to continue readiness work particularly at the sub-national level. Despite progress made under FCPF readiness on the REDD+ strategy implementation, capacity building and REDD+ awareness, it has been noted that "further improvement and development on key component of the REDD+



readiness are still needed, i.e. reference scenarios, MRV system and benefit sharing mechanism, and SESA/ESMF.” (WB 2014, p.3)

The **FCPF Carbon Fund** is designed to provide payments for verified emission reductions from REDD+ programs to countries that have progressed on foreseen readiness components. Indonesia was invited into the Carbon Fund pipeline in 2014 and is now in the process of revising its Emission Reduction Project Idea Note submitted in October 2014.

The **ICCTF** is a national fund set up in 2009 and implemented by Bappenas, with initial donor funding amounting to USD 11.4 million. The fund moved to a national trustee, Bank Mandiri in 2014, and has recently received additional pledges from various international donors as well as an allocation from the national budget. So far the fund has supported just a handful of projects, including one implemented by the Ministry of Forestry (a wood pellet manufacturing facility and demonstration plots) and another by the Ministry of Agriculture (focused on training related to MRV of emissions from peat and sustainable management approaches), with a total approved budget of USD 4.8 million and disbursement of USD 1.9 million as of September 2013. The fund also has a small grants program, which is funding projects on community forestry and the development of public private partnership models for climate smart agriculture. However, the fund has been slow to approve and disburse funds and failed to pass the Adaptation Fund accreditation process. One interviewee remarked on the need for Bappenas to ‘let go’ of the fund and allow it to operate independently, particularly now there is a national trustee in place. The fund is now in the process for Green Climate Fund accreditation, which brings hope that the fund’s operating procedures, will improve as a result.

Since 2010, efforts have been underway to develop another national fund focused on land use emissions, as part of the financial architecture foreseen under the Indonesia-Norway agreement. Laterally known as **FREDDI** (Funding Instrument for REDD+ Indonesia), the set up phase encountered a number of challenges and is yet to be established.

**Sources:** FCPF 2014, Brady 2015, ODI/HBF 2014, CIF 2015, Halimanjaya et al. 2014, ICCTF 2014a, ICCTF 2014b, WB 2014.

## 4.2. Financial instrument focus of international land use climate finance

International land use support is delivered almost all in the form of grants. In contrast to the even split of financial instruments used across the climate finance landscape (Box 1), finance in the agriculture and forestry sectors was 93% in the form of grants. Commitments reported in the OECD CRS database for 2010-2013 for all sectors show a similar picture: forestry and agriculture ODA is provided *only* in the form of grants while ODA overall is dominated by loans (66-99%).

IFAD was the only international financial institution that reported on concessional loan financed projects in the agriculture sector in our survey, including projects which started in the early 2000s and may therefore provide useful lessons on the role of public finance to support economically viable sustainable agriculture investment opportunities (Box 3). It should be noted however that the Government of Indonesia has in the past been against loans for climate change, most notably terminating the Climate Change Policy Loan prematurely in 2010.

**Box 3: Lessons from concessional loan projects in the agriculture sector**

In 2011, IFAD disbursed USD 2.7 million in concessional loans to three sustainable agriculture projects in Indonesia. While most of these projects are primarily agriculture and development projects, they were deemed to have climate change co-benefits. A short description of the programs is provided below. These loan programs demonstrate that projects involving agricultural productivity improvements, livelihood development and infrastructure can be supported by loans due to the increased revenues generated alongside sustainable approaches. Other land use activities that generate revenues could also be suitable for loan financing. All projects are “central government projects”, with the Agency for Food Security (AFS) of the Ministry of Agriculture (MOA) as the Lead Project Agency, with responsibility for project implementation delegated to the local governments.

The **Rural Empowerment and Agricultural Development Programme in Central Sulawesi (READ)** aimed to raise incomes and improve livelihoods by improving agricultural production through sustainable agricultural technologies and practices, developing rural enterprises, facilitating access to markets and developing road and water infrastructure. The program included the creation of a revolving fund for poor farmers who want to make investments. \$21 million of the \$28 million program costs were covered with loans, implemented from 2006 to 2014. Investments in key agricultural commodities such as cacao, rice, coconut and vegetables and non-farm enterprise activities were made and the revolving fund was used (if not for the investments with most market potential) to purchase improved seed varieties, tractors and threshers and to build infrastructure to improve agricultural productivity including farm roads, irrigation systems, land drainage and crop-drying facilities. The revolving fund was oversubscribed leading IFAD to recommend building more linkages with the formal banking sector. During the programme, a partnership was forged with Mars for cocoa farmer training.

The **Post-Crisis Programme for Participatory Integrated Development in Rainfed Areas (PIDRA)** was also aimed at supporting agriculture productivity improvements, infrastructure development, community development and sustainable livelihoods. Loans were used for agriculture, trading, education, livestock and microenterprise development. Incremental income benefits were achieved via an increase in high value crops and reorganized selling structures, as well as through other non-agricultural activities.

The **Smallholder Livelihood Development Project in Eastern Indonesia (SOLID)**, is active in the provinces of Maluku and North Maluku, is aimed at diversifying the sources of household food supply and

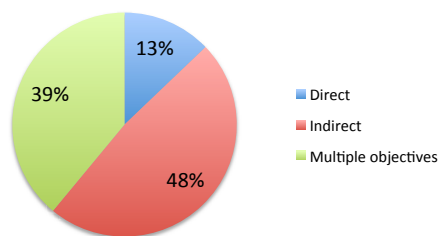
adding value to food crops through local processing and marketing and facilitating links between producers and markets. The project also aims to provide small-scale rural infrastructure to improve agricultural productivity. The project is worth USD 70 million over 7.5 years with loan financing from IFAD to the value of USD 50 million, grants of USD 1 million from IFAD and USD 5 million from GEF and a USD 15 million contribution from the Government of Indonesia.

**Sources:** IFAD 2011a, 2011b, 2013, 2015.

### 4.3. Land use activities supported by international development partners

As shown in Figure 16, we classify 48% of international disbursements in land use in 2011 as ‘indirect’ activities, including training, institutional development, systems development, research, strategy and policy advice aimed at creating the enabling environment for emission reductions or resilience improvements (see Annex 1 for full definitions of support types), also known as “Phase I readiness” activities in the context of REDD+ mechanisms envisaged under the UNFCCC negotiations.<sup>54</sup> We identified just 13% of disbursements aimed at ‘direct’ implementation (emission reducing or resilience improving) activities including conservation and sustainable agriculture activities. However, a further 39% of disbursements had both indirect and direct (usually small demonstration elements) components.

**Figure 16 Assessment of direct vs indirect nature of activities supported by international development partners in 2011 (% of monetary value)**



Source: authors’ assessment based on review of project documentation where available.

<sup>54</sup> UNEP 2011; Streck et al. 2009

The dominance of grants for indirect activities reflects Indonesia's high level of need for 'readiness' support in 2011. While there have been attempts by Norway in particular to roll out results based approaches to land use finance in Indonesia (Box 3), one interviewee stressed the continued need for input finance in Indonesia for the time being.

Another interviewee described how many development partners would like to work on direct implementation or demonstration projects on the ground at the regional level, but line ministries often block this - they drive how assistance is planned and what donors fund/work on and usually they want studies, workshops etc, also since projects implemented at the field level are relatively management intensive for line ministries. A few donors such as Australia through the Kalimantan Forests and Climate Partnership, the US through Indonesian Forestry and Climate Support (IFACS) and now the Lestari project and Norway have managed to work in the regions, on the ground, in some cases by housing their programs strategically with specific ministries, but with large capacity building and research elements built in to their programs.

**Box 3: Transitioning from indirect to direct activities: Indonesia-Norway Agreement**

There is a desire among some donors of climate finance and development finance more generally to move away from upfront or indirect payments and towards pay for performance for direct, demonstrated climate outcomes. An example of this is provided by the 2010 Indonesia-Norway USD 1 billion agreement. Despite some positive interim outcomes under this partnership, transition to planned direct pay for performance actions is still ongoing.

Seymour et al. 2015 provide an evaluation of the successes and challenges encountered under the Agreement, characterizing it as a good example of "non-payment for non-performance" since, in the absence of demonstrated emission reductions, the USD 800 million foreseen for Phases 2 and 3 has not yet been channeled. Seymour et al. suggest that it may have accelerated the pace of change compared to what would have happened without the prospect of large payments for performance. They give credit to the Agreement for providing heightened national and international visibility, as well as increased transparency on forest and land cover data under the national "One Map" initiative. While President Joko Widodo has folded the REDD+ Agency into the new Ministry of Environment and Forestry, he has committed to maintaining the forest moratorium and continued cooperation with Norway. It also still remains to be seen whether Indonesia will create an independent funding mechanism for REDD+, which it has thus far proved too politically challenging.

Of international land use finance captured in the Landscape, 83% was directed at mitigation activities, with just 17% of finance going to adaptation. Support provided by international development partners fell into several

key categories (see table 2). Indirect support was focused on governance related activities including strategy, policy and institutional development, mostly in support of timber legality, developing MRV systems, sustainable forest management and spatial planning issues. Finance for direct activities was mostly focused on ecosystem rehabilitation, as well as fire management and protected areas to a lesser extent. Multiple objective support was focused on training, particularly related to ecosystem rehabilitation.

Our interviews suggest that, since 2011, the major international partners have shifted the focus of their land use support, putting increased emphasis on supporting sustainability of agriculture supply chains, working with public and private actors as well as civil society actors. Donors are working to support ISPO and IPOP e.g. as well as working with companies involved in agricultural commodity value chains on conflict resolution and pathways to build more sustainable, high productivity agriculture. Another interviewee remarked that while oil palm is increasing fast in some eastern provinces in Indonesia, it is still less prevalent and as such, there is an opportunity to also increase support for development of sustainable supply chains in other crops and commodities across Indonesia, e.g. cocoa, rice, rattan, and traditional rubber. The interviewee noted that development cooperation in Indonesia on land use started by working on agroforestry and community forestry and some support is starting to go back in that direction.

**Table 5 International land use climate finance in 2011 by activity focus**

Type of Activity	IDR billion	
<b>Direct</b>	<b>65</b>	<b>13%</b>
Ecosystem restoration	49	77%
Fire management	6	10%
Protected areas	7	11%
Sustainable forest management	2	3%
<b>Indirect</b>	<b>242</b>	<b>48%</b>
Institutional development	65	27%
Other	17	7%
Research	44	18%
Strategy and policy development	70	29%
Systems development	31	13%
Training	16	6%
<b>Multiple objectives</b>	<b>196</b>	<b>39%</b>
Research	5	2%
Sustainable forest management	5	2%
Training	192	98%
Ecosystem restoration	134	68%
Sustainable agriculture	47	24%
Sustainable forest management	11	5%
<b>Total</b>	<b>503</b>	<b>100%</b>

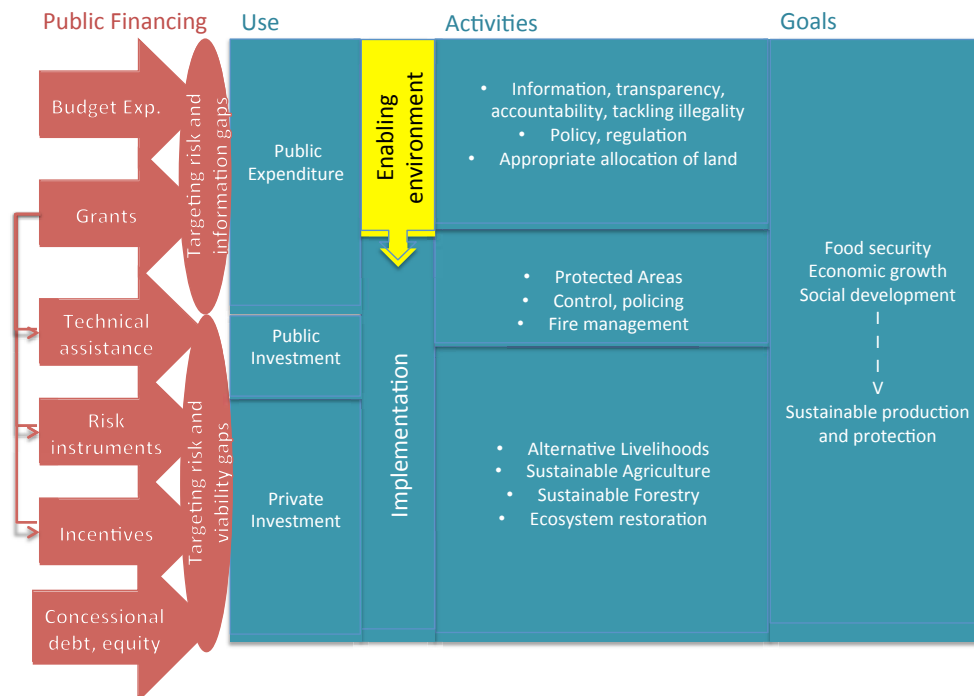
## 5. Implementation challenges

This section discusses the challenges international development partners and their counterparts face in a) comprehensively tackling the drivers of land use emissions and b) working together efficiently and effectively.

### 5.1. Moving from enabling environments to implementation

In the long run, direct implementation activities including sustainable agriculture and forestry, ecosystem restoration and sustainable livelihoods are needed to achieve sustainable, socially inclusive economic and development goals (Figure 17). Some of these activities are potentially revenue generating, and hence can be funded through a redirection of private investments, if initially supported by public investment to overcome currently high information, risk and viability gaps (see Falconer et al. 2015b).

**Figure 17** Entry points for domestic and international public financing to support sustainable land use and economic development goals



**Interviewees indicated that the enabling environment for land use investments is still very weak in Indonesia and requires urgent and fundamental structural improvements.** The literature repeatedly echoes this sentiment (e.g. Shames et al. 2014, Lee and Pistorius 2015, WB 2014). In the short term this suggests that international partner support would be most cost effective if focused primarily on building enabling environments including improving information, transparency and governance to promote more efficient use of land resources (CPI 2014, Falconer et al. 2015b).<sup>55</sup>

One interviewee suggested that while enabling environment activities might seem to be the domain of the Government of Indonesia, **international partners are actually well placed to provide backing as they can help financially support and accelerate government activities that are not covered by the national budget.**

Another interviewee suggested that international partners, also by supporting Indonesian CSOs, may be able to help overcome inter-ministerial blockages. This may be overly optimistic however, given the slow progress to date in realizing essential REDD+ building blocks such as an MRV system (WB, 2014) or REDD+ funding mechanism, casting some doubt over the influence of international support. Lee and Pistorius (2015) also mention some opposition to external support: “within Indonesia, critics view REDD as an imposition of international priorities at the expense of domestic interests.” (p.36). Nonetheless another interviewee highlighted that progress has been made to build awareness on REDD+ issues and possible solutions and this now needs to be put into action with appropriate instruments and mechanisms. The interviewee suggested that development partners need to work more closely with government, on reforming regulation and backing good government proposals. Two other interviewees echoed this sentiment remarking that to effectively drive change in Indonesia, **development partners need to work on a partnership basis, on a demand driven rather than a donor driven agenda, supported by high-level political commitments.** This calls for decisive and coherent expression of needs from Gol to development partners as a group to specify how they can add most value, then it is down to development partners to coordinate effectively to deliver Gol requests.

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<sup>55</sup> Other enabling environment activities include capacity building for closing public and private actors’ knowledge gaps; developing, implementing and monitoring climate policies to remove technical, legal and administrative barriers to investment; R&D; law enforcement; land-use/spatial planning and mapping; building measuring, reporting and verification systems; and developing demonstration projects. Occasionally, individual project developers or businesses are willing to bear these costs if they feel that it could give them an advantage in a new market, but they are more regularly addressed by the public sector. In some cases, they can also help to reveal revenue streams and demand.

**In addition to activities to address implementation barriers and strengthen enabling environments, parallel support to public and private actors as well as civil society actors is also needed to further support scale up and direct implementation of activities to develop sustainable agriculture and agro-forestry value chains, ecosystem restoration and sustainable livelihood options for rural communities.** Progress here is important since it will take some time for investment enabling environments to be improved and large-scale investments to start flowing. Meanwhile, support for direct implementation activities can contribute to reducing emissions, building expertise, and delivery of good examples in the short term, if on a relatively small scale. Approaches which combine improvements in agricultural productivity and protection of natural capital at jurisdictional scale hold promise when all relevant actors are involved - development partners can help to support and coordinate such efforts (CPI 2014).

## **5.2. Enabling environment challenges**

Weaknesses in the enabling environment that need further attention comprise availability of comprehensive and consistent spatial information including on concessions, licences and permits; lack of recognition of customary land rights; conflict over land rights and illegality in land use; limited capacity of institutions and human resources; and lack of political support and corruption.

**Lack of reliable spatial information on land designations and inadequate and inconsistent administration results in uses contrary to spatial plans and continues to limit efficient use of land resources.** The One Map<sup>56</sup> initiative has made considerable progress to consolidate and harmonize information but more remains to be done, including integrating information on overlapping permits which can cause considerable delays and high costs<sup>57</sup> (Rahman, 2014; Cabello and Farhat, 2013). Overlapping permits are commonly issued by different levels of government or line ministries for the same parcels of land.<sup>58</sup> One interviewee stressed the need for one database on licensing across ministries and levels of government. Another interviewee highlighted that many companies have made zero deforestation commitments, but to effectively implement them requires alignment

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<sup>56</sup> Responsibility for One Map lies with the Geospatial Information Agency (BIG). Further development of One Map, especially on thematic or land designation maps through various working groups, is coordinated by the Coordinating Ministry for Economic Affairs (Kemenko Perekonomian) according to Act No. 4/2011. Cross-ministry collaboration will be a considerable challenge.

<sup>57</sup> One equity investment captured in our 2011 disbursements survey was for a peat swamp forest conservation investment set to generate emission reduction credits but the initiative has still not got off the ground due to delays in obtaining long term concessions and emission reduction rights.

<sup>58</sup> <http://www.thejakartapost.com/news/2014/12/26/one-map-policy-helps-resolve-land-disputes-overlapping-permits.html>



between the location of company concessions and government regulations on spatial planning, and potentially land swaps at scale. As yet, there is no framework to comprehensively enable business and government to work together to achieve this more efficient allocation of land. ,

**Lack of clarity on land ownership, including recognition of customary land rights of local people is increasingly leading to conflicts over who has the right to use, protect or benefit from particular areas of land.** One interviewee suggested the cost of conflict resolution can be 25-50% of operating costs – costs which are not accounted for in formal financial accounts. Unaddressed, land conflict will continue to inhibit innovation and undermine the business case for investment in sustainable, high productivity agriculture and forestry. Indeed Castrén et al. 2014 identify a country’s investment environment and level of governance as one of the key factors considered by investors in sustainable forest management,<sup>59</sup> and therein, the authors identify secure and risk-free land tenure as paramount.

**Illegality in the land use sectors is another issue which needs to be addressed if a more level playing field for sustainable investments is to be created.** Lawson et al. (2014) estimated that approximately 80% of deforestation in Indonesia between 2000 and 2012 was due to commercial agriculture and that approximately 80% of this deforestation was illegal in some way. Illegality related to converting forest without necessary permits, using fire to clear forest, clearance of forest on deep peat, improper issuance of licenses, absence of environmental impact assessments and forest clearance outside license boundaries. Tax avoidance and evasion and unofficial payments are also thought to be widespread (Falconer et al., 2015a). Increasing transparency and legality in commercial agriculture, and incorporating smallholders in this process, is a key prerequisite for increasing sustainability of production. Several international development partners are supporting programs to strengthen governance in this sector.

Further, one interviewee noted the establishment of Forest Management Units, a process which many donors have and will be supporting, may help to strengthen forest governance since it requires all forest areas to be gazetted.

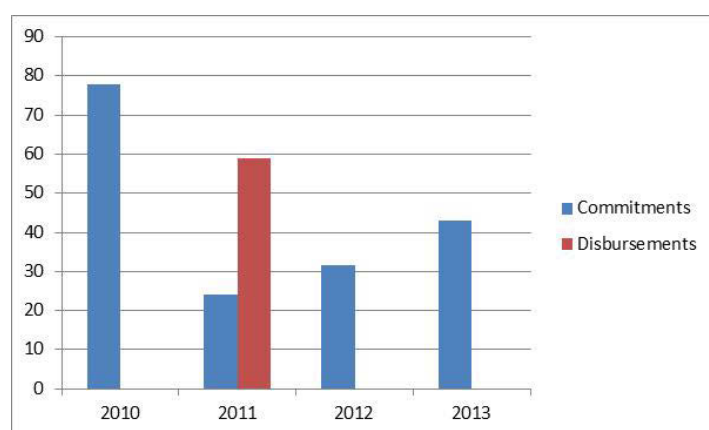
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<sup>59</sup> This would equally apply to any sector that deals with large land holdings.

### 5.3. Development cooperation challenges

Ampri et al. (2014) showed overall international partner disbursements in 2011 were considerably lower than commitments, suggesting some significant barriers in the system, including challenges for both development partners in delivering finance and for the Government of Indonesia in absorbing international climate finance at scale or pace. While this trend does not appear to play out in the forestry and agriculture sectors (Figure 18) due to the high proportion of grants in finance delivered, annual commitments and disbursements to the land use sectors are low in Indonesia compared to international contributions to other sectors.

Figure 18 International development partner climate finance in the Forestry and Agriculture (USD millions)



Sources: OECD 2015 and Ampri et al. 2014. Note: Commitment data for 2010 is for 9 donors, 2011 for 9, 2012 for 11 and 2013 for 8. Disbursement data for 2011 is for 9 donors plus 2 additional agencies and 3 funds.

Common challenges for development partners and their counterparts include: inconsistent, fragmented or unclear reporting and regulatory requirements; limited government engagement; complex application procedures and safeguards with few organizations who meet donor standards; staff changes which mean capacity building and outreach are continuous activities; duplication of donor efforts; insufficient understanding of risk or unrealistic delivery timelines; lack of ownership or incentive where money is not channelled through Indonesian organisations; and slow approval processes. Furthermore, there is a mismatch between the short term project approach and political cycles that determine development cooperation agendas, and long-term objectives and delivery timeframes for the necessary changes in the land use sector.

**Unclear reporting and regulatory requirements, lengthy application procedures and complex safeguards can lead to high transaction costs and represent barriers to many smaller or lower capacity organizations.** As discussed in section 4.1, multilateral cooperation and funds have so far delivered less support than bilateral cooperation. The differences in disbursements may in part be due to more bureaucratic processes both internally and externally in some multilateral organizations, being answerable to multiple donor governments at an organizational level and sometimes at a project, program, facility or fund level. This can also be true of bilateral support. Indeed, one interviewee highlighted the difficulty of lack of harmonization between different donors' reporting requirements, which mean that recipients of pooled financing often have to rewrite reports multiple times and dedicate time to understanding the administrative requirements and conditions of multiple donors. Some foundations are providing training to local CSOs to help enhance their capacity to prepare proposals and fulfill donor reporting requirements. On the regulatory side, Halimanjaya and Maulidia (2014) recount the difficulties encountered by the US Millennium Challenge Account in Indonesia, an innovative approach to work directly with local governments on poverty reduction and environmental goals. Long delays were encountered due in part to procurement difficulties, which even led the project to propose several revisions to regulations. Blockages were due to strict procurement procedures for implementing agencies, management and transfer of state-owned assets.

**Working with multiple layers of government at the national and regional level can also provide a significant challenge for many development partners, leading to high transaction costs and long lag times between conceptualisation and implementation of activities.** Government election cycles and frequent rotations of government officials also slow down the progress of development activities, whereby capacity building and efforts to ensure local ownership may need to be restarted multiple times within a multi-year development program. Development partners thus have to be flexible and should aim to provide systems and outputs that can quickly transfer data and information to new officials. This also stands true for development partners when staff changes happen. Supporting Indonesian CSOs can help to maintain personal relationships and trust which are particularly important in Indonesia. One interviewee stressed that this temporal issue should also be borne in mind when deciding on the duration of projects and programs. Also important is that projects are registered by governments at all levels and linked to government priorities.

**Donor crowding or duplication of efforts is an ongoing risk, sometimes driven by agendas of respective development partners and at other times by poor coordination on the part of line ministries.** There have been several formal and informal attempts at donor coordination on land use issues in Indonesia since 2008, but more systematic and meaningful coordination is urgently needed involving all relevant line ministries and donors. This would also help to manage what one interviewee called donor “boom and bust cycles” as they look for opportunities to have greater impact, e.g. recently donors have focused a lot of effort on palm oil rather than timber concessions as the former has become more profitable.<sup>60</sup> A government led, multi-stakeholder led process may hold most promise for success given that efforts led by any one party, even the President, have not always cut through entrenched divisions:

“Indonesia’s REDD+ efforts had strong presidential support under President Yudhoyono but not widespread buy-in across the many relevant ministries and governmental institutions. Confusion that led at times to competition regarding the responsibilities of the former REDD+ agency vis-à-vis the Ministry of Forestry, caused delays, and such institutional coordination issues continue as the new government undergoes a restructuring process” (Lee and Pistorius 2015, p.20).

**Lack of readily available information setting out the objectives and duration of international development partner activities also hampers coordination of activities.** While donors technically have a responsibility to report on their activities to Bappenas, governance rules are not clear and reported information is not made publically available in a user-friendly form. Various international databases exist to track donor projects e.g. OECD CRS, REDDX, the REDD+ desk but information is often out of date and lacks detail on specific activities, financing, linkages to government processes, outcomes and documentation. GIZ, UNORCID and BP REDD+ have each initiated or planned to initiative such efforts in the past but they have not been able to be sustained. Given that donor and government officials change relatively frequently, a database would be very useful to help avoid overlaps and help understand which partners have particular capabilities and resources in different areas of work. The UK’s development tracker<sup>61</sup> and the US Foreign Assistance<sup>62</sup> websites are good examples of portals for development aid projects and could serve as a model for similar portals within recipient countries, such as Indonesia.

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<sup>60</sup> “Some sources estimate that oil palm is over 10 times more profitable than pulpwood plantations.” (Castrèn et al. 2014, p. 32).

<sup>61</sup> <http://devtracker.dfid.gov.uk/> Note however that not all projects could be found in the database.

<sup>62</sup> <http://beta.foreignassistance.gov>

**Building the institutional capacity of Indonesian Government and other organizations to meet donor financial management standards will enable them to play a greater role in directly receiving and managing development finance and help to achieve impacts at scale.** As discussed in section 4.1, most international

support is channeled through international organizations not Indonesian government or organizations.

International development partners can help support Indonesian institutions, such as state owned enterprises and foundations, to meet accreditation requirements for global funds such as the Green Climate Fund and the Adaptation Fund, which has so far proved elusive. More support is needed to build capacity on Environmental and Social Governance (ESG) systems and safeguards, fiduciary standards and on operating policies and procedures e.g. procurement. While building this capacity consumes a lot of resource and creates delay in starting projects, this is important to achieve impact at scale.

**Support is also needed to build the capacity of local organizations to be able to receive funds and implement projects.** Most if not all projects depend on local experts and organizations to implement their projects. There

is often a limited pool of suitable local organizations as they find it difficult to comply with donor reporting standards and procedures e.g. donors want reports in English and multiple quotations for procured goods or services – this is not always practically possible. Simplifying and reducing administrative requirements and offering support to potential grantees on financial management, proposal preparation, program management etc. can help broaden capacity. Local organizations are also crucial to ensuring successful implementation of projects and continuity of activities after projects close, to ensure progress made is sustained, but they need to be funded to continue their work. A lot of capacity is built up in local NGOs during development partner projects that can be used after projects are closed.

## 6. Conclusions

This paper has discussed the role of international development partners in financing mitigation and adaptation actions in the land use sectors in Indonesia, evaluating what progress has been made to date, what challenges have been met, and what opportunities lie ahead to effectively support Indonesia, reflecting on the 'value add' development partners bring to the domestic picture.

### *International development partners' 'value add'*

- **The current focus of international development partners, supporting indirect enabling environment activities, is well targeted.** The paper finds that the enabling environment (policy, institutional and regulatory frameworks) for investments in land use in Indonesia remains weak and the focus of international development partners on supporting indirect enabling environment activities is therefore well founded. Support for such activities can help to improve information, transparency and governance, to tackle illegality and allocate and manage land more efficiently. Improved enabling environments will provide the structural support for a more robust investment climate for sustainable and efficient land use activities, removing risks and barriers to direct activities. In particular improving spatial information is key to reducing conflicts, delays and enabling good resource planning, allocation and management decisions. Meanwhile improving legality and transparency are essential prerequisites to increasing sustainability and social inclusion. Such activities are challenging and do not always provide such visible results as implementation activities but they have the potential to unlock significant streams of future public and private investment, as well as social benefits.
- **Parallel support to public and private actors as well as CSOs is also needed to address the barriers facing direct implementation activities** such as sustainable agriculture and agro-forestry value chains, ecosystem restoration and sustainable livelihood options for rural communities. Such support will help implementation activities get started as soon as the enabling environment is right or before, in the form of early demonstration activities and also to push reform in governance and regulation.

## *Ways forward*

1. **Development partners need to work in partnership with the Indonesian government, at national and regional levels, to reform regulations and improve systems.** High-level political commitments and backing (from GoI at all levels national and local, and development partners) is critically important.
2. **Development partners and government need to coordinate more systematically, involving all relevant line ministries and development partners to minimize duplication and maximize reach.** Development partner coordination should be driven by GoI and seek to drive forward a new ambitious vision and implementation pathway which is cross-ministerial, cross-jurisdiction and cross-donor, away from the current silos. The division of responsibilities between Ministry of Finance and the Indonesian Development Planning Agency (Bappenas) also needs to be clearer, as interviewees noted that, at present, donors are often left confused as to who is actually responsible for overseeing aspects of development cooperation.
3. **GoI should establish a database of international development partner activities and associated annual disbursements would enhance development partner and practitioner coordination and cooperation and therefore effectiveness.** This study has highlighted the difficulty of obtaining an accurate and up-to-date overview of donor activities and disbursements in Indonesia. The level and type of information provided by development partners to the Indonesian Government is currently highly variable. On the flip side, development partners find Indonesian reporting requirements unclear and difficult to observe. We recommend establishment of a streamlined, simplified and standardized reporting system and database, managed by the Government of Indonesia with modalities for international organizations to update information regularly. The database should store information on both active and completed projects, activity classifications and details as well as data on volumes of finance committed and disbursed annually. It should be publically available to maximize transparency and utility for all stakeholders.
4. **Development partners should aim to provide support over extended durations, delinking funding from donor government shorter-duration political cycles, to enhance impact, providing sufficient time to build partner capacity, implement activities on the ground and deliver desired results.** Land use projects involve multiple phases, including establishing local systems, building effective

partnerships with local communities and governments, and rehabilitating or sustainably managing ecosystems. These activities are challenging to conclude within the common 3-5 year timeframes of development programs. During project inception, care should also be taken to prepare full risk assessments and realistic implementation plans that are understood by all relevant parties.

5. **Development partners have to be flexible, aligned with evolving Indonesian Government priorities at national and regional levels, and aim to provide systems and outputs that can quickly transfer data and information to new officials.** Involving Indonesian local academic or civil society advisors in development programs can help manage knowledge and develop stronger relationships with government partners.
6. **Development partners can assist Indonesian institutions to meet accreditation requirements for international funds and explore innovative public private funding partnerships to leverage substantial additional sums of finance.** This may also help to address challenges posed by shorter-term international programs, by enabling longer run, more stable support. Interviewees suggested state-owned enterprises and reputable foundations or local non-governmental organizations could play a role in building and delivering longer-term programs, possibly backed by trust funds to hold and disburse finance. Support is needed to build capacity of prospective Indonesian institutions (governmental and external) on safeguards, fiduciary standards and on operating policies and procedures.
7. **Development partners can help local organizations to build capacity to implement programs and sustain efforts after development support ends.** Local organizations are crucial to ensuring successful implementation of projects and continuity of activities after projects close, but the pool of local organizations that comply with international development partner standards is currently relatively limited. Streamlining administrative requirements and offering support to potential grantees on financial management, proposal preparation and program management would help a larger network of local actors to access finance at scale.



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## Annex 1: Typology of activities and definitions

Type	Definition
Direct	Activities that results in GHG emission reductions or improved resilience to climate impacts immediately or in the short term
Ecosystem restoration	Restoration, rehabilitation, reforestation, afforestation, peat land management
Protected areas	Legally recognized public areas or privately protected areas.
Sustainable forest management	Managing forests to increase their benefits, including timber and food, to meet society's needs in a way that conserves and maintains forest ecosystems for the benefit of present and future generations (FAO 2015).
Sustainable agriculture	The management and conservation of the natural resource base, and the orientation of technological and institutional change in such a manner as to ensure the attainment and continued satisfaction of human needs for present and future generations. Such development... conserves land, water, plant and animal genetic resources, is environmentally non-degrading, technically appropriate, economically viable and socially acceptable (FAO 2015).
Fire management	Control, prevention and management of fire in natural environments
Other/Multiple/Unknown Direct	
Indirect	Forms of capacity building or technical assistance aimed at creating the pre-conditions for future GHG emission reductions or improved resilience to climate impacts
Training and outreach	Provided to farmers, foresters, or government officials that is not expected to result in an immediate impact on emissions or resilience. Information/best practice sharing, workshops and conferences. Training on inter alia, community conflict resolution, timber legality and sustainable forest management.
Institutional development	Governance support, support to develop financial or budget management, law enforcement support, support to eliminate corruption related to illegal logging e.g.
Systems development	Systems for measuring reporting and verifying GHG emissions and land cover change, including via satellite imagery. Systems for fire detection,

	prevention and management.
Research and analysis	Including studies and data/information collection on the topic of spatial planning, land tenure, biodiversity, governance and legality, financial incentives, forest management practices, commercial forestry, sustainable agriculture, community based forestry approaches
Strategy and Policy development	Project or program development, support to implement timber licensing agreement, to develop new local or national plans and strategies on e.g. low carbon development, spatial planning.
Other/Multiple/Unknown Indirect	
Multiple objectives	Projects or programmes that incorporate both direct and indirect activities

## Paper 3: Improving Land Productivity through Fiscal Policy - Early Insights on Taxation in the palm oil supply chain<sup>63</sup>

### Abstract

As the world's leading producer, palm oil makes a significant contribution to Indonesia's economy in the form of tax and export revenues as well as employment and infrastructure development. However, oil palm is also one of the leading drivers of deforestation and associated greenhouse gas (GHG) emissions in Indonesia.

Land already licensed for production could fulfill Indonesia's goals to expand palm oil production while avoiding use of additional, high ecosystem value land, but to be sufficient, sharp improvements in productivity are required as well as efforts to bring degraded lands back into production.

We argue that fiscal instruments such as tax could be used as a policy instrument, not only to raise revenue but also to help to restrict land expansion and support more sustainable business models. On the other hand, if not well designed, there is a risk that fiscal policies can support expansion onto forestland.

This case study finds that the Indonesian national tax system as it stands is not incentivizing adoption of sustainable land use models by the palm oil industry. It highlights relatively low levels of tax collection from the industry as well as low levels of redistribution of revenues to local governments, with redistribution designed however in a way that could incentivize increased licensing. With these findings in mind, we identify several opportunities to modify the tax system in order to incentivize higher productivity models of palm oil land use and production.

Analysis carried out for this paper includes a detailed review of national tax legislation, estimation of volumes of tax collected and distributed, based mostly on proxy data collection, and 13 interviews with Indonesian tax and palm oil experts.

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<sup>63</sup> The paper is being prepared to be published as a CPI working paper and to be put forward for journal publication as:

- Falconer A, Mafira T, Sutiyono G. 2015. Improving Land Productivity through Fiscal Policy - Early Insights on Taxation in the palm oil supply chain.



## Executive Summary

As the world's leading producer, palm oil makes a significant contribution to Indonesia's economy in the form of tax and export revenues as well as employment and infrastructure development. However, oil palm is also one of the leading drivers of deforestation and associated greenhouse gas (GHG) emissions in Indonesia, contributing to Indonesia's position as the third largest global GHG emitter, and threatening the nation's target to reduce emissions by 26% by 2020.

The Indonesian government aims to increase palm oil production levels by 50% between 2013 and 2020 and land already licensed for production could fulfill these goals, avoiding use of additional, high ecosystem value land. However, to be sufficient, sharp improvements in productivity are required as well as efforts to bring degraded lands back into production.

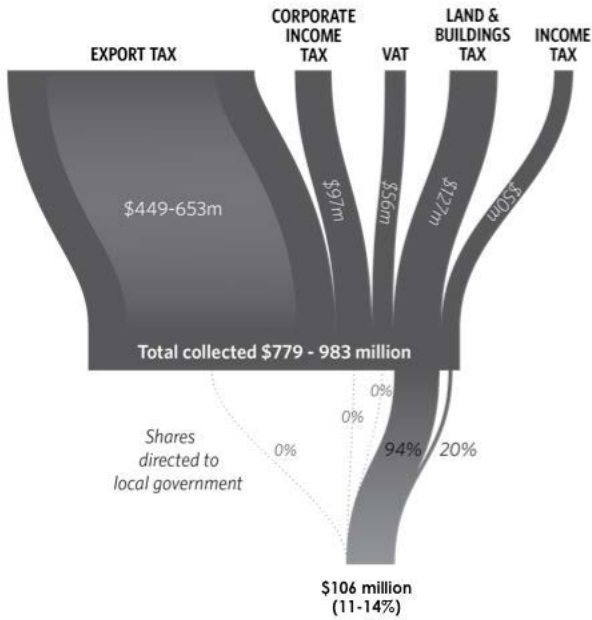
Fiscal instruments can help to restrict land expansion and support more sustainable business models. Tax revenue could be used to compensate for environmental externalities of the industry, for example the removal of public natural resources (forests) and resulting GHG emissions, and to fund schemes to reduce those impacts or fund forest protection schemes elsewhere. In addition, taxes can be used as a policy instrument: affecting the producer's bottom line, taxes can be used to encourage particular behaviors. On the other hand, if not well designed, there is a risk that fiscal policies can encourage undesired behaviors.

This study finds that the Indonesian national tax system as it stands is not incentivizing sustainable land use models in the palm oil industry. It highlights relatively low levels of tax collection from the industry and low levels of redistribution of revenues to local governments, with redistribution designed in a way that could incentivize increased licensing, reinforcing findings from a companion CPI study that looks at the broader land use sector (Mafira and Sutiyono, 2015). With these findings in mind, we identify several opportunities to modify the tax system in order to incentivize higher productivity models of palm oil land use and production.

**We estimate that the palm oil industry contributed at least IDR 7,896 – 10,014 billion (USD 0.8 – 1 billion) to national tax revenues in 2012/2013** dominated by export tax (64%) and to a lesser extent by land and buildings tax (15%) and income tax (15% including individual, corporate and land and buildings sellers taxes).

Figure 19 illustrates the relative contribution from the palm oil industry to different national tax revenues and the level of sharing to local government stipulated in legislation for each tax. As shown in Figure 20, however, due to data availability, tax revenue estimates for Land and Buildings, Income, Corporate, and Value-Added taxes relate to contributions from oil palm plantation operations only, and do not include estimates of tax contributions related to any form of palm oil processing. Export tax revenue estimates instead are for all palm oil products exported and subject to tax, including raw and processed products.

**Figure 19** Estimated total national tax revenues from Indonesian oil palm plantations and palm oil production (export tax only) in 2012/2013 and the distribution of revenues to central and local government



Source: authors’ calculations based on publically available data, see Chapter 3.

Notes: 2013 data and estimates for all except income tax and VAT which are for 2013. Figures are in USD million. Land and Buildings tax includes Land and Buildings Seller’s Tax.

Figure 20 Taxation data availability across the palm oil value chain in 2012/2013 (USD million)

	Export Tax	Corporate Income Tax	VAT	Land & Buildings Tax	Income Tax
Landowner	?	?	?	?	?
Plantation company/Smallholders	112	97	56	127	50
Mill company		?	?	?	?
Processing and refinery companies	337-541	?	?	?	?
Traders and logistics companies		?	?	N/A	?
Consumers	N/A	N/A	?	N/A	N/A

Key:                   ?           Not estimated

                          N/A       Not applicable

Notes:

Notes: 2013 data/estimates for all except income tax and VAT which are for 2012, figures in USD million.

<sup>1</sup> including Land and Buildings Seller's Tax

**While significant tax revenue stems from the oil palm industry, we would expect much more given its GDP contribution and high reported profit margins.** While data availability limited our ability to look at the palm oil sector as a whole, we estimate based on in-depth research on the oil palm plantation sector a tax-to-GDP ratio of around 3.4% for (for plantations only, excluding all downstream processing), suggesting strong tax planning or even avoidance in the industry when compared to a total tax-to-GDP ratio in Indonesia of 12.3% in 2012 (Prastowo, 2014), and around 13% for other sectors such as manufacturing, electricity, and gas. This is particularly startling considering reportedly high profit to revenue ratios at some stages of the supply chain.

**Just 11-14 % of palm oil tax revenues are redistributed to local governments** in 2012/2013 according to our estimates. There is also no natural resource revenue sharing arrangement for plantations, as there is for forestry and mining activities e.g. This is counter-intuitive given local areas provide the natural capital to grow

oil palm and face trade-offs from other uses of that land. However local governments receive budget from a range of different fiscal transfer mechanisms and more analysis is needed to review appropriate responsibility and revenue assignments considering all sectors and the complete fiscal system.

**Official taxes and tax incentives for the palm oil industry do not encourage intensive, high productivity plantation business models.** Artificially low property values applied historically for land and building tax collection<sup>64</sup> and various corporate income tax and Value Added Tax (VAT) incentives appear to have contributed to keeping land costs low and palm oil businesses more profitable, rather than incentivizing intensive high productivity plantation business models with reduced land take. Given that only land and buildings tax has significant local redistribution of revenue, there might be an indirect incentive for local government decision-makers to license more land in order to increase revenue collection, but more analysis is needed.

**We identify six, non-mutually exclusive, opportunities to adjust the tax collection, revenue allocation and revenue distribution to incentivize sustainable behaviors in the palm oil supply chain, both on the side of producers and licensors.** While each of these proposals needs further empirical testing, it is clear that there are several opportunities to reform the tax system in a way that can economically benefit central and local government as well as palm oil industry players, at the same time as improving the productivity and sustainability of palm oil production in Indonesia.

**1. Increase tax rates on land for plantations** to encourage more intensive production and reduced licensing/expansion onto new lands. Current rates of productivity in Indonesian plantations are reported to be very low compared to neighboring producer countries. Increasing tax rates for Land and Building Tax for plantations could encourage more intensive production models by agribusinesses by increasing the cost of land to account for environmental externalities.

**2. Tax production area rather than production volumes or profits**, to incentivize high productivity per hectare of land and minimize the problem of tax evasion. In this way, taxes are shifted between

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<sup>64</sup> Legislation has recently changed requiring market land prices rather than artificially low standard prices to be used in the future to calculate land and buildings tax contributions in the future. But the details and impact are yet to be seen.

instruments and not necessarily increased overall. Land area based taxes are also more difficult to evade and can be monitored inexpensively.

**3. Require palm oil supply chain players to meet specified sustainability criteria** in order to be eligible for existing tax breaks, or introduce penalties or increased tax rates for not adhering to specified sustainability criteria. The direct link between export tax and levels of production of different oil palm products, and between Land and Buildings Tax and land values makes them ideal candidates for the introduction of supplementary criteria related to sustainability.

**4. Increase revenue distribution to local governments.** Increased redistribution of national tax revenue to local governments, coupled with higher tax rates could encourage local governments to license less land for production. Alternatively a non-tax natural resource revenue sharing instrument could be introduced for plantations. Depending on the distribution mechanism, revenues could be earmarked in order to encourage local governments to carry out activities in support of improved the sustainability of the palm oil industry or improved protection for high ecosystem value areas. Technical assistance could be provided to help plan, monitor and report the effectiveness of spending.

**5. Tie redistribution of fiscal revenues to sustainability performance indicators tracking local governments' progress on sustainable palm oil production and protection of high ecosystem value areas in their province.** Brazil's ICMS-E (Imposto Sobre Circulação de Mercadorias e Serviços – Ecológico) program and Portugal's Local Finances Law may serve as useful examples. In 2015, India has also taken a major step to incentivize forest protection by incorporating a forest cover indicator into the formula used to redistribute national tax revenues to states.

**6. Gradually address unofficial payments** in the informal sector by removing some powers associated with those payments (i.e. licensing concessions) and introducing increased official taxation and redistribution of resources to local government. Reforms that help to reduce unofficial payments over time could reduce overall costs faced by companies. Accounting for or even eliminating these payments has to be part of an effective fiscal solution to encourage sustainable palm oil supply chains, otherwise they will continue to undermine policy incentives and the current fiscal system.

Finally, while this study has provided first estimates of the contribution of the palm oil industry to national tax revenues, major data gaps prohibit a full understanding, particularly of contributions from downstream processing. Data gaps make detailed recommendations challenging. Additional follow-up work is needed to explore how other types of land use are being taxed, as well as what non-tax public revenue and unofficial revenues are being raised from various forms of land use and how all of these fees interact to influence behavior. Furthermore, a deeper analysis of the potential tax reform options discussed in this paper and others, and their implications on government and business' behavior is required before more concrete recommendations can be offered.

# 1 Introduction

## Summary

- This paper considers whether the current national tax system has an impact on land use practices of the palm oil industry and whether there may be opportunities to adjust it to incentivize more sustainable or high productivity models of land use and production.

The palm oil industry is a significant and growing contributor to Indonesia's economic growth, but is also a prime driver of deforestation, greenhouse gas emissions, and natural capital loss. More sustainable and productive land use could reduce the environmental impact of projected growth in palm oil production. This paper is part of a larger body of work by CPI that analyzes both tax and non-tax policies and revenue sharing provisions associated with several key land use sectors including forestry, mining and agriculture. In particular, this paper considers whether the current national tax system has an impact on land use practices in the palm oil industry and whether there may be opportunities to adjust it to both improve economic efficiency and incentivize more sustainable or high productivity models of land use and production.

In fact, how Indonesian fiscal policy is designed can encourage different behaviors by both public actors and private investors, through its two functions (Budgetaire -revenue raising, and Regulerend – regulating). Any adjustments to the current fiscal system have to balance the interests and motivations of the following key stakeholders: central government, local government, the Indonesian public, and the palm oil industry. This is no simple task but the timing is right - tax reform is a key priority of the current Indonesian administration, presenting an opportunity meet multiple development objectives.<sup>65</sup>

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<sup>65</sup> The President aims to increase the country's tax-to-gross domestic product ratio from below 13 percent at present to 16 percent. <http://thejakartaglobe.beritasatu.com/news/jokowi-pitches-strategy-tax-reforms-fuel-subsidies-g-20/>; <http://thejakartaglobe.beritasatu.com/news/governors-ask-jokowi-rp-1-trillion-aid-funds-province/>

## Approach

The paper provides an initial mapping and analysis of the national taxes incumbent on the palm oil industry - Export Tax, Land and Buildings Tax,<sup>66</sup> Income Tax (including Corporate Tax), and Value Added Tax. The analysis provides estimates of the cost/revenue implications of the taxes where suitable primary or proxy data could be obtained, to better understand their relative importance and the flow of benefits. For Land and Buildings Tax, Income Tax and Value Added Tax, simple estimates were derived using available sectoral tax and GDP data, while estimates for Export Tax revenues were derived using a simple spreadsheet model of export volumes, prices, and tax rates of 28 different palm oil products. Where possible we also present results for one province, Central Kalimantan, to explore in more detail local government perspectives. The analysis presented in the paper is based on analysis of publicly available legislation and statistics as well as 13 interviews with Indonesian tax and palm oil experts carried out between April and July 2014.<sup>67</sup> The paper was subsequently reviewed by the interviewees, plus a selection of international experts working on similar topics.

Using this approach, and to understand the relationship between national taxation and land use and business practices, we carried out an analysis of the landscape of national taxes paid by palm oil industry players to understand:

1. What activities are taxed, through which taxes, at what rates and what exemptions are applicable?
2. How much revenue is currently raised from the palm oil industry under each of the taxes?
3. How are revenues currently distributed across central and local government? Who collects the tax and what distribution mechanisms exist?

Based on this understanding of the current national tax system, we then discuss current and potential influence of the system on models of land use and palm oil production, to consider:

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<sup>66</sup> Including land and buildings purchase and sales taxes, BPHTB and PPh-BB, noting that the former now a local tax.

<sup>67</sup> Interviews were carried out in Jakarta with experts from eight different Indonesian think tanks and NGOs working on tax and sustainable palm oil, a palm oil industry representative, and two academics familiar with Indonesia's public revenue distribution system as well as three regional government agency representatives in Central Kalimantan.



1. Does the current national tax system support sustainable palm oil production?
2. Is there scope to modify and use the tax system to incentivize sustainable behaviors through the actions of palm oil producers, local, and central governments?

### **Structure of the paper**

The paper is structured as follows: **Chapter 2** provides key background information on the economics of Indonesia's growing palm oil industry and an introduction to the national taxes incumbent on the palm oil industry. **Chapter 3** presents an analysis of the current landscape of national taxes paid by the palm oil industry, providing a description of each tax, estimated revenue collected from the palm oil industry through the tax, and details of how the revenue is allocated across central and local government. At the beginning of the chapter we present combined estimates of total national tax revenues raised from the palm oil industry in 2013. **Annex III** includes supplementary detailed information on each tax, including legal references, details on rates and exemptions, who collects the tax etc. while **Annex I** provides an overview of data gaps. In **Chapter 4** we discuss the current and potential influence of the tax system on models of land use and palm oil production, exploring potential options for using the tax system to incentivize sustainable behaviors through the actions of palm oil producers, local and central governments. Finally **Chapter 5** presents conclusions and recommendations for further work, to explore options for using the tax system to incentivize sustainable palm oil. In this vein, **Annex II** provides an overview of the broader landscape of public revenue collection instruments, beyond national taxation, that should be analyzed to understand their influence on land use and production models and/or potential to modify them to incentivize more sustainable production.

## 2 Background on palm oil production and taxation in Indonesia

### Summary

- Palm oil is one of the leading drivers of deforestation and associated GHG emissions in Indonesia, contributing to Indonesia's position as the third largest global GHG emitter.
- Indonesia is the world's leading producer of palm oil, which makes a significant contribution to the nation's economy in the form of tax and export revenues as well as employment and infrastructure development.
- The Indonesian government aims to increase palm oil production levels by 50% between 2013 and 2020, leading to concerns over possible increases in GHG emissions.
- Land already licensed for production could be sufficient to fulfill Indonesia's goals, but sharp improvements in productivity are needed and use of degraded lands are currently out of production.
- Fiscal instruments can help to restrict land expansion.

### 2.1 Palm oil's growing importance in Indonesia

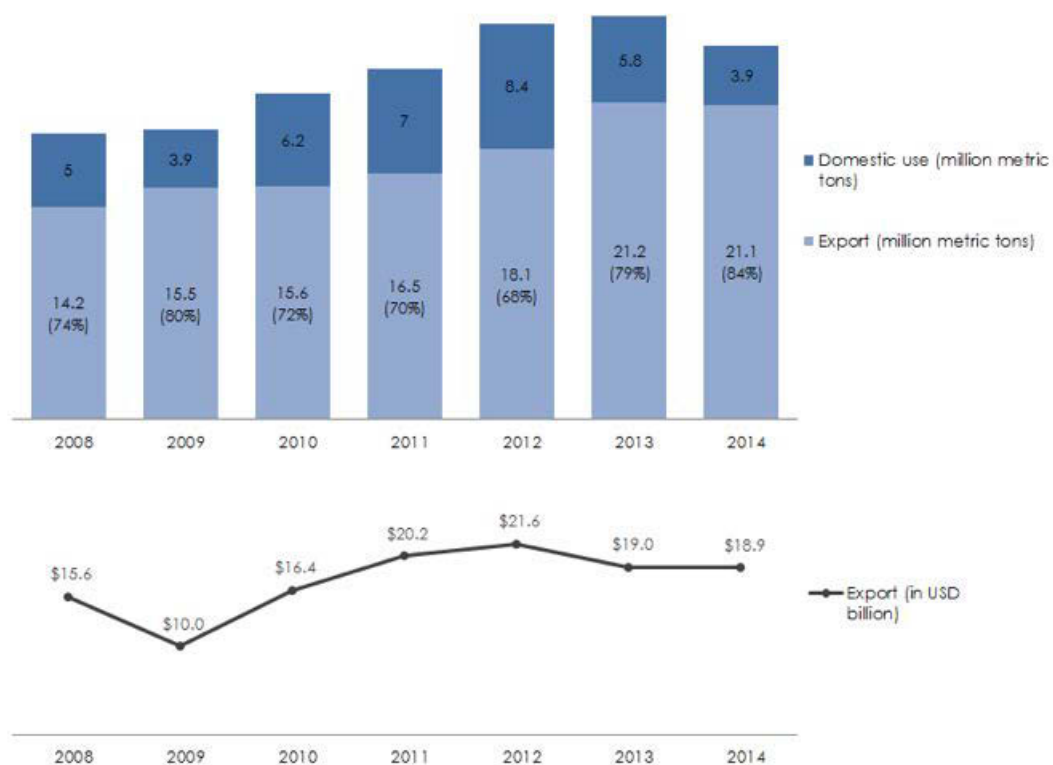
**Indonesia is the world's top producer of palm oil.** In the last decade, the area of oil palm plantations in Indonesia doubled and Crude Palm Oil (CPO) production tripled. Currently oil palm plantations cover approximately 10.5 million hectares (ha), up from 8.5 million ha in 2010 (BPS 2014),<sup>68</sup> and are projected to reach 13 million ha by 2020 (PwC 2012). This implies that by 2020, oil palm plantations in Indonesia will cover a total land area nearly the size of the island of Java.

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<sup>68</sup> Data includes planted area of companies and smallholders. Alternative sources provide higher estimates of plantation area at 12.3 million ha (e.g. Saputra, 2014)

**Soaring demand and public subsidies, both domestically and internationally, have contributed to this remarkable growth** (McFarland et al. 2014). The majority of production is for export. As shown in the figure below, Indonesia has exported over 80% of its palm oil as unprocessed CPO in recent years. Domestic use is overwhelmingly for cooking oil but also for biofuels, margarine, soap and chemical industries.

Figure 21 Palm oil production and export



Source: <http://www.indonesia-investments.com/business/commodities/palm-oil/item166>. Note 2014 data is forecast.

**Palm oil makes a significant contribution to Indonesia’s economy**, including via:

- Export revenues: Palm oil is Indonesia’s third largest export earner, amounting to approximately USD 21 billion in 2012 (BPS 2014; Ministry of Trade 2014)

- Export tax revenue: Exported palm oil products are estimated to account for a large proportion of export tax revenues, as discussed later in this paper
- Other revenues accruing to different levels of government as a result to taxes, fees and other payments: according to Irawan et al. (2013) this could be as high as USD 1.6 billion per year, as shown in Table 2.2
- Employment: In 2011, oil palm plantations directly employed and estimated 3.2 – 3.5 million people (Obidzinski et al. 2014, Ministry of Industry 2015) or 1.46 million households in 2013 (BPS 2013a)
- Infrastructure development: Roads, electricity and telecommunications infrastructure in certain regions are associated with plantation development
- Contribution to rural livelihoods: Nearly half of the oil palm industry is made up of smallholder producers – 42.7% in 2013, with the remainder made up mostly of private enterprises (50.7%) and state-owned enterprises (7.6%) (BPS 2013b)

However, global CPO prices have declined sharply in the last one to one and a half years due to decline in crude oil prices. CPO price has declined by more than half, from a high of USD 992 per tonne in March 2014 to a low of USD 480 per tonne in August 2015.<sup>69</sup> This will have an impact on the estimates above.

**Table 6 Average opportunity costs (NPV USD/ha) for private and public stakeholders (percentage allocation in brackets; 10% discount rate; palm oil price USD 800/t)**

Alternative land-use activities	Company	Government total	National	Provincial	Producing district	Other districts
Commercial logging	206 (46.68)	235 (53.32)	140 (31.71)	6 (1.29)	69 (15.58)	21 (4.74)
Timber plantation without prior logging	1037 (64.62)	568 (35.38)	536 (33.41)	7 (0.44)	14 (0.90)	10 (0.63)
Timber plantation with prior logging in degraded forests	1507 (58.75)	1058 (41.25)	767 (29.92)	29 (1.14)	213 (8.29)	49 (1.90)
Oil palm plantation without prior logging	6355 (57.97)	4608 (42.03)	4587 (41.85)	3 (0.03)	17 (0.15)	0 (0)
Oil palm plantation with prior logging in degraded forests	6458 (57.45)	4782 (42.55)	4678 (41.62)	10 (0.09)	82 (0.73)	13 (0.11)
Oil palm plantation with prior logging in primary forests	7099 (56.34)	5502 (43.66)	5057 (40.13)	34 (0.27)	350 (2.78)	61 (0.48)

Source: Irawan et al. 2013

Notes: USD 1.6 billion estimate is based on the lowest estimated revenue for oil palm plantation for government and linear 30 year revenues, according to the author's calculations, and estimated current total area under oil palm plantation, 10.5 million ha. Note that the authors' calculations exclude personal income and export taxes, use relatively high CPO prices (USD 680 -1000/tonne) compared to today's price and are based on model estimates using limited company sample

<sup>69</sup> <http://www.rea.co.uk/rea/en/markets/cpoprices>

financial data, meaning the results may not accurately reflect real profit margins and tax/fee collection. Nonetheless the results provide a very useful starting point.

On the other hand, the palm oil industry also makes various demands on the Indonesian economy in the form of non-subsidized government credit and subsidies associated with production of palm oil, biofuels, and other products (see Annex II).

**Furthermore, palm oil is one of the main drivers of deforestation and associated GHG emissions in Indonesia.**

A recent report by the Environmental Investigation Agency (EIA 2014) points to palm oil as being one of the leading drivers of deforestation in Indonesia since 1990 and *the* leading driver in recent years (2009-2011).<sup>70</sup>

The authors present results from various studies and time periods that suggest the loss of 1.6m ha of forest to oil palm during 2000-10 and that the 50% of oil palm expansion during 1990-2005 led to the destruction of natural forestland.

**Recent policy signals have implied an expansion of the Indonesian palm oil industry, as well as increasing pressure on palm oil operations to increase the sustainability of their operations.** The Indonesian government aims to increase palm oil production to 40 million tonnes per year by 2020 (Boer et al. 2012), up from 2013 levels of around 27.8 million tonnes (Ministry of Agriculture 2014). It is estimated that if Indonesia were to adopt land-optimization measures, the land area already licensed for production could be sufficient to fulfill Indonesia's goals (even including bioethanol), without additional land clearing (Saputra 2014). With respect to Central Kalimantan, Boer et al. (2012) estimated that palm oil expanded production could be accommodated without large-scale deforestation, as around 1.6 million ha of degraded/non-forested lands is available and suitable for oil palm development.

**However, demand for palm oil for biofuels is rising domestically as a result of mandates for increased amounts of biodiesel blending in power stations and rising biodiesel price subsidies for consumers.**

**Furthermore, realizing increased production on existing agricultural land necessitates a steep improvement in productivity rates** which are very low in Indonesia compared to neighboring countries – 13.6 MT/ha<sup>71</sup> for Fresh Fruit Bunches (FFB) compared to 19 MT/ha in Malaysia in 2013 and 2.6 MT/ha for CPO compared to 3.9

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<sup>70</sup> Abood et al. 2014 rank palm oil as the third largest driver of deforestation in the earlier period of 2000-2010, after the pulp and paper and logging industries.

<sup>71</sup> Million tonnes per hectare.

MT/ha in Malaysia (Saputra 2014). A new national palm oil platform, IPOP, supported by the United Nations Development Programme, has been set up by the Indonesian government and is partly aimed at boosting smallholder productivity (Mongabay 2015). In addition, Crop Estate Fund launched in 2015 is set to further support farmers and R&D toward increased productivity but will also subsidize biofuel production and demand. Furthermore, experts believe a large proportion of land already licensed for plantations is uncultivated and obtained for other reasons such as initial timber clearance and trading of valuable business use (“HGU”) licenses (Saputra, 2014) and so would need to be brought into production.

**In addition to policy targets to increase oil palm production, there has also been increasing pressure on palm oil operations to increase the sustainability of their operations.** Several major palm oil importing countries, including the U.S., EU, and Japan, have outlined minimum sustainability requirements for palm oil products. For instance the EU Renewables Directive sets requirements for sustainable production, prohibits the use of high ecosystem value land and has also considered adjusting CPO and biofuel import duty in line to promote high sustainability standards. Consumer and retailer pressure is also building for certified palm oil.<sup>72</sup> As of 2014, the Roundtable on Sustainable Palm Oil (RSPO) has 101 members in Indonesia and 1.3 million ha of certified palm oil production area (RSPO 2014).

Despite these efforts, certification schemes are inadequate against the scale of the challenge. Standards are voluntary and while many producers have made significant commitments in recent years, implementing them has a cost to their value chain and as a consequence, there needs to be a more effective way to provide incentives for producers.

National fiscal mechanisms are both more direct, and have potential wins for governments that enforce them. This paper investigates the extent to which Indonesia’s current tax regulations support increased productivity and sustainability of palm oil production or could be adjusted to do so.

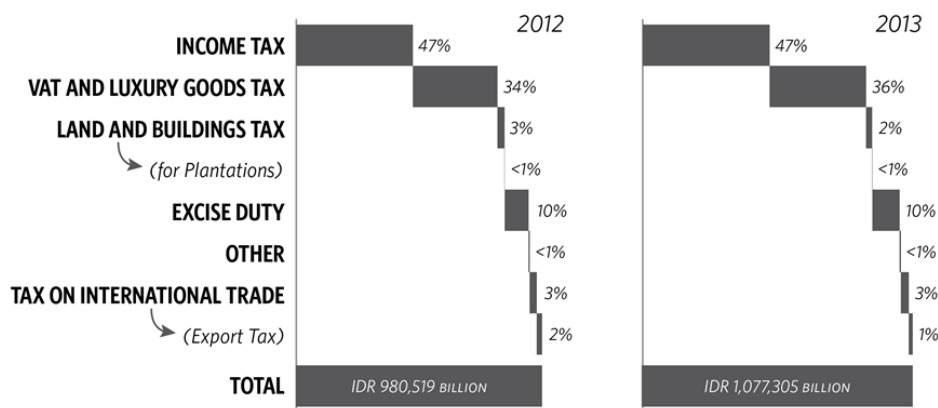
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<sup>72</sup> Current CSPO market uptake is around 52% and price premiums are around just 0.3% for CPO and 2.3% for PKO in 2013 or USD 11 per hectare (Butler 2014)

## 2.2 Introduction to the taxation of the palm oil industry in Indonesia

Total Indonesian tax revenue in 2013 was IDR 1,077 trillion or approx. USD 103 billion (RoI 2013, p.53), split as shown in Figure 23 below. Of the taxes that apply to oil palm plantations and palm oil producers and processors (all but excise duty), income tax and VAT dominate total revenues, at 47% and 36% respectively.

Figure 22 Overview of Indonesian tax revenues by tax, 2012 and 2013



Notes: historic exchange rates (average for each year) from oanda.com. In addition to taxes collected by the Ministry of Finance, the tax on acquisition of land and buildings (Bea Hak atas Tanah dan Bangunan), now a local tax, generated IDR 9,100 billion in 2013 (Ministry of Finance, 2013). Sources: RoI 2012 and 2013.

No data is publicly available on the contribution of the palm oil sector to overall tax revenues, let alone indications of the breakdown by different taxes therein. Only high-level sectoral data is available. However, we know that in 2012, the “agriculture, animal husbandry, forestry and fishery” sector contributed IDR 14.9 trillion (USD 1.6 billion) in tax revenues (including Income Tax and VAT only). This was just 2% of overall tax revenue, despite the fact that GDP for the sector was IDR 1,190 trillion (USD 101 billion), or 15% of Indonesia’s total GDP. This implies a tax-to-GDP ratio of just 1.25%, compared to the average tax to GDP ratio in Indonesia of 12.3% in 2012<sup>73</sup> (Prastowo 2014) and ratios of around 13% for other sectors such as manufacturing, electricity, and gas.

<sup>73</sup> 9% if we exclude international trading taxes and duties

### 3 An overview of the landscape of national taxes incumbent on the palm oil industry

#### Summary

- In total, we estimate that the palm oil industry contributed tax revenues of at least IDR 7,896 – 10,014 billion (USD 0.8 – 1 billion) in 2012/2013,<sup>74</sup> dominated by export tax (64%) and to a lesser extent by land and buildings tax (15%) and income tax (15%).<sup>75</sup>
- We estimate that just 11-14% (IDR 1,103 billion or USD 106 million) of revenue was directly redistributed to local governments, where oil palm is grown and natural capital consumed as a result.
- We calculate a tax-to-GDP ratio of around 3.4% for the oil palm plantation sector alone (excluding processing), a relatively low ratio compared to other sectors.

This chapter describes each of the four national taxes (Export Tax, Land and Buildings Tax,<sup>76</sup> Income Tax, including Corporate Tax, and Value Added Tax) in turn, highlighting in particular the tax object, rates, and revenue redistribution provisions. For each, we also present estimated tax revenues for the latest year for which (proxy) data was available. Additional details of the main provisions of each tax regulation can be found in Annex III. This analysis helps us to understand how each tax works and their relative importance monetarily, an essential starting point for exploring current and potential influence of the system on models of land use and palm oil production.

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<sup>74</sup> 2013 for export, PPB and PBB-PPh. 2012 for Income Tax and VAT.

<sup>75</sup> Due to data availability, tax revenue estimates for Land and Buildings, Income, Corporate and Value-Added taxes, relate to contributions from oil palm plantation operations only, and do not include estimates of tax contributions related to any form of palm oil processing. Export tax revenue estimates are for all palm oil products exported and subject to tax, including raw and processed products.

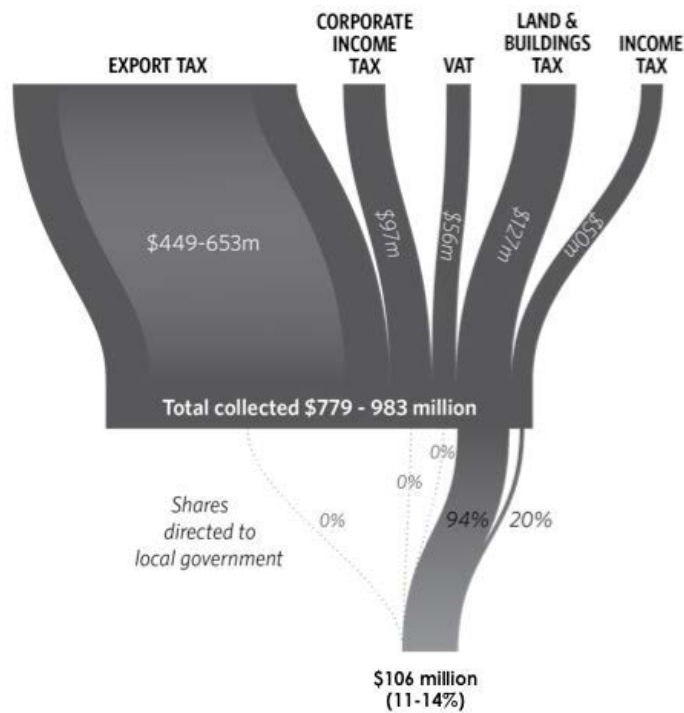
<sup>76</sup> Including land and buildings purchase and sales taxes, BPHTB and PPh-BB, nothing that the former now a local tax.



### 3.1 Estimated total national tax revenues from Indonesian palm oil production

In total, we estimate that the palm oil industry contributed tax revenues of IDR 7,896 – 10,014 billion (USD 0.8 – 1 billion) in 2012/2013,<sup>77</sup> dominated by export tax (64%) and to a lesser extent by land and buildings tax (15%) and income tax (15% including individual, corporate, and land and buildings sellers taxes). We estimate that just 11-14% (IDR 1,103 billion or USD 106 million) of revenue was directly redistributed to local governments. While direct redistribution is low it should be borne in mind that there are a range of other revenue instruments in place for local governments, as discussed further in Chapter 4. Figure 23 summarizes the combined results of this analysis, including estimates of revenues collected from the palm oil industry and the redistribution provisions for each tax.

Figure 23 Estimated total national tax revenues from Indonesian oil palm plantations and palm oil production (export tax only) in 2012/2013 and the distribution of revenues to central and local government



Source: authors' calculations based on publically available data, see Chapter 3.

<sup>77</sup> 2013 for export, PPB and PBB-PPh. 2012 for Income Tax and VAT.

Notes: 2013 data and estimates for all except income tax and VAT which are for 2013. Figures are in USD million. Land and Buildings tax includes Land and Buildings Seller's Tax.

As illustrated in Figure 24, due to data availability, tax revenue estimates for Land and Buildings, Income, Corporate and Value-Added taxes, relate to contributions from oil palm *plantation* operations only, and do not include estimates of tax contributions related to any form of palm oil *processing*. This is because sub-sectoral tax data was available only for the "agriculture, animal husbandry, forestry, and fishery" sector, which includes plantations. Oil palm specific estimates were then produced using assumptions based on GDP data but this was not possible for the Manufacturing sub-sector. In addition, Land and Buildings sub-sector data was available for plantations<sup>78</sup> but could not be split out for palm oil processing operations. On the other hand, Export tax revenues could be estimated for all palm oil products exported and subject to tax, including raw and processed products.

**Figure 24 Industrial classification and data availability across the palm oil value chain outputs including the industrial classification.**

	Export Tax	Corporate Income Tax	VAT	Land & Buildings Tax	Income Tax
Landowner	?	?	?	?	?
Plantation company/Smallholders	112	97	56	127	50
Mill company	337-541	?	?	?	?
Processing and refinery companies		?	?	?	?
Traders and logistics companies		?	?	N/A	?
Consumers	N/A	N/A	?	N/A	N/A

Key:                    ?            Not estimated  
                               N/A        Not applicable

<sup>78</sup> FAO statistics on the production value for the main plantation crops in Indonesia (sugar cane, cashew, coconut, oil palm fruit, palm kernels, oil palm, coffee, cocoa, tea, pepper, cloves, tobacco, rubber) in 2012 indicate that 73% of production value is associated with oil palm (FAO, 2015).

<b>Value chain outputs</b>	Palm fruit/ kernel	Oil cake and residues	Crude palm (kernel) oil (CPO and CPKO)	RBD and Hydrogenated Palm Oils and Olein and Stearin	Cooking oils, biofuels, margarine, soap, chemical industry inputs.
<b>Industrial classification</b>	Plantation		Manufacturing industry		
<b>Tax revenue estimate coverage</b>	Export, Land and Buildings, Income (including land and building seller's tax), Corporate and VAT		Export tax only		

Using the above estimates of tax revenues, we calculate a tax-to-GDP ratio of around 3.4% for the oil palm plantation sector,<sup>79</sup> assuming GDP for the sector to be approximately IDR 127 trillion in 2013 (73% of the plantation sector)<sup>80</sup>; this compares to ratios of around 13% for other sectors such as manufacturing, electricity and gas, and the economy as a whole. A tax to GDP ratio cannot be estimated for the broader palm oil industry (including post plantation processing and trading) since data is missing on post plantation tax revenues (except export taxes) and on GDP for the palm oil sector as a whole.

### 3.2 Estimated palm oil tax collection and redistribution in Central Kalimantan

As shown in Figure 25, limited quantitative information was available on palm oil tax revenues raised from production in the case study region, Central Kalimantan. The figure does however illustrate the low percentage of tax revenue that remains or gets redistributed to the local level where production occurs. Local governments receive budget from a range of different fiscal transfer mechanisms and more analysis is needed to review appropriate responsibility and revenue assignments considering all sectors and the complete fiscal system

<sup>79</sup> For the calculation of GDP ratio here, we include only exported plantation outputs (i.e. palm fruits and residues) in order to be consistent with the GDP data.

<sup>80</sup> FAO statistics on the production value for the main plantation crops in Indonesia (sugar cane, cashew, coconut, oil palm fruit, palm kernels, oil palm, coffee, cocoa, tea, pepper, cloves, tobacco, rubber) in 2012 indicate that 73% of production value is associated with oil palm (FAO 2015).

Figure 25 Central Kalimantan estimated palm oil related tax revenues collected and redistributed

	Export Tax	VAT	Land & Buildings Tax	Land & Buildings Buyer's Tax	Land & Buildings Seller's Tax	Income Tax
Collected in Kalteng	47-81	Unknown	75+*	4	4	Unknown
Redistributed to (or remaining in) Kalteng	0	0	75	4	20% (individual) 0 (corporate)	20% (individual) 0 (corporate)

Notes: 2013 data/estimates, figures in IDR billion

\* Data not available – assessment based on analysis of regulation and other information.

**Export revenues** from palm oil products produced in Central Kalimantan only totaled USD 212 million in 2013 (BPS 2013c) and related **export tax revenue** is estimated to be between USD 4.5 – 7.8 million (IDR 47 – 81 billion) in 2013, around just 1% of national totals.

**Land and Buildings Tax** revenue totaling IDR 548 billion (2%) was allocated to Central Kalimantan province and its districts (including collection fees) in 2013, IDR 75 billion of which related to plantation land (representing 7% of the national total from plantation land), roughly in line with statistics reporting Central Kalimantan’s share of Indonesia’s oil palm plantation land to be around 10% (PILAR, 2015).<sup>81</sup>

Since 2011, **Land and Building Buyer’s Tax** is a local tax collected by districts. In fiscal year 2013 in Central Kalimantan districts, Land and Building Buyer’s Tax accounted for only 3% (IDR 27 billion) of local government tax revenues, with far larger sums derived (mostly at the province level) from taxes on surface water and cars, for instance (MoF 2013). We estimate the proportion of the Buyer’s Tax related to plantations to be 14% or IDR 4 billion for Central Kalimantan, according to the approach outlined in Section 3.4.

<sup>81</sup> As stipulated in 102/PMK.07/2013 which amends Peraturan Menteri Keuangan Nomor 205/PMK.07/2012 and 35/PMK.07/2013.

It is not possible to estimate the amount of **Income tax** paid by plantation employees operating in a particular jurisdiction. Regulation 202/PMK.07/2013 provides data on the total allocation of income tax revenues (PPh WPOP DN and Pasal 21, i.e. individual tax payers contributions only) to provinces and districts. For Central Kalimantan province and districts, the allocation in 2014 was IDR 166 billion (approx. USD 14 million).

A cursory review of the financial statements of one publically listed, oil palm focused plantation business, operating in Kalimantan, indicates that total tax expenses amounted to 29% of profits before tax in 2013 and 25% in 2012 (BW 2013) - by no means therefore an insignificant cost component for plantation businesses. More detailed analysis is however required to fully understand the data available in company financial statements.

### **3.3 Export tax: revenues and distribution**

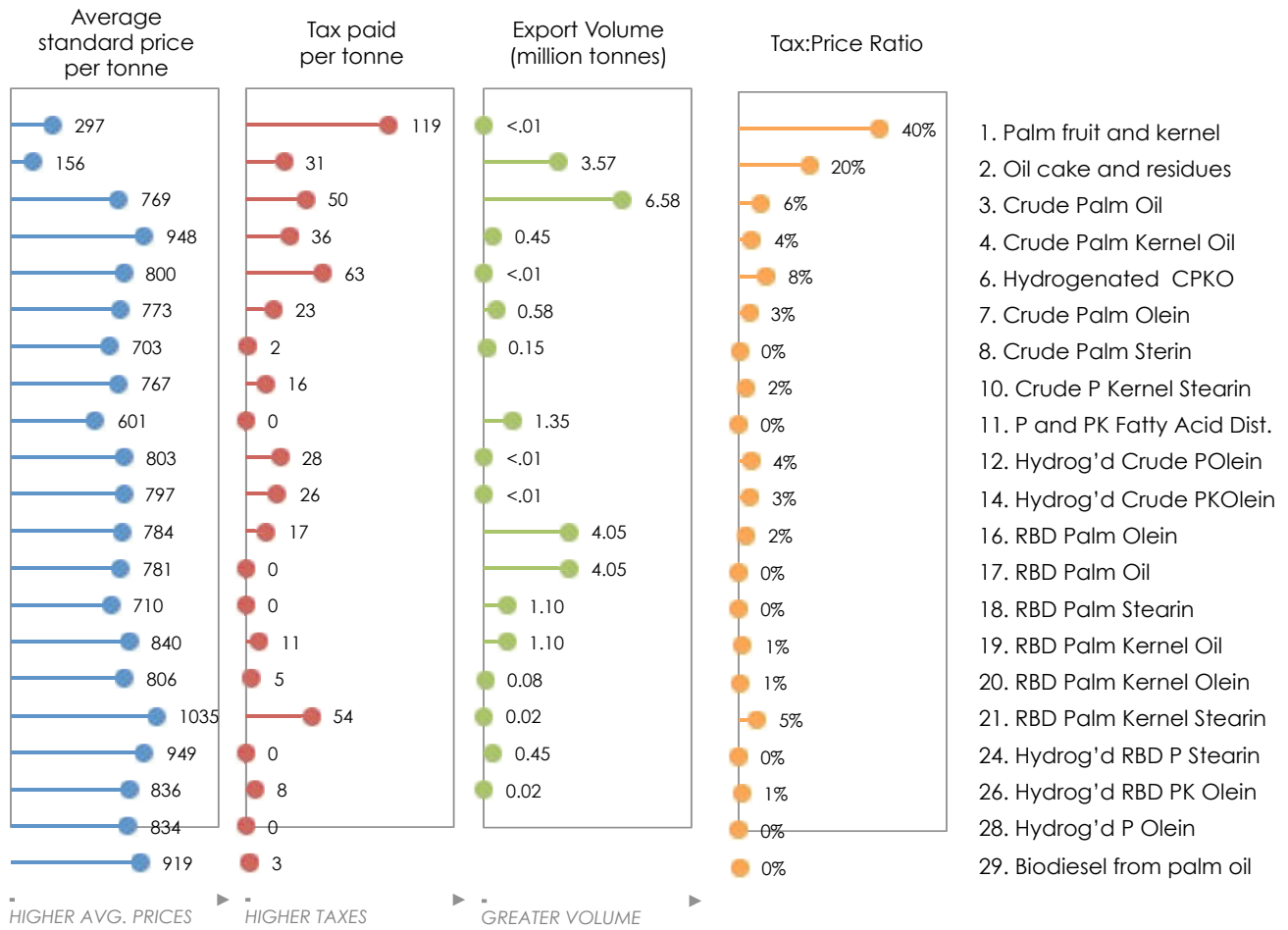
#### **Introduction**

Export taxes apply to fresh fruit bunches (FFB), CPO, and refined palm oil products. They were introduced to moderate the price of cooking oil domestically as well as to support the development of downstream industry including CPO processing and production of finished products.

As a result, export tax rates are progressive, increasing as standard export prices increase and more steeply for less processed products, which are taxed at higher rates, with the aim of incentivizing downstream palm oil industries. Figure 27 shows generally decreasing tax levels for more processed products but some anomalies occur, where prices were particularly high in 2013 so tax rates entered a higher bracket. In addition, until recently (see Box 1), for all but raw palm fruits, taxation did not apply until a standard price of at least USD 750 per tonne was reached or progressively higher for more processed products which tend to be more expensive.

Figure 27 shows how Indonesian palm oil product exports are concentrated on a handful of products, in particular solid residues of oil palm fruits, seeds, and kernels (2) and crude palm oil (3) and unsolid refined, bleached and deodorized fractions of oil palm and olein (16,17,28).

Figure 26 Palm oil product export statistics in 2013



Note: products as specified in 128/PMK.011/2013.

Note that export data does not allow differentiation between the following products: 14 and 15 (however they have the same tax rate); 22 and 23; 26 and 27 (however they have the same tax rate); 5, 12 and 13 (we conservatively assume the standard prices and tax rates of product number 12 in our calculations); 16, 17 and 28 (we conservatively assume the standard prices and tax rates of product number 28 in our calculations).

### **Box 1: The CPO Supporting Fund or Crop Estate Fund**

In May 2015 the Government of Indonesia announced the enactment of a new export charge for Crude Palm Oil (CPO). Under the Presidential Regulation No. 61/2015 on the Crop Estate Fund, producers and exporters of CPO and its derivatives are required to pay a levy and transfer it into a special fund to subsidize biodiesel and fund palm oil research and development among other things. The tariff varies from USD 10 to USD 50 per tonne depending on the product, offset against export tax payments if prices are above USD 750 per tonne (the point at which export tax starts to be paid). The fund may also receive contributions from other sources.

The Ministry of Finance has established a special public services agency (*Badan Layanan Umum* or “BLU”) to manage the funds outside of the state budget (APBN) system. The Fund is expected to generate around USD 750 million of revenues per year, to be used to subsidize biodiesel production, palm oil research and development, replanting, capacity building and equipment. Due to as many as six ministries involved in the Fund, governance arrangements are yet to be decided. At present there is no provision in the Fund for earmarking to regional governments. This subsidy, alongside other subsidies for biofuel production (e.g. minimum 15% bio content of diesel) will likely stimulate CPO demand and prices, and puts extra pressure on increased production, with unclear safety locks related to productivity improvements.

### **Estimated Tax Revenues**

The Bank of Indonesia reports export revenues from palm oil products totaling USD 17.7 billion in 2012 (BI 2014), which is 9.4% of total national export revenues.<sup>82</sup>

Export *tax* revenues from all commodities totaled USD 2.3 billion in 2012 (RoI 2012) and USD 1.5 billion in 2013. No official data is available on the portion coming from palm oil product exports. We therefore estimate palm oil export tax revenues using a simple bottom up model with BPS statistics on exported weight of palm oil products in 2013, standard published prices and tax rates according to the regulation.<sup>83</sup> We estimate that

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<sup>82</sup> Using BPS statistics to calculate value from exported palm oil products on a bottom basis results in higher estimates of USD 21.4 million in 2012 and USD 20.3 billion in 2013, possibly as a result of non-palm oil elements in export codes which combine palm oil and other products or narrower definition in BI statistics.

<sup>83</sup> We use monthly BPS statistics on exported weight of different palm oil products, monthly standard prices for individual different palm oil products and tax rates for different palm oil products according to Export Tax regulation. BPS statistics do not allow a complete

export tax collected from palm oil products should have totaled an estimated USD 449 – 653 million<sup>84</sup> (IDR 4,670 – 6,788 billion) in 2013, i.e. 30-44% of total export tax revenues. This is an estimate of how much tax should, in theory, be paid and does not necessarily represent how much was actually collected: there may be a gap. Furthermore, one interviewee suggested that export statistics might not always show the true volumes of exported goods since products exported from unregistered/illegal plantations are not recorded. As such it can only be assumed that tax revenue is not collected from these exports either.

Receipts from export tax reportedly decreased in 2012 (down by 26% compared to 2011) and again in 2013 (down by 33% compared to 2012) due to changes to export rates and tariffs for CPO which in turn shifted export patterns (RoI 2013, p.75; RoI 2014, p.68), showing that the industry is sensitive to changes in tariffs.

### **Redistribution of Revenues**

There is no redistribution of export tax revenues back to the local governments of jurisdictions where palm oil is produced. Revenues enter into the general state budget (APBN) and are not earmarked for particular purposes. Given the direct and visible link to palm oil production, there have been requests made by some Regents (Kabupaten) and Governors in recent years to redirect a portion of revenue from CPO export taxes redistributed to the local level.<sup>85</sup> This would require legal review in the constitutional court of the 2004 revenue sharing law (where agriculture is conspicuously missing).<sup>86</sup> Where port authorities are run by state (as opposed to local government) enterprises, their general revenues are also not shared with local government.

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match with standard prices and tax rates in the case of some products. As such assumptions and ranges have to be calculated for those products.

<sup>84</sup> Range results from different assumptions regarding export data, which does not specify between some products that have different tax tariffs.

<sup>85</sup> see for example Mongabay 2014.

<sup>86</sup> See Article 11 of Law No. 33 of 2004 on Revenue Sharing Between Central and Regional Government



### 3.4 Land and Building tax: revenues and distribution

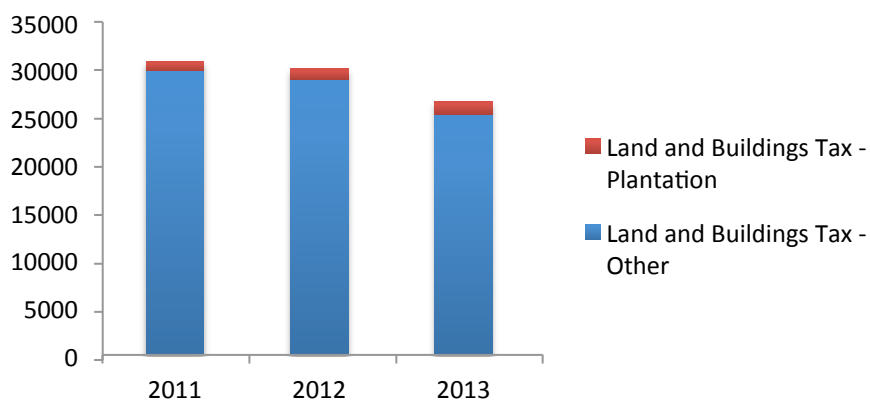
Land and Buildings Tax (Pajak Bumi dan Bangunan or PBB)<sup>87</sup> is payable annually, as a percentage of the officially designated value of the land or building owned or used (known as NJOP). The percentage applied is greater for plots over a value of IDR 1 billion and for plantation, forestry, and mining land (0.2% as opposed to 0.1%).

The Government of Indonesia is actively considering reform options for land and buildings tax including removing NJOP and replacing it with price zoning or even removing land and buildings annual tax altogether, leaving just the land and buildings sales and buyers taxes.<sup>88</sup> As of May 2015, it appears that the zoning option has been selected although there is so far no official regulation.<sup>89</sup>

#### Estimated Tax Revenues

The following table shows total land and buildings tax revenues *collected* in the past three years and the portion related to taxation of plantation land, which is low compared to other sources, in particular the oil industry. However this does not include non-plantation PBB tax paid by downstream palm oil manufacturing and processing companies, for which data is not available.

Figure 27 Land and Buildings Tax revenue collection (IDR billion)



Source: LKPP, 2012 and 2013

<sup>87</sup> Sources of information: the regulations; PwC 2010; WB 2015.

<sup>88</sup> Jakarta Post 2015

<sup>89</sup> Metronews 2015

No data is available on oil palm plantation specific revenue collected or allocated but we can expect that the vast majority relates to oil palm.<sup>90</sup> Nor could data be found on collected tax for particular regions although this is expected to be relatively close to reallocated revenues.

Some interviewees mentioned the issue of outdated and artificially low officially designated land values (NJOP) being used to calculate and reduce payments of land and building tax. Some local governments might not therefore collect this tax to the full potential and it is likely that there is a “tax gap.” It is difficult to substantiate this point with data since NJOP and actual sale value data for plantation land are difficult to obtain and compare but this is a well-known issue in the housing market in Indonesia.<sup>91</sup> Another interviewee pointed out that plantations operating illegally, without business use for plantation (“HGU”) licenses are probably not paying land and buildings tax, hence creating another source of missed revenues.

Land and buildings tax is just one element of the cost of land in Indonesia. Annex II points to a broader landscape of public revenue collection instruments, beyond national taxation, that should be analyzed to understand their influence on land use and production models and/or potential to modify them to incentivize more sustainable production. As noted by Schlegelmilch et al. (2011, p.4), “spatial planning and a huge gap of land rent in agriculture areas pushed a sporadic land conversion so that the incentive for conservation is diminishing as the value of land for commercial purposes is increasing, accelerated by local decisions for increasing regional incomes.”

### **Redistribution of Revenues**

Approximately 94% of revenues from land and buildings tax are redistributed back to the local government level based on levels of collection (the majority of the remaining goes to central government as collection fees). *Allocation* of tax revenue from the land and buildings tax in 2013 totaled IDR 23,414 billion, including IDR 1074 billion (5%) from plantation land.

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<sup>90</sup> 87% of large plantations in Indonesia in 2013 were for oil palm (BPS, 2014b) while 98% of plantations (operational and non-operational) in Central Kalimantan were for oil palm as of December 2013 (Central Kalimantan Dinas Perkebunan, 2014).

<sup>91</sup> See, for instance, Suryana 2013.

## 3.5 Land and Buildings Buyer's Tax: revenues and distribution

### Introduction

Land and Building Buyer's Tax (Bea Hak atas Tanah dan Bangunan or BPHTB) is a one off payment tax, paid by buyers upon acquisition of buildings or business use rights, at a rate of 5% of the Nilai Perolehan Objek Pajak (NPOP), that is, the taxable acquisition value, which is set based on the officially designated value of the land or building (NJOP) or the actual purchase price (whichever is higher). As of 2011, the tax is a local, not a national one.

### Estimated Tax Revenues

Land and Building Buyer's Tax revenue totaled IDR 9,120 billion in 2013,<sup>92</sup> with large cities contributing the vast majority. Data is not available on the portion of Buyer's Tax revenue that relates to plantations, oil palm plantations, or palm oil operations more broadly, but we can estimate for plantations at least, that it would be a similar proportion to the plantation component of the annual national Land and Buildings Tax, i.e. 5% or IDR 418 billion at the national level. However, one interviewee suggested that Buyer's Tax from plantations may be lower than expected due to the fact that plantations often change hands as part of a merger or acquisition of companies. In this case the land asset is not subject to the Buyer's or Seller's Tax.

Since, as per Land and Building's Tax, Buyer's Tax can be based on NJOP, there could also be a tax gap in this case.

### Redistribution of Revenues

In 2011, Land and Building Buyer's Tax became a local tax collected by districts so central government and provinces no longer receive revenues from the tax.

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<sup>92</sup> Ministry of Finance 2013.

## 3.6 Land and Buildings Seller's Income Tax: revenues and distribution

### Introduction

For transactions greater than IDR 60 million, Land and Buildings Seller's Income Tax (Pajak Penghasilan - Bumi dan Bangunan or PPh-BB) has to be paid, as a one-off payment, by the seller totaling 5% of purchase price or officially designated value of the land or building (NJOP), if higher.

### Estimated Tax Revenues

We assume that revenues from Seller's Income Tax, related to plantation land, are equal to those derived from the Buyer's Tax, i.e. in 2013 IDR 418 billion at the national level. The figure may be lower due to the IDR 60 million threshold below which the seller does not have to pay income tax. Since the Seller's Tax is part of income tax, caution has to be paid not to double count. As such Seller's Income Tax is not shown separately in Figure 19 above or counted in estimated total tax revenues.

### Redistribution of Revenues

Where Seller's Income Tax forms part of personal income tax, 20% of revenue from the Seller's Tax goes to Local Government and 80% to Central Government. As discussed in more detail below under Income Tax, tax is paid where the taxpayer is officially registered rather than where the land being sold is located. However it is assumed that most Seller's Income Tax related to plantations and palm oil production would be part of corporate income tax payments, in which case there would be no sharing of revenues to the local level as the corporate entities are mostly registered and pay taxes in Jakarta.

## 3.7 Income and Corporate tax: revenues and distribution

### Introduction

Income tax (Pajak Penghasilan or PPh) provides the largest portion of tax revenue for the Indonesian government, at 47% of total tax take in both 2012 (IDR 465,070 billion) and 2013 (IDR 506,442 billion). Of the

non-gas income tax revenue in 2012, 66% is related to corporations and 34% to individuals' income taxes.<sup>93</sup>

The basic rate of corporate tax is 25%, but corporate taxes due are very dependent on the shareholder structure and the level of offshore activity of individual companies, as well as application of a large number of tax breaks specific and not specific to the palm oil industry players (see below).

### **Estimated Tax Revenues**

The "Agriculture, Animal Husbandry, Forestry and Fishery" sector contributed IDR 10.1 trillion in income tax revenues in 2012, including corporate and individual income taxes (MoF, 2014). More detailed data on the contribution of plantations and the palm oil industry is not available. In the absence of better information, we estimate tax revenues from the plantation sector by applying the percentage of GDP for the plantation sector over GDP for the "Agriculture, Animal Husbandry, Forestry and Fishery" sector to the tax revenue from the latter.<sup>94</sup> Thus we estimate income tax in 2012 for the plantation sector at IDR 1375 billion (USD 147 million), IDR 908 billion (USD 97 million) in corporate income tax and IDR 467 billion (USD 50 million) in individual income tax, using whole economy splits to estimate each. This approach unfortunately excludes tax revenues from down stream processing of oil palm.

As highlighted in the box below, the "Agriculture, Animal Husbandry, Forestry and Fishery" sectors, including plantations, appear to have one of the highest occurrences of tax minimization in Indonesia when it comes to tax avoidance and tax planning, in particular in relation to corporate income tax (see Box 2). This is likely in part due to the large amount of tax breaks available for oil palm plantation operators and palm oil producers. At all stages of the value chain, palm oil supply chain members are eligible for industry specific corporate income tax breaks, from plantation owners for import of goods and delayed depreciation of plantation expenses, import duty exemptions for CPO mill owners, through to tax reductions for Indonesian tax residents' treaty partners and complete tax holidays for biofuel producers. Public companies and small enterprises /smallholders are required to pay income tax but reduced rates are applicable. More information on these

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<sup>93</sup> Here, Pasal 21, 23, 26 and Pasal 25/26 Orang Pribadi are considered as "individual" income taxes and the others (Pasal 22, 22 Impor, 25/29 Bada, 26, Final and Fiskal LN and Non Migas Lainnya) as "corporate".

<sup>94</sup> GDP for the plantation sub-sector was IDR 162 trillion in 2012 or just 13.6% of the GDP for the "agriculture, animal husbandry, forestry and fishery" sector (BPS 2014).

incentives is provided in Annex III, however, it is not known to what extent these income tax incentives are applied for. Some interviewees suggested that companies prefer not to apply for incentives in order to avoid additional scrutiny of accounts.

From May 2015, additional income tax breaks are available for forestry, mining, and plantation activities including several downstream palm oil products - hydrogenated palm olein, hydrogenated palm stearin, hydrogenated palm oil, hydrogenated palm kernel olein, hydrogenated palm kernel stearin, hydrogenated palm kernel oil.<sup>95</sup> Tax breaks include (i) income tax reductions; (ii) accelerated depreciation on tangible assets or amortization of intangible assets; (iii) imposition of income tax on dividends for foreign taxpayers who do not operate under a permanent establishment; and (iv) compensation for losses.<sup>96</sup>

### **Box 2: Estimating and closing the tax gap in palm oil in Indonesia**

Prastowo (2014) estimates a 'tax gap' of IDR 135 - 185 trillion (USD 13 – 18 billion) per year in the "Agriculture, Animal Husbandry, Forestry and Fishery" sector by comparing the tax ratio of the sector (1.25%) with other equivalent countries in the region (16-17%).<sup>97</sup> This does not, however, account for international trading taxes and duties contributed by the oil palm plantations and misses revenue from palm oil processing beyond the plantation. As discussed in Chapter 3.1, we estimate a tax ratio of 3.4% for the oil palm plantation sector alone, including all national taxes – low considering estimated profit ratios in the sector.<sup>98</sup> We were unable to make an estimate of the tax gap including post plantation palm oil production.

Prastowo explains that the tax gap in the plantation sector is driven by tax avoidance through international tax planning (legal) and, in some cases, tax evasion (illegal). He argues that both need to be addressed and that tax can instead be designed as a regulatory tool to control deforestation. Prastowo shows that tax evasion/planning tools likely to be used are

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<sup>95</sup> Through Regulation No. 18 of 2015 on Income Tax Concessions for Investment in Certain Fields and/or Areas.

<sup>96</sup> We maintain (iii) as a tax break given that the rate is lower than usual corporate tax rates: "A 10% income tax income may be applied to dividends paid to foreign taxpayers operating other than under a permanent establishment. This tax rate may be lower if a lower rate is provided for under a double taxation agreement between Indonesia and the foreign taxpayer's country of origin" (Hukumonline 2015).

<sup>97</sup> The Directorate General of Taxation strategic plan 2015-2019 sets an ambitious target to increase the tax ratio to 19% by 2019 (MoF 2014b).

<sup>98</sup> Some interviewees and reviewers reported profit to revenue ratios for some public palm oil companies as high as 82% for CPO, and 60-68% for FFB and Kernel following similar methods but more detailed analysis is required to fully understand the data available in company financial statements.

mostly related to corporate income tax and principally include: (1) foreign shareholding /ownership structures (2) thin capitalization<sup>99</sup> and (3) transfer pricing.<sup>100 101</sup>

The challenges to overcome such issues are significant, requiring action to combat tax avoidance practices and iron out international loopholes. To overcome these issues Prastowo recommends: 1) research to understand the tax gap better, 2) improving tax administration, 3) deep investigation of tax payers in the sector, 4) encouraging increased international tax cooperation and transparency and 5) enhancing tax rules to prevent tax evasion. An e-procurement/one stop shop for license application and tax/non-tax payments could also help, by collecting information in one place to highlight inconsistent practices (Prastowo 2014).

While reforming the tax system to overcome such broader systematic issues, there may be potential to simultaneously establish systems that incentivize sustainable land use behaviors (see Chapter 4 for further discussion).

### **Redistribution of Revenues**

While 20% of *individual* income tax is redistributed to local government on the basis of collection levels, no share of corporate income tax is redistributed. Of the local government share of individual income tax, 8% goes to the provinces, 12% to districts in the province, in accordance with their income tax contributions. Local government interviewees highlighted concerns that most top earning palm oil industry employees and their companies are headquartered, and thus submit their tax returns, outside of the region where their plantations are located. This means no personal income tax revenue associated with those companies is shared back to the local government in the area of production. Another interviewee pointed out that logging concessions must have a local office and therefore pay income taxes locally. Similar provisions for oil palm plantations and palm oil production may be needed to increase redistribution of income tax revenues to the local level.

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<sup>99</sup> Involves establishing a high debt to equity ratio and using high interest payments to reduce the profit, which will be taxed in Indonesia and avoid international dividend taxes

<sup>100</sup> Involves transferring goods to another business unit at low prices to reduce profit to be taxed in Indonesia. One recent court case highlighted that this practice was used by Asian Agri Group and inter alia, led to state losses of IDR 1.25 trillion (USD 134 million at 2012 conversion rates) over five years.

<sup>101</sup> Laporte and Rota-Graziosi (2015) discuss “the curse of natural resources”, specifically related to mining in developing countries where similar taxation challenges to those discussed here are often found.

## 3.8 Value Added Tax: revenues and distribution

### Introduction

Indonesia's basic Value Added Tax (VAT) (Pajak Pertambahan Nilai or PPN) rate is 10%, payable by companies exceeding sales of IDR 4.8 billion per year. A number of VAT tax holidays specific and not specific to the palm oil industry players exist. Oil palm plantation owners and biofuel producers in particular benefit from VAT exemptions. VAT exemption is available for the import of capital goods for plantation companies and CPO mills. The biofuel component of fuel sales is also exempt from VAT.

A recent court decision has clarified that smallholders and traders delivering oil palm Fresh Fruit Bunches (FFB) are required to pay 10% tax,<sup>102</sup> while special provisions apply for integrated plantation companies.

### Estimated Tax Revenues

VAT varies greatly company-to-company and year-to-year based on company structure and stage of operations. Any estimates are therefore very uncertain. Tax evasion or planning may be an issue, as discussed in Box 2. As per the approach used to estimate Income Tax above, we estimate VAT in 2012 for the plantation sector to be 527 billion (USD 56 million). Since there is no selling during development stage, palm oil companies typically pay more VAT during planting/development.

### Redistribution of Revenues

There is no direct redistribution of VAT to the local level.

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<sup>102</sup> Ministry of Finance 2014c.



## 4 Using the national tax system to influence models of land use and palm oil production

### Summary

- Low land costs and low tax combined likely factor in the expansion of plantations rather than incentivizing intensive high productivity plantation business models with reduced land take.
- Since national tax revenues shared with local government are generally low and relate almost wholly to land and buildings taxes, there might be an indirect incentive for local government to license more land in order to increase revenue redistribution. More analysis is required to understand possible linkages in detail.
- Designing and implementing an economically efficient and politically acceptable fiscal system is challenging.
- We identify six, non-mutually exclusive, opportunities to adjust tax collection, revenue allocation and revenue distribution to incentivize sustainable behaviors in the palm oil supply chain, both on the side of producers and licensors.
- We present a preliminary outline of the potential advantages and disadvantages of each option but more detailed modeling work is now needed to explore the feasibility of different options in more detail.

This chapter discusses the current and potential influence of the national tax system on models of land use and palm oil production. First, we discuss whether the current national tax system supports sustainable palm oil production in any way. Second, we provide a preliminary discussion of potential options to modify and use the tax system to incentivize sustainable behaviors, such as:

- High production yields e.g. average production yields of above 20 metric tonnes of fresh fruit bunches per hectare or above 4 metric tonnes of CPO per hectare
- Planting outside high value ecosystems (e.g. on degraded lands)
- Production of certified sustainable palm oil

## 4.1 Does the current tax system support sustainable palm oil?

### Individual tax regulations

**Land and Buildings taxes** are directly related to land value, and a higher percentage of tax is payable for plantation land (along with forestry and mining land). However several interviewees suggested taxpayers commonly apply outdated official land prices instead of market prices, presumably resulting in limited impact on the cost and need to be efficient with the land.

**Export taxes** are directly linked to production levels of different palm oil products and rates are in theory designed to encourage expansion of downstream industry. However, production remains predominantly upstream; implying that incentives may not be significant enough to shift production or at least that there may be a time lag in getting downstream infrastructure in place. It is also unlikely that an increase in downstream industries would shift upstream producers away from using more land, or using existing land more productively, particularly considering suspected profit margins.<sup>103</sup> It would likely trigger increased demand for production of raw materials for both export and domestic onward processing, probably leading to an increase in land area for production without the right safety locks in place.

As for **Income Tax and VAT**, there appear to be no direct linkages between taxation and sustainable production approaches. However, low land costs and low tax bills (supported by many corporate import/VAT tax incentives available to oil palm plantation operators and palm oil producers) combined, likely factor in expansionist rather than intensification plantation business models with reduced land take. However more analysis is required to understand possible linkages in more detail. While the actual level of uptake of tax incentives is not known, it is

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<sup>103</sup> Profit to revenue ratios for some public palm oil companies have been calculated to be as high as 82% for CPO, and 60-68% for FFB and Kernel but more detailed analysis is required to fully understand the data available in company financial statements.

likely that palm oil supply chain actors are applying for those that relate to encouraging foreign direct investment or tax treaty partners, given the high level of foreign investment in Indonesian palm oil and the evidenced low tax to GDP ratio of the sector (see Box 2).

### **Tax breaks**

There are no prerequisites for sustainable production methods for access to any of the general or industry specific income tax breaks available. While some incentives, such as support for biofuel production, are aimed at incentivizing downstream industries, as already noted above, it is not likely that increasing downstream industries would shift growers towards more sustainable production models.

### **Revenue distribution**

An estimated 11-14% (IDR 1,103 billion or USD 106 million) of total national tax revenue from the palm oil industry was redistributed to local governments in 2013. Given this low share, it is possible that local governments are using the fiscal tools within their control to increase their revenues, including licensing more land to increase associated revenues from license and permit fees, land and building taxes (from which almost all revenues return to local government), and even, potentially, unofficial payments in the informal sector. One interviewee for this study suggested that the small amount of redistribution from central government to local government might be encouraging local governments to license more land to raise fees and unofficial payments. Irawan et al. (2013) estimate financial benefits accruing to companies and each level of government from different land uses including logging, timber and oil palm plantations. They conclude that local governments have a financial incentive to seek conversion of forests to plantation, given the higher absolute revenues they receive from plantations over their lifetime. This applies not only to local government but also to national government:

“The national government obtains a very large share of the benefits, so it has a strong interest in promoting all types of land-use change. Going below the surface, each of the national level ministries (sectors) has different interests in the pursuit of the alternative land-use activities.” (Irawan et al., 2013, p.81)

More analysis is however required to determine whether *tax* revenues do in fact influence licensing decisions in practice given the range of different local government fiscal transfer mechanisms in place according to established responsibility and revenue assignments.

## **4.2 Options to modify and use the tax system to incentivize sustainable behaviors**

There are a number of opportunities to adjust the design of taxes and redistribution of revenues to positively influence sustainable behaviors in the palm oil supply chain in Indonesia. Theoretically, all taxes can be adjusted to incentivize sustainable behaviors; however some changes would be more challenging to implement than others. As discussed in detail by Mumbunan (2011) in relation to ecological fiscal transfer proposals for Indonesia, as well as more generally in the public finance literature (e.g. Mirrlees 2011), different tax collection and distribution arrangements can be justified according to economic efficiency arguments but technical feasibility and political palatability are also key considerations in tax design.

This analysis has not yet analyzed the feasibility of different proposed options in detail - more detailed modeling work is needed to do so. However, some preliminary considerations are outlined below before presenting potential options and their advantages and disadvantages.

### **4.2.1 Technical design challenges**

Firstly, from a technical perspective, interactions with non-tax regulations, incentives, and subsidies will have to be considered, as well as Indonesia's readiness to implement environmental fiscal reforms. Decisions on adjustments to individual tax instruments must be taken in full consideration of the range of other fiscal collection, allocation and distribution instruments at play (as discussed briefly in Annex II). In terms of readiness, Schlegelmilch et al. (2011) highlighted a number of difficulties experienced in Indonesia in attempting to apply fiscal reforms in the energy sector, including:

- lack of understanding and support to implement instruments across different sectors and stakeholders
- lack of strong legal frameworks for fiscal instruments, apart from law 32/2009 which established principles and basis for economic and environmental fiscal measures but has not resulted in concrete instruments
- Conflicting regulatory and fiscal instruments for natural resource extraction

One interviewee stressed that any innovative changes to tax regulation in Indonesia would require complete reform of the highest tax laws and policies. Naturally tax tariffs and rates are easier to change than changing whole tax instruments or introducing new ones. It may nonetheless be more feasible to enact change through local taxes or revenue sharing regulations.

In terms of adjusting individual taxes, Karsenty (2010, p.122) highlights the potential for tax instruments to have a “dynamic impact on companies’ strategy and behavior”, to “respond to change in fiscal pressure...through better management and technical or commercial innovation” but also stresses the challenge of setting tax rates at the right level, due to often asymmetric information between the taxpayers and tax collectors (Blackburn et al. 2012). Where taxes are low and excess profits high, perverse incentives may follow whereby sustainable resource management techniques are not employed because they require management changes and investment of time. But taxing too high results in limited capacity for businesses to invest in improvements. Another challenge which may arise is lack of information required to implement alternative tax arrangements.

#### **4.2.2 Balancing interests**

Any proposed adjustments to the current tax system would also have to be mindful of potential impacts on current benefit flows of different stakeholders, both in assessing the feasibility to enacting changes to the current system and accounting for possible counter-behaviors that could result from changes to the tax system (see Table 6 in Chapter 2 and Irawan et al. 2013 for further discussion on relative financial incentives in the current system).

Central government benefits most from large flows of tax revenue from the current system, however there is a high amount of uncollected revenue (which the current administration is targeting hard) and potentially large sums of distortionary unofficial flows. The country’s natural capital is being expended inefficiently, not least through large amounts of value being lost from the sector while it exports large portions of unrefined goods generated in low productivity approaches, compared to industry best performers. Increasing tax revenues is a key priority of the government to fill the budget deficit and reach economic development goals.

Local government is a key decision maker in approving concessions and licenses; not only for plantations but also associated infrastructure that can influence how land banks are developed for plantations. Local governments therefore have an instrumental role to play in shifting plantation and palm oil industry players to more sustainable production and land use models (i.e. increased productivity and use of degraded land), by both modifying what they license and what they invest in or support investments in. But local governments receive little tax revenue from palm oil at present, leaving little incentive or resources to support sustainable behaviors.

The palm oil industry would be supportive of increased redistribution of revenues to the local level earmarked for improving infrastructure and smallholder farmer productivity but would clearly be sensitive to any increases in overall tax payments. However, reforms that help to reduce unofficial payments over time could reduce overall costs faced by companies. Multi-national corporations face growing pressure to deliver sustainability commitments in the sector, and are concerned about who bears the cost of guaranteeing or enforcing sustainability across their supply chains. Adjustments that encourage system-wide incentives, standardized land management and best industry practices would support their efforts to transform supply chains.

Finally, systematic steps are needed to close data gaps that make it difficult to assess tax revenues and possible tax gaps. Hand in hand with any reforms of the tax system, tax monitoring/auditing capacity needs to improve considerably.

The challenges outlined above are significant. On the one hand, it may be that changing tax regulation is not the most effective way to change behaviors. On the other hand, the timing is right given that tax reform is a key priority of the current Indonesian administration, presenting an opportunity meet multiple development objectives.

#### **4.2.3 Evaluating six preliminary options**

**We identify six, non-mutually exclusive, opportunities to adjust tax collection, revenue allocation and revenue distribution to incentivize sustainable behaviors in the palm oil supply chain, both on the side of producers and licensors.** The options presented are not exhaustive, but rather, are intended to give a flavor for some of the elements that could be evaluated further to encourage more sustainable production of palm oil behaviors through the actions of palm oil producers (e.g. increasing productivity and using degraded lands),

local government (e.g. actively helping private sector to move to degraded lands when issuing new concessions), and central governments.

**1. Increase tax rates on land for plantations to encourage more intensive production and reduced licensing/expansion onto new lands.** Current rates of productivity in Indonesian plantations are reported to be very low compared to neighboring producer countries. Increasing tax rates for Land and Building Tax for plantations could encourage more intensive production models by agribusinesses by increasing the cost of land to account for environmental externalities.<sup>104</sup>

More specifically, land and building tax rates could be fixed per hectare of plantation nationally – avoiding the need for local governments to regularly calculate NJOP and also rendering payments simpler and more transparent, reducing the incidences of under payment. A multiplier could also be added for high value ecosystems and land deforested after a certain date. Or NJOP for land under plantation and idle land could be fixed at the same level while the latter is currently lower.

In fact the Government of Indonesia is actively considering reform options for land and buildings tax including removing NJOP and replacing it with price zoning or even removing land and buildings annual tax altogether, leaving just the land and buildings sales and buyers taxes.<sup>105</sup> Further work is required to investigate what prices would trigger producers to change their current land use models.

**Table 7 Preliminary assessment of advantages and disadvantages of increasing land tax rates**

<input checked="" type="checkbox"/>	Increase productivity of producers
<input checked="" type="checkbox"/>	Compensate local governments if less land is licensed since revenue collected per hectare is increased
<input checked="" type="checkbox"/>	Opportunity to update outdated official land rates and capture lost revenues
<input checked="" type="checkbox"/>	Politically difficult to implement. Simultaneous adjustments to other taxes (see below) and/or transition measures could help.

<sup>104</sup> Recent proposed changes to the way Land and Building Tax rates are calculated should increase the level of taxation but it remains to be seen to what level and effect. There are also proposals to introduce land price zoning, which could present an opportunity to optimize land allocation through a pricing mechanism.

<sup>105</sup> Jakarta Post 2015

☒	Information asymmetry – difficult to understand the elasticity/optimum level of tax needed to encourage intensive production. A process of auctioning for newly purchased land could help to set the optimum level (see Box 4 for information on how this has worked in Cameroon’s Forest Law).
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**Box 4: Lessons from competitive auctioning of forest logging concessions in Cameroon**

Karsenty (2010) draws out lessons from the Cameroonian application of auctions to allocate logging concessions and determine related annual area fees in Cameroon.

Here, the introduction of auctioned area fees encouraged new more efficient companies to enter the Cameroonian forest sector. The auction resulted in area fees higher than those initially proposed by the government and a system that captures most of the economic rent and redistributes half to the local level. But Karsenty warns that fiscal instruments will only be successful in encouraging Sustainable Forest Management if accompanied by a strong set of complementary public policies and actions. For example, mechanisms to control for volatile international commodity prices have to be integrated and care has to be taken to control for increased outsourcing, fiscal evasion and illegal logging.

Sources: Singer, 2015; Karsenty 2010

**2. Tax production area rather than production volumes or profits**, to incentivize high productivity per hectare of land and minimize the problem of tax evasion. Taxes can be shifted between instruments and do not necessarily need to increase overall. Alternatively, local environmental taxes or a new revenue sharing instrument could be introduced to make planting on deep peat and forest clearing prohibitively expensive.

Mafira and Sutiyono (2015) estimate that 93.5% of all land use revenue in Indonesia, comes from instruments based on profitability as opposed to land size (RoI 2013). Instead of taxing production volumes (as per export tax for example), it may be more effective to tax production area in order to incentivize high productivity per hectare of land.

Land area based taxes are also more difficult to evade and can be monitored inexpensively. One interviewee indicated that tax avoidance/evasion is mostly in relation to income and export taxes while land-based taxes



are harder to evade. This makes a good case for a simple land area based tax that can also be monitored inexpensively with new technology.<sup>106</sup>

**Table 8 Preliminary assessment of advantages and disadvantages of taxing more on the basis of production area**

<input checked="" type="checkbox"/>	Incentive for productivity and reduced land take
<input checked="" type="checkbox"/>	Relatively easy to monitor, reducing tax evasion
<input checked="" type="checkbox"/>	Compensates local governments if less land is licensed since revenue collected per hectare will increase
<input checked="" type="checkbox"/>	Half the land area in Indonesia is not officially registered. While improving land registration has multiple benefits, production on such land is however illegal and is not currently be taxed.

**3. Require palm oil supply chain players to meet specified sustainability criteria in order to be eligible for existing tax breaks, or introduce penalties or increased tax rates for not adhering to specified sustainability criteria.**

The direct link<sup>107</sup> between export tax and levels of production of different oil palm products, and between Land and Buildings Tax and land values, makes them ideal candidates for the introduction of supplementary criteria related to sustainability. For instance, plantations could pay lower taxes (or zero taxes) if they demonstrate:

- High production yields e.g. average production yields of above 20 metric tonnes of fresh fruit bunches per hectare or above 4 metric tonnes of CPO per hectare, meaning more production on the same land and therefore less land take.
- Planting outside high value ecosystems (i.e. on degraded lands)
- Production of certified sustainable palm oil

In addition, strong sustainability criteria prerequisites for eligibility for *existing* tax breaks or penalties would avoid tax benefits for an industry already reported to be paying relatively low rates of tax and enjoying high profit margins.

<sup>106</sup> Drones are already being used in Indonesia to monitor tax evasion. See Bloomberg 2015.

<sup>107</sup> Income tax and VAT are more far removed as they tax profits and expenditures.

In fact, the previous Government indicated that it would reduce CPO export tax rates for ISPO certified companies once the system is up and running (Jakarta Post, 2011 in Obidzinska et al., 2013). This could also help to boost demand and the attractiveness of producing Certified Sustainable Palm Oil, while premium prices have been lagging.

**Table 9 Preliminary assessment of advantages and disadvantages of introducing sustainability criteria in tax breaks or rates**

<input checked="" type="checkbox"/>	Producers can reduce their tax payments by following sustainability criteria
<input checked="" type="checkbox"/>	Such a system could be complicated to monitor and implement, e.g. to set suitable definitions and criteria for benefits
<input checked="" type="checkbox"/>	Such a system could be difficult for smallholders in particular to comply with

**4. Increase revenue distribution to local governments, with potential earmarking.** Increased redistribution of national tax revenue to local governments could help encourage local governments to license less land for production in order to raise revenues (Section 4.1), as well as provide resources to help local governments support sustainability improvements. While care must be taken to consider the broader public finance and fiscal transfer system already in place in Indonesia to assign governance responsibilities and share benefits (Annex II), there may be a case to revisit how agriculture sector tax and non-tax revenues are shared, given the sector’s current low contribution to revenue sharing. Indeed, one interviewee for this study stressed the need to revise distribution rules according to the location of externalities and where investment in the industry is needed, i.e. where palm oil is being produced. Another interviewee said: “All palm oil development happens in regions, but the regions gain nothing from it. This fosters a condition whereby regions are dependent on the plantation companies for revenue for plantation-specific development (e.g. Location Permits), instead of gaining valuable revenue transfers, which they could use independently of the plantation to build the regional economy as a whole (e.g. for infrastructure development, downstream industry development, etc).” The current government has indicated its intention to direct more funding to the regions so this option seems palatable at least on the surface.

In practice, however, it may be very challenging to modify the revenue sharing allocations for individual taxes given that they have already been fixed relatively recently, and through a politically challenging process, on the

basis of broad principles of assignment of responsibilities following Indonesia's process of decentralization.<sup>108</sup> It may therefore be more feasible to consider introducing a new non-tax natural resource revenue sharing instrument for cash crop plantations as opposed to sharing existing tax revenues. Furthermore, an area based revenue sharing instrument could incorporate the benefits discussed under option 2 above and could replace other taxes in order not to increase the overall level of taxation incumbent on producers.

A non-tax natural resource revenue sharing instrument would also appear to be easier to earmark for spending on particular activities. Mafira and Sutiyono (2015) note that non-tax instruments have been earmarked and therefore show flexibility to be allocated towards land use activities, while tax instruments have not been earmarked (with the exception of a few regional taxes), making tax instruments less flexible in their allocation.

Earmarking may be considered economically inefficient from a distributive perspective – many would argue that jurisdictions can more efficiently and effectively plan their spending when transfers are untied - but desirable from an allocative perspective, in terms of securing environmental outcomes (Mumbunan 2011). Indeed, increased transfers to the local level are not guaranteed to improve sustainability. Earmarking funds can help encourage local governments to invest in improved sustainability of the palm oil industry or improved protection for high ecosystem value areas and technical assistance could be provided to help plan, monitor and report the effectiveness of spending.<sup>109</sup> Mumbunan (2011) discusses the limited precedence in Indonesia of earmarking local government finance for environmental purposes, including the Reforestation Fund<sup>110</sup> and some specific purpose transfers for limited environmental activities.<sup>111</sup>

Other options to increase the flow of revenues to the local level include introducing more palm oil related local taxes and/or a requirement for the headquarters of palm oil companies to be located locally in order to have permits to be approved (as per timber permits in some provinces), leading to more locally shared income tax.

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<sup>108</sup> For instance, taxes with less local relevance/extractability or lower spatial economic impact are often centralized, as well as those which serve distributive purposes or are sensitive to macroeconomic instability. Furthermore, local capacity and corruption are considerations (Mumbunan 2011).

<sup>109</sup> The Brazilian Programme for the Sustainable Production of Palm Oil, under which the Brazilian governmental agricultural research agency, Embrapa, for instance, determines which areas deforested and degraded by cattle ranchers are apt for planting with oil palm, thus directly targeting state revenue towards enabling sustainable oil palm practices. According to Embrapa, some 10.4 million hectares of already deforested and degraded land are available. One agronomist has however raised concerns about lack of "necessary controls and oversight" to prevent undesirable environmental and social consequences (Frayssinet 2013).

<sup>110</sup> formerly part of specific purpose transfers to local government and now part of the natural resource revenue sharing agreements

<sup>111</sup> Including e.g. water quality and pollution control and water resource protection facilities.

Local taxes adjustments would require Law 28/2009 to be revised (also see Schlegelmilch et al., 2011) and options for revision of the law are in fact currently under discussion in the Ministry of Finance in Indonesia.<sup>112</sup> Introducing a non-tax revenue sharing mechanism would require revision of Government Regulation 55/2005 on Revenue Sharing or GR 48/2012 on Non-Tax State Revenue Applicable to Plantations.

An interviewee representing the palm oil industry suggested that the palm oil industry would likely support the idea of sharing more (tax) revenue to local government, provided that overall taxes do not increase and particularly if the revenue is earmarked back to the plantation sector. Revenue shared could be targeted to support smallholders in increasing their productivity e.g. by providing high quality seeds and fertilizer or providing access to financing or financial support for replanting years, technical assistance for farmers and building necessary local infrastructure. The same representative noted however that any increase in local taxation would not be welcomed by palm oil companies, particularly as the industry currently invests a lot in basic infrastructure. At the moment there are no rewards for companies that provide basic local infrastructure and on the contrary, they are taxed considerably for road use, lighting etc., irrespective of whether they funded the infrastructure or not.

**Table 10 Preliminary assessment of advantages and disadvantages of increasing revenue distribution to local governments**

<input checked="" type="checkbox"/>	Local governments are empowered to increase productivity of existing production land and increase protected areas
<input checked="" type="checkbox"/>	Local governments share benefits related to their natural capital
<input checked="" type="checkbox"/>	Industry would not be in favor of an additional fee. As discussed above, a new revenue-sharing mechanism could replace some elements of existing taxes or fees to compensate.
<input checked="" type="checkbox"/>	Sustainability outcomes are not guaranteed without earmarking and earmarking may not be very effective or efficient

<sup>112</sup> See MoF 2014d. The article highlights issues that would need to be tackled in any revision: variable interpretation of the law in different regions, low capacity of local tax offices and low capacity from MoF's national office to provide training and oversight of local tax offices.

## **5. Tie redistribution of fiscal revenues to sustainability performance indicators tracking local governments' progress on sustainable palm oil production and protection of high ecosystem value areas in their province.**

In theory, the way in which tax revenues are redistributed could be modified in order to incentivize local governments to support sustainable palm oil production and protection of high ecosystem value areas, by basing redistribution on sustainability criteria. Land and buildings tax and export tax would be ideal candidates since their design already links directly to palm oil production volumes and land area, unlike income tax or VAT for instance.

In practice, however, it may be very challenging and complex to modify the revenue sharing allocations for individual taxes on the basis of sustainability criteria, particularly given that they have been fixed relatively recently, and through a politically challenging process, on the basis of broad principles of assignment of responsibilities following Indonesia's process of decentralization. As discussed further in Annex II, it is necessary to consider any possible changes holistically with the whole fiscal system in mind.

Alternatively, sustainability criteria could be incorporated into other revenue sharing instruments' formulae – for non-tax sharing or other general fiscal transfers. Mumbunan (Mumbunan 2011; Mumbunan et al. 2012) discusses current and potential future “ecological fiscal transfers” at length, noting they are currently limited in scope in Indonesia, including land area or forest area metrics in the allocation formulae of some fiscal transfer instruments. Mumbunan goes so far as to say that: “The Indonesian system of natural resource revenue-sharing has not aimed at financing the planned replacement of economies based on exhaustible resources with an alternative, more sustainable one. Indeed, the present system appears to neglect both inter-temporal and inter-generational dimensions of transfers.” (Mumbunan 2011, p.161). As such, provinces with oil, gas and mining operations receive substantial shares of revenue from these sectors, for as long as they are active, while other provinces receive no share of those revenues. Meanwhile, provinces focused on agriculture and plantations receive almost no share of revenue from those activities and provinces that maintain large areas of intact forest or peatland are not compensated for the maintenance or opportunity costs associated with maintaining those cross-jurisdictional public goods and services.

Some countries have incorporated environmental indicators in their fiscal transfer systems to incentivize and

compensate jurisdictions for their protected area<sup>113</sup> coverage for instance – with protected areas being a relatively simple indicator to monitor and reflect broader sustainability efforts such as limiting production area. Mumbunan et al. (2012) argue that a protected area indicator would be best incorporated in Indonesia’s fiscal transfer system in the General Purpose Transfer (DAU), to allow flexibility in the activities jurisdictions fund and to incorporate the increased fiscal needs that protected areas imply into the formula which addresses fiscal gaps.

Brazil’s ICMS-E (Imposto Sobre Circulação de Mercadorias e Serviços – Ecológico) program serves as a useful example. Under the program, 16 out of 26 states have opted to include indicators for nature conservation for the redistribution of VAT revenues among municipalities (Gramkow, 2015). Forthcoming research shows a positive correlation with protected area shares in those states as a result of the program (Gramkow, 2015; Droste et al., 2015).

In 2007, Portugal incorporated ecological considerations in its general purpose transfers in the revised Local Finances Law, recognizing that municipalities with protected areas face additional costs (including opportunity costs from not developing) and that the benefits of protected areas is a cross-jurisdiction public good. 5-10% of the municipal general fund is now shared on the basis of the extent of protected areas in different municipalities (Mumbunan 2011; Mumbunan et al. 2012; Santos et al 2010, 2012).

Most recently, in 2015, India also took a major step to incentivize forest protection by incorporating a forest cover indicator<sup>114</sup> into the formula used to redistribute national tax revenues to states.<sup>115</sup>

**Table 11 Preliminary assessment of advantages and disadvantages of ecological fiscal transfers**

<input checked="" type="checkbox"/>	Payment for performance, results are incentivized and guaranteed
<input checked="" type="checkbox"/>	Local governments are compensated for encouraging sustainable production and for maintaining protected areas
<input checked="" type="checkbox"/>	Monitoring might be tricky but not impossible if it builds on existing MRV systems

<sup>113</sup> In some cases with quality indicators.

<sup>115</sup> Busch 2015

**6. Gradually address unofficial payments in the informal sector.** One interviewee for this study suggested that unofficial payments by oil palm plantations in some regions could be as high as 20% of their total costs and outweigh payments of official taxes and non-tax official fees. Accounting for or even eliminating these payments has to be part of an effective fiscal solution to encourage sustainable palm oil supply chains, otherwise they will continue to undermine policy incentives.

Unofficial payments might be addressed gradually by removing some powers associated with those payments (i.e. licensing concessions) and introducing increased official taxation and redistribution of resources to local government with earmarking related to supporting palm oil sector sustainability and increased productivity. Thus there would be no net impact for the palm oil businesses, but central and local governments would benefit from increased revenues. Such a proposal needs more concrete analysis on the political economy of how to phase in such changes and really make it happen given strong interests from various sides.

Lowering or removing license fees so revenues are focused on taxation paid over the lifetime of a plantation business rather than in one lump sum payment would help to remove local government short (electoral) term incentives to maximize rents and license more, as well as helping to limit unofficial flows.

As a transition measure, Karsenty (2010) suggests that “performance bond” schemes could see companies rewarded with certification and tax cuts if they undergo additional independent auditing while international donors, in turn, compensate the Government, for tax revenue losses.

**Table 12 Preliminary assessment of advantages and disadvantages of addressing unofficial payments**

<input checked="" type="checkbox"/>	Reduce costs for producers, by reducing unofficial payments
<input checked="" type="checkbox"/>	Increase public revenues to be spent on public goods by reducing lost revenue
<input checked="" type="checkbox"/>	Difficult to change status quo and multiple regulations that may support unofficial payments

**Each of these potential solutions should be further tested for feasibility and potential to incentivize sustainable behaviors.**

## 5 Conclusions and recommendations for further research

This study presents first estimates of tax revenues from the palm oil industry. It highlights relatively low levels of tax collection from the industry as well as low levels of redistribution of revenues to local governments, reinforcing findings from a companion CPI study that looks at the broader land use sector (Mafira and Sutyono, 2015).

We find that existing national tax regulation appears to be at best neutral in terms of its *direct* impact on the land use practices of the palm oil industry but, at worst, there may be some indirect negative relationships.

With these findings in mind, this paper proposes for further analysis some possible modifications of the national tax system to encourage more sustainable production of palm oil (see Section 4.2), including in brief:

- Increase Land and Buildings Tax rates for plantations
- Tax production area rather than production volumes or profits
- Require palm oil supply chain players to meet specified sustainability criteria
- Increase the redistribution of fiscal revenues to local governments
- Tie redistribution of fiscal revenues to sustainability performance indicators
- Gradually address unofficial payments

These options are not mutually exclusive or exhaustive but give a flavor for some of the potential options that could be integrated into the national tax system or broader fiscal system to encourage more sustainable production of palm oil. Such options would need to be tested for cost effectiveness and feasibility with key stakeholders.

### **Recommendations for further research**

This study's estimates of the contribution of the palm oil industry to national tax revenues are necessarily preliminary and partial, as major data gaps prohibit a full understanding, particularly related to contributions from downstream processing. Data gaps make detailed recommendations challenging. Additional follow-up



work is needed to explore how other types of land use are being taxed, as well as what non-tax public revenue and unofficial revenues are being raised from various forms of land use and how all of these fees interact. A detailed understanding of the mix of existing and eventual incentives embedded in a fiscal reform is the key to design a tax system that would incentivize a more efficient use of the country's natural capital and promote higher sustainability. One possible analytical way forward could be joint work with individual entrepreneurs in the palm oil industry who wish to positively change the fiscal incentive and revenue distribution framework, as well as a case study carried out jointly with the local government to develop further insights.

This current analysis is a first foray in the topic, mostly based on publicly available data, often proxied with necessary assumptions, combined with selected expert interviews. The analysis would greatly benefit from improved data access and expert insights from central government, local government and palm oil companies themselves. A deeper analysis of potential tax reform options and their potential implications on government and business' behavior is required before concrete recommendations can be offered. It would also be useful to better understand how the progress of current sustainability movements (e.g. ISPO, RSPO, Zero Deforestation commitments, IPOP) related to palm oil production could potentially be supported or reinforced by the tax system.

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## 7 Index of selected abbreviations

APBN: Anggaran Pendapatan Belanja Negara (Indonesian state budget)

BLU: Badan Layanan Umum (special public services agency established by the Ministry of Finance to manage the funds outside of the state budget system)

CPO: Crude Palm Oil

CPKO: Crude Palm Kernel Oil

HGU: Business use rights license

IPOP: Indonesia Palm Oil Pledge

ISPO: Indonesian Sustainable Palm Oil system

NJOP: Nilai Jual Objek Pajak (Tax Object Sale Value)

NJKP: Nilai Jual Kena Pajak (Taxable Sale Value)

NJOPTKP: Nilai Jual Objek Pajak Tidak Kena Pajak (Non-Taxable Sale Value)

NPOP: Nilai Perolehan Objek Pajak (Tax Object Purchase Value)

NPOPTKP: Nilai Perolehan Objek Pajak Tidak Kena Pajak (Non-Taxable Purchase Value)

PPh: Income Tax

PBB: Land and Buildings Tax

BPHTB: Land and building tax buyer's tax

PPh-BB: Land and Buildings Seller's / Income Tax

PPN: Value Added Tax

RSPO: Roundtable on Sustainable Palm Oil

WPOPDN: individual income tax

## Annex I: Summary of methods used to estimate tax revenues, associated weaknesses and missing data

Item	Approach	Approach weaknesses	Missing data
Tax totals and tax to GDP calculations	Data taken directly from public reports and adjusted using sectoral GDP ratios.	Sectoral GDP data was reported to be unreliable by some interviewees.	Tax revenue data for the palm oil industry/value chain, including plantations, manufacturers and processors.
Export tax	Bottom up calculation using production and price statistics.	Export data may be misreported in some cases.	Data on export tax actually collected.
Land and Buildings Tax	Land and Buildings Plantation data	Includes all plantations, not just oil palm.	Land and Buildings tax paid by downstream industry, manufacturers and processors.
Land and Buildings Buyer's Tax	Apply % of Land and Buildings Plantation to Land and Buildings total to Buyer's Tax reported revenue data.	Excludes downstream manufacturing and processing industry contributions. Contributions may be less due to property changing hands as part of company acquisitions.	Data on plantation and palm oil industry contribution.
Land and Buildings Seller's Tax	Assumed equal to Buyer's Tax.	May be less than Buyer's due to IDR 60 million threshold for payment. Excludes downstream manufacturing and processing industry contributions. Contributions may be less due to property changing hands as part of company acquisitions.	Data on plantation and palm oil industry contribution.
Income Tax and VAT	Apply % of GDP for plantation/total GDP for "Agriculture, Animal Husbandry, Forestry and Fishery" to tax revenue data reported for the "Agriculture, Animal Husbandry, Forestry and Fishery" sector.	One interviewee claimed that GDP sectoral data is unreliable. The estimate includes plantations only so excludes downstream manufacturing and processing industry contributions.	Data on plantation and downstream palm oil industry contribution.



## Annex II: The broader fiscal system

Beyond tax, the broader landscape of public revenue collection instruments, public subsidies and regulations, as well as revenue allocation and distribution potentially have or could have an influence on palm oil production and land use models in Indonesia (Schlegelmilch et al., 2011). Further study is required to understand these elements and their influence in more detail. The sample of regulatory requirements listed below gives a preliminary sense of the many bureaucratic procedures to be complied with by palm oil producers and associated payments. One interviewee for this study suggested that unofficial payments by oil palm plantations in some regions could be as high as 20% of their total costs and outweigh payments of official taxes and non-tax official fees. Another interviewee described the palm oil business as “politically lucrative...a source of official non-tax or unofficial fees. Every permit, every letter, has a price”. The same interviewee also stressed political benefits associated with opening up plantations and hiring staff that could help build political support.

A holistic approach is therefore needed to look at the whole suite of incentives, regulations, rent collection and distribution mechanisms associated with palm oil production in Indonesia, to understand what adjustments can be made to achieve the desired effect.

### Regional and Local Taxes

Regional taxes, which may be of particular relevance for palm oil businesses, include:

- motor vehicle taxes (PKB)
- vehicle transfer duty (BBNKB)
- Surface Water Tax (PAP) although smallholder plantations are exempt
- 

Local (district) taxes which may be of particularly relevant for palm oil businesses include:

- advertisement
- groundwater
- urban and rural land and buildings tax

- land and buildings transfer duty (BPHTB), which is however discussed in this paper.

### **Permits and licenses**

Other regulatory requirements for plantation companies, which generate revenues for local and central government (in particular via Ministry of Forestry) and clearly have very close links to land use patterns include:

- Location licenses
- Land titles
- Land use rights
- Reforestation fee
- Business use rights (HGU) – revenues from this permit are collected by central government
- Environmental Impact Assessments (AMDAL)
- Environmental Permits
- Plantation Business Permit (IUP)
- Decree of Forest Estate Release
- Timber Use License /Izin Pemanfaatan Kayu (IPK)<sup>116</sup>

### **Regulation**

Furthermore, a number of other important regulations influence plantation companies' ownership structures and operations, including e.g.:

- Investment Law 25/2007: prohibits share ownership and control through nominee agreements where certain shareholders have limited powers

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<sup>116</sup> Licenses provided to harvest existing timber on land with plantation concessions is often cited as a primary economic motive for deforestation, the plantation income (requiring more investment) secondary, if at all (Mumbunan 2014; Obidzinski 2013; EIA 2014; Kartodihardjo and Supriono in Irawan 2013). Districts issuing these licenses receive a portion of revenues back via e.g. the reforestation fund. This practice causes land degradation and encourages more expansive land use than is necessary for plantation purposes.

- Presidential decrees 77/2007 and 111/2007: limit foreign investors to 95% in a palm plantation company
- Ministry of Agriculture/National Land Agency Regulation 2/1999 on location permits/licenses: limits plantation to 20,000 hectares in one province and 100000 throughout Indonesia (allowance doubled for Papua)

## Subsidies

McFarland et al. (2015) identify the following subsidies (of various forms, some but not all related to taxation) that apply to palm oil production in Indonesia:

- Interest rate subsidies for R&D to develop new seed strains and seedlings and funding for nurseries (although government spending on agricultural R&D is relatively small in Indonesia and has the potential inter alia to boost sustainability)
- Subsidy on provision of seeds and saplings at reduced costs via State Owned Enterprises
- Fiscal incentives including concessional loans<sup>117</sup>
- Income tax breaks (discussed in this paper)
- Differential export taxes on crude and refined palm oil (discussed in this paper)
- Incentives for production of biofuels and biodiesel including income tax and VAT concessions (as well as corporate investment tax breaks also discussed in this paper), subsidies of the market price of biodiesel<sup>118</sup>, government coverage of state owned Pertamina's losses resulting from biofuel blending and guidance on obtaining permissions for biofuel businesses (Regulation No. 051/2006).
- Incentives for smallholders in form of interest rate subsidy. Under Kredit Pengembangan Energi Nabati-Revitalisasi Perkebunan (KPEN-RP), the Indonesian Government cooperates with private banks, whereby the banks provide loans to smallholders and the government subsidizes the interest rate (as per Ministry of Finance Decree No 117/PMK06/2006).<sup>119</sup>

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<sup>117</sup> For farmers of biofuel crops and SMEs in the food and biofuel industry.

<sup>118</sup> McFarland et al. (2015) estimate that this amounts to up to USD 270 million of support per year.

<sup>119</sup> McFarland et al. (2015) reproduce an estimate of USDA that between 2000 and 2009, interest rate credits aided the establishment of 1.1 million ha of new oil palm plantations. Meanwhile, the credit interest subsidy for farmers of biofuel crops (Subsidi Bunga Kredit

In addition the authors identify several other broad agricultural subsidies that affect palm oil production including:

- Regulations and policies related to access to land
- Subsidies for key inputs such as fertilizers and transport fuels sold by State Owned Enterprises, resulting in price ceilings for farmers
- Transport, energy and utility infrastructure investment as part of the national economic master plan (MP3EI).<sup>120</sup> Support through the MP3EI is also allocated for R&D on productivity that could boost sustainability.
- Domestic fuel blending mandate and cooking oil subsidies, which boost demand

Many of these subsidies are focused on incentivizing domestic down-stream processing, which adds value before export and enhances food and fuel security (cooking oil and biofuels). McFarland et al. describe a shift in public support for palm oil in Indonesia in the last decades, away from concessional loans, direct state investment (often tied to migration programs) and support for access to land (concession allocations, streamlining of investment and permitting procedures) to support for deregulation and privatization. However, some forms of direct state investment and public private partnership continue as well as a number of tax exemptions explored in this paper. McFarland et al. (2015) estimate the value of subsidies to the palm oil industry to total more than USD 17 billion annually.

### **Revenue sharing**

Mumbunan (2011) and Mafira and Sutiyono (2015) describe in detail the sources of public finance available to local governments in Indonesia, including limited local own source revenues and taxes and dominating intergovernmental fiscal transfers. The key intergovernmental fiscal transfer mechanisms are illustrated in the

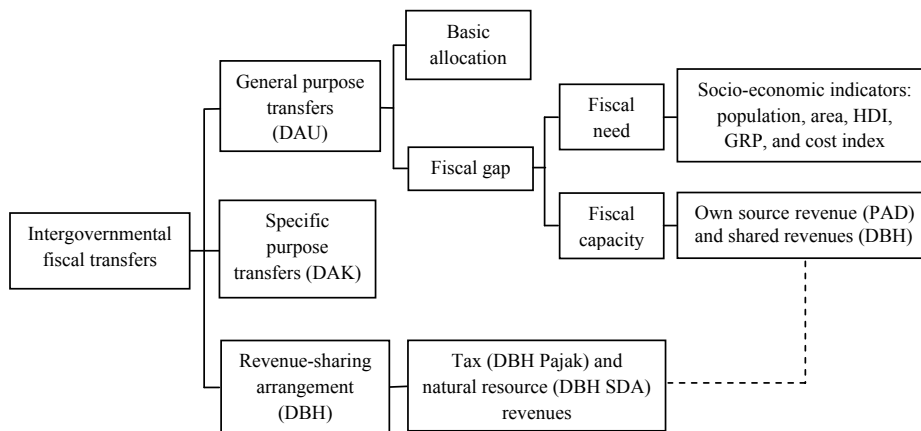
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Biofuel (KPEN-RP) amounted to IDR 76.986.565.900 in TA 2012 and IDR 74.504.074.566 in TA 2011 (Laporan Keuangan Pemerintah Pusat 2012).

<sup>120</sup> McFarland et al. (2015) estimate that “Between 2011 - 2014, IDR 323 trillion (US\$ 34.5 billion (at 2011 USD prices, OECD data)) and IDR 124 trillion (US\$ 13.3 billion (at 2011 USD prices, OECD data)) was committed for expenditure on transport, energy and utilities, in those regions respectively.”

diagram below. As discussed preliminarily in Section 4.2.3., these mechanisms may influence or could be used to influence local government land management behaviors.

Figure 28 Intergovernmental fiscal transfers in Indonesia



Source Mumbunan et al. 2012.

## Annex III – individual tax summaries

Figure 29 Export Tax: Overview

<b>Title:</b> Export Tax
<b>Regulation:</b> UU 10/1995, 128/PMK.011/2013
<b>Indonesian Abbreviation:</b> Bea Keluar (Export Duty)
<b>Basis of taxation:</b> exported volume by weight
<p><b>Rates:</b>  Tax is calculated as follows:  1. Export Duty Tariff x Export Reference Price Per Unit x Units of Good x Currency Exchange  or  2. Export Duty Tariff in Certain Currency x Units of Good x Currency Exchange  Export Duty Tariffs are defined by Permenkeu 75/PMK.011/2012 as amended by 128/PMK.011/2013.  Export Reference Prices are set monthly by DG Custom and Duty using CIF Rotterdam CPO prices as a reference.</p> <p><b>Category I: Fruit Bunches, Seedlings, and Kernels</b>  Export Duty Tariff for is 40% and for Oil Cake and other solidified residues of FFB, Seedlings, and Kernels is 20% independent of export prices.</p> <p><b>Category II: Crude Palm Oil, Crude Palm Kernel Oil and hydrogenated equivalents</b>  The Export Duty Tariff ranges from 0-22.5% depending on export price ranges.</p> <p><b>Category III: Crude Palm Olein and Stearin variants and Fatty Acid Distillates</b>  The Export Duty Tariff ranges from 0-15% depending on export price ranges.</p> <p><b>Category IV: Refined, Bleached and Deodorized Palm products</b>  The Export Duty Tariff ranges from 0-13% depending on export price ranges.</p> <p><b>Category V: RBM Palm Olein in branded packaging under or equal to 25kg and Biodiesel from Palm Oil</b>  The Export Duty Tariff ranges from 0-7.5% depending on export price ranges.</p>
<p><b>Special provisions for palm oil?</b>  0% tax rate applies for all products until a certain price limit. Limit is higher for more processed products.</p>
<p><b>Who collects the tax?</b>  Customs Office, which falls under DG Customs and Excise, not DG Tax.</p>
<p><b>Distribution:</b> All export duty revenue goes to central government and does not get</p>

earmarked for revenue sharing back to the regions.
<b>Are there differences in how it is applied to different sizes and types of actors? E.g. for smallholders vs private producers, mill owner vs plantation owner etc?</b>
No
<b>References (in addition to regulations listed above):</b> <a href="http://djpen.kemendag.go.id/app_frontend/contents/48-tax-procedure">http://djpen.kemendag.go.id/app_frontend/contents/48-tax-procedure</a>

**Figure 30 Land and Buildings Tax: Overview**

<b>Title:</b> Land and Buildings Tax
<b>Regulation:</b> UU 12/1985, 12/1994, PP 48/1997, PP 25/2002
<b>Indonesian Abbreviation:</b> PBB
<b>Basis of taxation:</b> designated value of land or building owned/used (NJOP)
<b>Rates:</b> land and building tax levied annually on holdings of land or buildings:  - For Objects with NJOP of up to IDR 1 billion: 0.5% X NJKP (which is 20%) X [NJOP – NJOPTKP (which is IDR 12 million)]  - For Objects with NJOP of above IDR 1 billion, and for plantation, forestry, and mining land: 0.5% X NJKP (which is 40%) X [NJOP – NJOPTKP (which is IDR 12 million)]  Where Nilai Jual Objek Pajak (NJOP) is the standard average official price of land or buildings, set by local government based, interalia, on actual market values. Nilai Jual Objek Pajak Tidak Kena Pajak (NJOPTKP) is the Non Taxable Sales Value, applicable for rural zones only, which is set at IDR 12,000,000 for each taxpayer. NJOP is published by MoF on January 1 <sup>st</sup> each year or every 3 years depending on each region’s rate of development. It is set according to regulation Permenkeu No. 150/PMK.03/2010 on Classifications and Determination of NJOP as a Basis for PBB Tax.  For taxation purposes land plots are divided in accordance with spatial planning zones (meaning if a purchaser were to purchase two plots of adjacent land, different NJOP may apply for each plot). For NJOP valuation purposes, land is classified into urban, rural, forestry, plantation, and mining areas.  For plantations, NJOP is calculated by taking into account not only the land value, but also the plant investment value. The formula for Plantation NJOP is: Plantation NJOP = (Land size x Land NJOP*) + (Building size x Building NJOP) *{Land NJOP = Land Value + Standard Plant Investment <sup>121</sup> }

<sup>121</sup> Government estimate of the value of labor, raw materials, and equipment invested in opening land, planting, and maintaining the plantation.

<p><b>Special provisions for palm oil?</b></p> <p>According to DG Tax regulation PER-64/PJ/2010, NJOP for plantation land is calculated based on the price of similar land if the land was not purchased.</p> <p>With 25/2002 however, all plantation, forestry and mining land has a taxable sales value (NJKP) of 40%.<sup>122</sup></p>
<p><b>Who collects the tax?</b></p> <p>The tax is payable in the district where the land and or buildings are located. It is collected by the district Local PBB Tax Office.</p>
<p><b>Distribution:</b></p> <p>GR No. 16/2000 and KepmenKeu No. 82/KMK.04/2000 on Revenue Sharing from PBB Tax between Central and Regional Government stipulates how revenues from PBB will be distributed between Central and Regional Government. 10% is distributed to central government and 90% to local government. 10% to central is then redistributed evenly back to districts (65%) and the remainder (35%) to districts which (over) achieved realization targets.</p> <p>The 90% portion going to local government is split into 16.2% for the respective provinces and 64.8% for the respective districts plus a 9% collection fee which is distributed in varying proportions for each sector (urban, rural, plantation, forestry and mining) between DG Tax (predominantly) and local government. The meaning of "respective" province/ district here means that it gets distributed back proportionally to the district where it came from.</p>
<p><b>Are there differences in how it is applied to different sizes and types of actors? E.g. for smallholders vs private producers, mill owner vs plantation owner etc?</b></p> <p>No.</p>

**Figure 31 Land and Buildings Buyers' Tax: Overview**

<b>Title:</b> Land and building tax/duty on acquisition of land or buildings (purchase tax)
<b>Regulation:</b> UU 21/1997, UU 20/2000
<b>Basis of taxation:</b> value of land or building owned/used
<b>Indonesian abbreviation:</b> BPHTB
<b>Rates:</b> land and building tax/duty on acquisition (BPHTB) levied upon acquisition of buildings or business use rights, paid by the buyer: 5% of standard average official price of land or buildings (NPOP) or actual purchase price (whichever is higher), minus the Non-Taxable Sale Value, Nilai Perolehan Obyek Pajak Tidak Kena Pajak (NPOPTKP). The NPOPTKP is a maximum IDR 60 million (except for inheritance transfers).
<b>Special provisions for palm oil?</b>

<sup>122</sup> Also see <http://www.pajak.go.id/content/seri-pbb-ketentuan-umum-pajak-bumi-dan-bangunan-pbb?lang=id> and <http://www.pajak.go.id/sites/default/files/BookletPBB.pdf>



No
<b>Who collects the tax?</b> Local revenue office (Dispenda)
<b>Distribution:</b> remains within the District where it is collected.
<b>Are there differences in how it is applied to different sizes and types of actors? E.g. for smallholders vs private producers, mill owner vs plantation owner etc?</b> No, the difference of PBB would be in the size of the plot and the type of zone classification it is in which affects the NJOP.

**Figure 32 Land and Buildings Sellers' Tax: Overview**

<b>Title:</b> Tax on transfer of land and buildings
<b>Regulation:</b> GR 48/1994, GR 27/1995, GR 79/1999, GR 71/2008. Payment is considered fulfillment of PPh Article 25 obligations.
<b>Basis of taxation:</b> Income from land or building transferred
<b>Indonesian abbreviation:</b> PPh-BB
<b>Rates:</b> Income tax on transfer of land and buildings paid by the seller: 5% of purchase price or NJOP if higher. PPh-BB is not applicable if transfer price is less than IDR 60 million.
<b>Special provisions for palm oil?</b> No
<b>Who collects the tax?</b> Payable in the district, city, or province where the land and or buildings are located. Tax is paid to Bank Persepsi – bank appointed by the Ministry of Finance to receive tax payments.
<b>Distribution:</b> 20% to Local Government and 80% to Central Government. Of the 20%, 8% to the relevant province and 12% to the relevant district. Of the 12%, 8.4% to the municipality where the taxpayer is registered, and 3.6% evenly to all municipalities in the province. (Article 8 PP No. 55 of 2005 on Balancing Funds).
<b>Are there differences in how it is applied to different sizes and types of actors? E.g. for smallholders vs private producers, mill owner vs plantation owner etc?</b>

**Figure 33 Income Tax: Overview**

<b>Title:</b> Income Tax
<b>Regulation:</b> Law No. 7 of 1983, Law No. 7 of 1991, Law No. 10 of 1994, Law No. 17 of 2000, Law No. 36 of 2008 on Income Tax
<b>Subject and Object of taxation:</b> Profits of companies and individuals
<b>Indonesian abbreviation:</b> PPh
<b>Rates:</b> Income taxes on corporation's income

According to **Articles 6 and 17**, domestic corporate taxpayers pay 25% on profits, calculated as:

- [gross revenue] minus [costs to obtain, claim, and maintain revenue]
- whereby "costs" include:
  - operational costs (pension fund fees, insurance premiums, waste management etc),
  - currency exchange losses,
  - non-claimable credit,
  - depreciation of expenditure to acquire assets\*,
  - capitalization of expenditure to acquire assets with more than a year of utility\*\*.
  - Input VAT for purchase of capital goods (e.g. FFB)

If the balance is a loss, the loss can be carried forward for the next 5 years.

### **General tax breaks**

Public company corporate taxpayers may receive a 5% tax break on the normal corporate tariff. Eligible public companies are those with at least 40% of their paid-in shares publicly owned, and the "public" should consist of at least 300 individuals, each holding less than 5% of the paid-in shares. Small enterprises (with turnover under IDR 50 billion per year) are eligible for a 50% tax cut on earnings up to IDR 4.8 billion.

Article 22 Tax (Creditable against Final Income Tax) is typically applicable to payments for import of certain goods (0.5 - 7.5%); the sale of goods to the government or SOEs (1.5%); the purchase of fuel; lubricants, cement, paper, steel, automotives, pharmaceutical products; the purchase of materials by manufacturers or exporters in forestry, plantation, agriculture, cattle breeding and fishery from wholesalers (0.25%). Manufacturers or exporters in plantation and agriculture can collect Article 22 Tax from wholesalers without being appointed by the DGT to undertake this.

Under regulation number 1/2007, revised by regulation 62/2008, tax breaks are available from DG Tax at the discretion of the BKPM chairman for limited liability companies to encourage foreign direct investment and domestic investment in certain industries and regions.\*\*\* Such incentives include reduction of net income of up to 30% of amount invested (split over 6 years), accelerated depreciation deductions, extension of period for which tax losses can be carried forward for up to 10 years, reduction of withholding tax rate on dividends paid to non-residents to 10% (or lower if tax treaty available). Other tax breaks are available for companies located in bonded zones or Integrated Economic Development Zones (Kawasan Pengembangan Ekonomi Terpadu/KAPET<sup>123</sup>).

Indonesian tax residents' treaty partners (that do not have a Permanent Establishment in Indonesia) are eligible for tax benefits in the form of withholding tax exemptions for service fees, or reduced withholding taxes on dividends, interest, royalties and branch profits.

<sup>123</sup> There is a KAPET in Central Kalimantan. KAPET DAS Kakab includes Pangkaraya, Pulang Pisau, Kapuas, and Barito Selatan districts.

### Income taxes on individual's income

Article 21: Employers are required to withhold income tax from **salaries** payable to their employees and pay the tax to the state treasury on their behalf. The same withholding tax is applicable to other payments to non-employees e.g. individual consultants or service providers.

Article 23: Tax on income paid **to resident taxpayers** at a rate of either 15% of gross amounts on: dividends, interest, royalties, prizes and awards or 2% on rental of assets other than land and buildings, forest felling services, etc.

Article 26 Withholding tax of 20% payable on payments from resident tax-payers, organizations and representatives of foreign companies **to non-residents**, e.g. dividends, interest, royalties, fees, prizes, pensions, gains from debt write-offs, etc.

### **Special provisions for palm oil?**

\* From 2009 onwards, the depreciation of development stage plantation expenses is automatically allowed to be deferred until the plantation trees have matured. This allows companies to deduct high expense of planting in initial years (VAT from planting stage) from tax due when the plantation is mature and sales are made.

\*\* Most expenses incurred during development/ planting stage are capitalized as "immature plantation" for accounting purposes. Employee related expenses cannot be capitalized however. The cost of acquiring original land titles and licenses is also not allowed to be capitalized and amortized.

\*\*\*Tax breaks are available for palm cooking oil producers in Sumatera and Kalimantan according to regulation 52/2011, with investments of greater than USD 60 million, employing over 100 people and integrated processing companies.<sup>124</sup>

CPO mills are eligible for the following exemptions:

- Art. 22 Tax Prepayment Exemptions on the importation of capital goods
- Import duty exemption under BKPM Master List.

Renewable energy companies, presumably including those producing biodiesel from palm oil, are eligible for corporation tax holidays for a period of five to ten years and thereafter a 50% reduction for two years. To be eligible taxpayers should be incorporated in Indonesia no earlier than 14 August 2010, have an capital investment plan of at least IDR 1 trillion, deposit a minimum of 10% in banks located in Indonesia, not withdraw their deposit prior to realization of investment plan and apply within 14 August 2014.

### **Who collects the tax?**

Income tax is paid to the State Treasury through a designated tax-payment bank (bank

<sup>124</sup> <https://staff.blog.ui.ac.id/martani/files/2013/02/PPh-Badan-PP-1-Tahun-2007-j.o.-62-Tahun-2008-j.o.-52-Tahun-2011-Fasilitas-PPh-Usaha-Tertentu.pdf>

persepsi). Accompanying tax returns must be filed with the Indonesian Tax Office, in the province in which the company's HQ is registered.
<p><b>Distribution:</b> Personal income tax is redistributed 80% to central government and 20% to local government. Of the local government share, 8% goes to the provinces in accordance with their income tax contributions, 12% to districts in the province, the latter shared mostly according to the district in which the tax was originally paid.</p>
<p><b>Are there differences in how it is applied to different sizes and types of actors? E.g. for smallholders vs private producers, mill owner vs plantation owner etc?</b></p> <p>Small companies, with gross revenue of up to IDR 50 billion, receive a 50% tax cut on the normal corporate tax rate (resulting in a 12.5% tax rate), applied to up to IDR 4.8 billion of gross revenue (as per Pasal 31E).</p>
<p><b>References (other than regulations themselves):</b> PwC, 2014, Indonesian Pocket Tax Book PwC, 2010 PwC, 2012</p>

**Figure 34 VAT: Overview**

<b>Title:</b> Value Added Tax
<b>Regulation:</b> Law No. 8 of 1983, Law No. 11 of 1994, Law No. 18 of 2000, Law No. 42 of 2009 on VAT and Luxury Goods.
<b>Basis of taxation:</b> value of goods sold
<b>Indonesian abbreviation:</b> PPN
<p><b>Rates:</b> Input VAT is payable by a company when purchasing materials (capital goods, etc). Output VAT is chargeable by a company when selling goods (CPO, services, etc). Input VAT can be claimed as credit against the Output VAT (Output - Input = Final Input VAT). VAT is due on deliveries with the value exceeding IDR 4.8 billion per annum, at a standard rate of 10%. Government regulations can increase or decrease VAT to 15% or 5%.</p> <p>Services provided by plantation companies to plasma farmers (e.g. management, technical support, loans, fertilizer, pesticide lending) if any, are subject to VAT.</p>
<p><b>Special provisions for palm oil?</b> VAT Exemption is available for import of capital goods (applicable to plantations and CPO mills). A recent court decision has clarified that smallholders and traders delivering oil palm Fresh Fruit Bunches (FFB) are required to pay 10% tax<sup>125</sup>, while special provisions apply for</p>

<sup>125</sup> See: <http://www.pajak.go.id/content/article/implikasi-putusan-mahkamah-agung-ri-nomor-70-tahun-2013-terhadap-petani-kelapa-sawit>

integrated plantation companies. Input VAT related to planting is not creditable by an integrated plantation company (FFB and CPO production) however, although there has been some confusion around treatment of integrated operations.

According to Decree No. 156/PMK.011/2009, the biofuel component of fuel sales is exempt from VAT.

**Who collects the tax?**

VAT is collected and recorded in District tax service offices (*Kantor Pelayanan Pajak/KPP*). Businesses with operations across different districts must register each unit with the relevant KPP.

**Distribution:**

No direct redistribution to the local level.

**Are there differences in how it is applied to different sizes and types of actors? E.g. for smallholders vs private producers, mill owner vs plantation owner etc?**

**By nature of the tax, is it likely to interact with sustainability of behaviors at present?**

## Thesis Concluding Remarks

Businesses and investors, urgently need to identify the changes in public support that can help to drive scaled-up private sector investment in mitigation and adaptation in the land use sectors, to “green” the hundreds of billions spent annually on land use investments and public incentives around the world without sacrificing either productivity or economic development.

Unlocking investments in highly productive and climate-resilient agriculture and forestry is essential to deliver global food security and human development. Forests and agriculture support the livelihoods of 2.6 billion people worldwide and account for 20-60 % of the gross domestic product of many developing countries (Hoffman 2011), generate around a quarter of global greenhouse gas (GHG) emissions, and are highly vulnerable to the impacts of climate change.

We put forward a **theoretical framework to better understand land use finance flows and identify financial instruments to redirect public and private finance from BAU towards more green land use practices**. The framework consists of a number of different visual tools, which governments, development partners or analysts could use to plan and coordinate financing strategies for low carbon climate resilient land use.

We find that the investments that have to change in order to increase spending on climate mitigation and adaptation are those that happen on the ground; investments made by farmers and foresters or project developers (the real economy) and their investors. Public actors can influence the behavior of businesses and investors and scale up investments in green land use, through regulation and financial incentives that address viability, risk and knowledge barriers to sustainable investment in different land use sectors. We identify **three main entry points for public interventions to scale up land use climate finance**, including:

(1) **Targeting viability gaps by increasing /creating /protecting project revenues**, e.g. through carbon offset payments, subsidies, insurance, price premiums for green commodities, pay for performance and compensation payments. In the land use space, there are public goods without revenue streams, which will probably always require public support and investment.

(2) **Targeting viability and risk gaps by reducing (public and private sector) project costs** through grants, concessional loans, tax breaks and risk mitigation instruments (e.g. guarantees, insurance) and

(3) **Targeting risk and information gaps via public framework expenditures** including capacity building; R&D; law enforcement; land-use/spatial planning and mapping; building measuring, reporting and verification systems; and developing demonstration projects etc. to reduce investor risks and hence improve the investment climate.

No single instrument provides a silver bullet however; rather governments need to establish a combination of different financial instruments and policies to make various projects or programs viable and to bring together the necessary actors to make a particular investment happen. Furthermore, in many cases, similar public financial instruments are currently underpinning BAU activities and therefore need to be reformed where possible, while ensuring that economic and social development is not compromised.

We can therefore summarize that the role of public actors, be they domestic governments or international development partners is three-fold: (1) providing a solid investment enabling environment (2) paying for some public goods such as maintenance protected areas and (3) incentivizing private investments in mitigation and adaptation activities. The extent to which the public sector should focus on 1 or 3 depends on how healthy the investment enabling environment is – if it is in good shape, it makes sense to support direct implementation activities to “bend the curve” of carbon emissions from deforestation and forest degradation (Lee and Pristorius, 2015). Private actors on the other hand, aside from merely following incentive signals, can be market leaders by identifying new approaches to greening their land use investments, and by lobbying governments to provide tailored support and improved enabling environments, and by investing their own resources to improve efficiencies and bring down investment costs where costs and future returns are in balance.

Looking deeper into Indonesia, we found that the investment climate for land use is still very weak. Continued international development partner support across multiple stakeholders and entities is needed to improve information availability, transparency and administrative governance to promote more efficient use of land. Parallel support to public and private actors as well as civil society can support collective efforts to scale up direct implementation activities including developing sustainable agriculture and agro-forestry value chains,

ecosystem restoration, and sustainable livelihood options for rural communities. We found that although international partners can help financially support and accelerate government activities, cooperation faces many implementation challenges and there is room for systematic improvements.

Moving to domestic public finance, we find that the enabling environment for land use investments remains weak. Continued international development partner support across multiple stakeholders is needed to improve spatial information availability, clarify land ownership and improve governance to promote more efficient use of land. Parallel support to public and private actors as well as civil society can help scale up direct implementation activities including developing sustainable agriculture and agro-forestry value chains, ecosystem restoration, and sustainable livelihood options for rural communities. We found that although international partners can help financially support and accelerate government activities, cooperation faces many implementation challenges and there is room for systematic improvements.

Moving to domestic public finance, we find that the Indonesian tax system, as it stands, does not incentivize sustainable land use business models among palm oil industry actors. Relatively low levels of tax collection as well as low levels of revenue redistribution to local governments give rise to several opportunities to modify the tax system to incentivize higher productivity land use and production.

Governments need to carefully evaluate potential entry points for interventions designed to stimulate private investment flows and make best use of international development finance. Although this study has partially explored the Indonesian context, much more work is needed to design a comprehensive and coherent land use financing strategy which also takes account of broader economic and social development needs.

[End]