

Brief:

BANKING ON FORESTS IN MYANMAR



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This brief is the first in a two-part series that is intended to demonstrate economic and financial benefits of deforestation-free approach to lending and investment in Myanmar.

Summary ●●●●●

Forests provide direct and indirect value to many vital sectors in the Myanmar economy, including water, tourism, energy, industry, agriculture and fisheries. The combined value of the services that forests provide to the Myanmar economy has been estimated at MMK 7 trillion or US\$ 7.3 billion each year.

For banks and other financial institutions, forests may feature significantly on their balance sheet, without even being aware of them. This can expose banks to risks related to deforestation and forest degradation through either operational risks resulting from clients/investees' dependency on forest generated inputs, or regulatory/reputational risks through the impact that their clients/investees have on forests themselves.

These forest-related risks can be material to the financial institution when there is a probability that these impacts or dependencies affect standard financial performance metrics of their underlying assets. Potential environmental and social risks may not seem significant or relevant at the time of approval of a financial transaction, however they may become so during execution.

Financial institutions can reduce their exposure to the forest-related risks arising from their clients/investees' activities by:

Being proactive with risk assessment

Banks should ensure they have a clear understanding of the potential environmental and social implications of their clients/investees' activities in the context of a transaction. They should also make sure that clients' financial and operational sustainability is not undermined by adverse impacts on the environment and surrounding communities.

Being forward thinking in assessing future environmental and regulatory scenarios

The environmental and regulatory landscape is constantly changing, what is considered legal now, may not be over mid-term time period.

Establishing robust policies and due-diligence processes

A robust Environmental, Social and Governance (ESG) policy will help to provide the bank with protection against the regulatory and reputational risks generated by both legal and illegal deforestation and forest degradation, and unsustainable commodity extraction.



1 The hidden value of forests ●●●●●

Myanmar possesses some of the richest tropical forests on the planet. These tropical forests are rich in biodiversity, and among the most abundant stores of carbon on the planet,¹ and therefore critical in helping to mitigate against climate change.

Forests are also vital for economic prosperity and human wellbeing; cutting them down may provide short-term benefits to a few economic sectors but at the detriment of the long-term resilience and growth of the whole economy. Yet, between 2010 and 2015 Myanmar had the third largest forest loss in the World, equivalent to an annual loss of 546,000 hectares (1.7% annual rate).^{2,3}

In Myanmar, forests provide valuable inputs to many industries, including timber for processed wood and paper, fuelwood, fruits and non-timber products. Forests also help to regulate nature: they store water and help regulate its release,⁴ helping to reducing the frequency and severity of floods.^{5,6} They also support the generation of rainfall, ensuring the timely arrival of seasonal rainfall.⁷ Mangroves in coastal areas are habitats of commercially important fish species, they also provide protection against coastal erosion, storms and tidal surges.

Forests also play a vital role in securing soil and hillsides, thereby reducing the loss of fertile topsoil and the slow release of sediment into waterways, helping to reduce the risk of severe flooding. These services, in turn provide direct

and indirect value to many vital sectors in the Myanmar economy, including: water, tourism, energy, industry, agriculture and fisheries. For example, agricultural value chains are dependent on the pollination of crops, which is provided by a rich abundance of invertebrates that depend on the habitat provided by forests. The regular arrival of rainfall is equally critical to farmers, the early or late arrival of rains could impact the growth cycle of a crop leading to economic loss. Flash floods could devastate whole areas with catastrophic economic and human loss, as has been witnessed in the devastating floods in Kayin in July 2018. For hydropower companies, the dredging and clearing sediment from waterways contributes an avoidable operational cost and possible disruption to service. This poses a risk of disruption to the industries in the surrounding area that are dependent on the supply of electricity for their ongoing operations.

It is estimated that the combined value of the services that forests contribute to Myanmar economy, including carbon sequestration, is more than MMK 7 trillion or US\$ 7.3 billion each year.⁸



Between 2010 and 2015, Myanmar had the third largest forest loss in the world. ●●●●●

1 Adachi M., Ito A., Ishida A., Kadir W. R., Ladpala P., & Yamagata Y., (2011), 'Carbon budget of tropical forests in Southeast Asia and the effects of deforestation: an approach using a process-based model and field measurements'. Biogeosciences, 8, 2635–2647. Available online at: <https://www.biogeosciences.net/8/2635/2011/bg-8-2635-2011.pdf>

2 FAO(2015), Global Forest Resource Assessment Report 2015, desk reference. Food and Agricultural Organisation of the United Nations, Rome.

3 UNODC, (2015), 'Criminal justice response to wildlife and forest crime in Myanmar : a rapid assessment'. United Nations, New York. [available online at: https://www.unodc.org/documents/southeastasiaandpacific/Publications/wildlife/Myanmar_Illicit_Timber_Trade_Report_15.pdf]

4 Rémi A. and Brice Van H. (2018) 'Ecosystemic Services Assessment: Application to Forests for the Preservation of Water Resources in Tropical Islands, QGIS and Applications in Territorial Planning'. (169-237),

5 Bradshaw, C. Sodhi, N. Peh, K. and Brook, B. (2007), 'Global evidence that deforestation amplifies flood risk and severity in the developing world'. Global Change Biology, 13: 2379-2395. doi:10.1111/j.1365-2486.2007.01446.x

6 M. Rogger, M. Agnoletti, A. Alaoui, J. C. Bathurst, G. Bodner, M. Borgia, V. Chaplot, F. Gallart, G. Glatzel, J. Hall, J. Holden, L. Holko, R. Horn, A. Kiss, S. Kohnová, G. Leitinger, B. Lennartz, J. Parajka, R. Perdigão, S. Peth, L. Plavcová, J. N. Quinton, M. Robinson, J. L. Salinas, A. Santoro, J. Szolgay, S. Tron, J. J. H. van den Akker, A. Viglione and G. Blöschl (2017), 'Land use change impacts on floods at the catchment scale: Challenges and opportunities for future research'. Water Resources Research, 53, 7, (5209-5219),

7 Gordon, J., Steffen, W., Jönsson, B., Folke, C., Falkenmark, M., and Johannessen, A., (2005), 'Human modification of global water vapor flows from the land surface'. PNAS May 24, 2005 102 (21) 7612-7617; <https://doi.org/10.1073/pnas.0500208102>

8 Emerton, L. and Yan Ming Aung. (2013), 'The Economic Value of Forest Ecosystem Services in Myanmar and Options for Sustainable Financing'. International Management Group, Yangon.

Without an understanding of the functions provided by forests to businesses and the economy, forests can easily be undervalued, leading to their conversion to other land uses, destroying or degrading the quality of the functions they provide and in turn impacting the smallholders, communities and businesses who depend on them.

2 Drivers of deforestation and forest degradation ●●●●●●

Over the past few decades we have seen a global trend of population growth coupled with an increase in real income per capita, which is changing global consumption patterns.

The rising demand for food and non-food crops from an emerging global middleclass has put increasing pressure on the forests, triggering rapid landuse change as smallholders and agribusinesses seek to take advantage of the rising demand and increasing commodity prices.

Historically, the most significant driver of deforestation has been the expansion of agricultural commodities, which, to date, account for an estimated 55 to 80% of global forest loss. In the tropics, the main drivers are the soft commodities palm oil, soy and beef. It is estimated that between 1990 and 2008, land clearance for these three commodities alone resulted in around one-third of global forest conversion.⁹

In Myanmar, the drivers for deforestation are complex. Historically, the main driver of deforestation has been clearing of forest for conversion to agriculture.¹⁰ According to one estimate, between 2002 and 2014, agricultural expansion was responsible for approximately one million hectares of forest conversion, with rubber and oil palm plantation establishment being the major causes¹¹. Other important drivers include infrastructure development and both legal and illegal timber extraction. Illegal timber trade from northern Myanmar to China is around 900,000 cubic meters a year¹². Each of these direct drivers are themselves stimulated by the number of complex underlying factors. These include the allocation of formal concessions for

agriculture, logging, mining, and hydropower, economic investment, as well as social issues relating to civil war and the history of land tenure.¹³



Agricultural expansion was responsible for approximately one million hectares of forest conversion. ●●●●●●

3 Deforestation as a source of risk for banks ●●●●●●

While forests are a renewable natural resource, they are also exhaustible and can be rendered finite through overexploitation and mismanagement.

For companies that directly depend on inputs or services provided by forests, this can be a threat to both their operational competitiveness and commercial resilience. Equally, for companies that rely indirectly on inputs provided by forests, through their supply chain, deforestation may pose a number of input risks that may threaten corporate performance.

9 UNEP Finance Initiative, (2015), 'Bank and investor risk policies on soft commodities'. UN Environment Programme, Nairobi.

10 Lim, C, Prescott, G, De Alban, J Zeighler, A, Webb, E, (2017) 'Untangling the proximate causes and underlying drivers of deforestation and forest degradation in Myanmar'. *Conserv Biol.* 2017 Dec;31(6):1362-1372. doi: 10.1111/cobi.12984

11 UNREDD, (2017), 'Drivers of deforestation and forest degradation in Myanmar'. UNREDD [available online at: http://www.myanmar-redd.org/wp-content/uploads/2017/10/Myanmar-Drivers-Report-final_Eng-Version.pdf]

12 EIA (2012), 'Appetite for destruction: China's trade in illegal timber'

13 Lim, C, Prescott, G, De Alban, J Zeighler, A, Webb, E, (2017) 'Untangling the proximate causes and underlying drivers of deforestation and forest degradation in Myanmar'. *Conserv Biol.* 2017 Dec;31(6):1362-1372. doi: 10.1111/cobi.12984

Where these businesses are served by banks, exposure to the effects of deforestation or forest degradation is passed to banks and other financial institutions via their banking and loan products, as well as their investments in corporate bonds, public equity and financial derivatives.¹⁴ These risks become material to the financial institution when there is a probability that they will affect standard financial performance metrics of the underlying asset - meaning that the condition of forests may have a material impact on the value of a bank earning assets, that the bank may be unaware of.

The performance of companies connected to forests may be affected by either their impacts or dependencies on forests and their services:

Firstly, where a client of investee is dependent on specific forest-generated inputs, deforestation and forest degradation can impact on the cost structure of the company or its revenue flows, resulting in a shift of the value of the company or asset. This can manifest in a number of ways:

Operational risk

The risk of disruption to key inputs, raw materials, water or energy that affects a client or investee's operational performance.

Operational risks are driven by a clients' dependencies on natural flows and can impact a client's ability to meet their financial obligations and drive down the value of a client's collateral. This can lead to liquidity risks for any financial institution that is exposed to a devaluation of collateral. It can also lead to credit risks, if a client faces increased production costs due to a shortage of key inputs that affects their ability to meet their financial obligations.¹⁵ Examples of industries where this risk is particularly acute include agriculture and primary production, as well as electrical generation from hydropower.

Agriculture and primary production

Changing rainfall patterns combined with poor watershed management are leading to an increase in the frequency and severity of flooding events. This poses a risk of disruption for primary production and an input risk for other companies up the value chain.

For banks exposed to agricultural supply chains, risk can manifest at the portfolio level. In July and August 2016, floods covered 1million acres of farmland in Myanmar, destroying 500,000 acres of crops. This resulted in thousands of farmers going delinquent on the loans that they took out from the Myanmar Agricultural Development Bank (MADB) during growing season. As a result, the bank had to reduce the volume of loans it extended the next year.¹⁶



For companies that rely indirectly on inputs provided by forests, deforestation may pose a number of input risks that may threaten corporate performance. ● ● ● ● ● ●

This was repeated in this year's fatal floods in Kayin State that were linked to deforestation and that led to the death of 12 people and the temporary displacement of 74,000 people.

¹⁴ Natural Capital Coalition, Natural Capital Finance Alliance, VBDO (2018). 'Connecting Finance and Natural Capital: A Supplement to the Natural Capital Protocol'. [available online at: www.naturalcapitalcoalition.org]

¹⁵ Website IFC, First for Sustainability, <https://firstforsustainability.org/risk-management/understanding-environmental-and-social-risk/environmental-and-social-risk-for-financial-institutions/>

¹⁶ Newspaper article, Myanmar times, 'MADB rules out additional funding for farmers this year', July 2016. Available online at: <https://www.mmtimes.com/business/21412-madb-rules-out-additional-funding-for-farmers-this-year.html>

Hydropower

Investments in power generation are long-term and contingent on the ongoing provision of water, which is increasingly uncertain. The uncertainty means that lenders and investors are increasingly placing bigger bets on adequate future water availability and on the financial viability of their loans and investments.

Sedimentation is also a key issue that affects electricity production, storage, discharge capacity and flood attenuation capabilities. If left unchecked, sedimentation increases the load on the dam and gates, damages mechanical equipment, while reducing rate and volume of water to generate electricity.



As public awareness increases, governments are being put under increasing pressure to act in order to preserve their remaining forests. ● ● ● ● ● ●

Loss of reservoir storage reduces flexibility in generation and affects the reliability of water supply. Without storage, hydropower facilities are entirely dependent on seasonal flows. These flows might not occur when energy is needed, eliminating one of the key benefits that hydropower

provides over other renewables.

Deforestation and forest degradation increase the rate of sedimentation in waterways and pose an operational risk to hydropower generation by reducing the quantity of electricity that can be generated. It also increases operational costs of generation, that result either from increased sediment management activities or expensive remedial measures, such as dredging. For example, dredging of 6 million m³ of sediment at the Loiza reservoir in Puerto Rico in 1997 cost USD 10/m³.¹⁷

These avoidable measures can substantially increase operating costs, and unless anticipated by the client or financing institution, can represent a credit risk to lenders.

In addition to the dependencies experienced by clients/ investees, banks are also exposed to the effects of their impacts on forests. Each year, banks provide billions in commercial loans to companies exploiting weak regulation on commodity extraction and other activities. Research by the Rainforest Action Network (RAN), TuK INDONESIA and Profundo shows that between 2010-2015 at least USD 38 billion worth of commercial loans and underwriting facilities were provided to just 50 companies that drove significant impacts on natural tropical forests in Southeast Asia, through their production and primary processing operations primarily of palm oil, pulp & paper, rubber and tropical timber.¹⁸ As public awareness increases, governments are being put under increasing pressure to act in order to preserve their remaining forests. This is increasingly exposing the banks who finance these companies to risks such as:

Regulatory risk

The risk of an increasingly tight regulatory regime that would result if a government acts to protect its remaining forest cover.

Currently, regulation surrounding the financing of deforestation is weaker than regulation around direct involvement in deforestation. However, to help protect their remaining natural forests, many countries are implementing stronger regulatory strategies that address deforestation and forest degradation. Increased regulation, or the tightening of existing regulation, could result in

¹⁷ Morris, G., G. Annandale and R. Hotchkiss, "Reservoir Sedimentation," in Sedimentation Engineering: Processes, Measurements, Modeling, and Practice, American Society of Civil Engineers, Reston, Va., U.S., 2008

¹⁸ Rainforest Action Alliance, (2016), 'Forests and finance: the banks and investors exposed to deforestation risks in Southeast Asia.'

finances and new user fees, or more litigious action against companies that encroach on forest lands. This will in turn increase business costs and the cost of compliance and could negatively affect a company's license to operate. Additionally, a downward revaluation of assets could result from a higher risk of litigation relating to activities that damage the forests. This could negatively impact a company's share price or its ability to service any outstanding debt.

For financial institutions, delays due to difficulties in obtaining project permits and licenses would increase the risk of default and increase the potential for premature write-offs of assets. Finally, financial institutions face the potential risk of asset stranding as a consequence of new land-use regulations that could leave assets obsolete or non-performing.

Stranded assets

Emerging regulation could also lead to the devaluation of forest and land assets held by financial institutions' client companies. Stranded assets can be defined as assets that have suffered from unanticipated or premature write-downs, devaluation or conversion to liabilities. The stranding of assets linked to deforestation may occur as a result of physical risks, such as land degradation and resource scarcity, which may cause disruptions and economic loss to a company's supply chain. In addition, unsustainable forest products and productive assets linked to them could become stranded as a result of unanticipated changes in regulation.

For example, in 2016 the government of Myanmar established¹⁹ measures to end logging until new policies for sustainable logging practices could be developed.²⁰

Depending on the level of enforcement, this would substantially devalue the existing logging concessions held by logging companies. If this was applied globally to all historically illegal production areas, then hundreds of billions of dollars of existing productive assets might be at risk.²¹



In 2016, the government of Myanmar established measures to end logging until new policies for sustainable logging practices could be developed. ● ● ● ● ● ●

Market risk

The risk that structural changes in consumer preference and consumption habits will affect demand away from unsustainably produced products.

This could also involve the marking down of assets, taking large amounts of company's balance sheets. For example, the commitments made by major companies in 2014 under the New York Declaration on Forests²² to remove deforestation from their supply chains will have significant implications for commodity producers in the coming years. This will in turn affect their value and their ability to service existing debt obligations.²³ Additionally, at the end of 2017, two of the five top tire companies, Michelin and Pirelli, committed to source sustainably. Car companies such as General Motors have also committed.²⁴

¹⁹ Biodiversity, Human Rights and Business in Myanmar', Myanmar Centre for Responsible Business, November 2018 and supplements on tourism, oil and gas, mining and agriculture. [Available online at: <http://www.myanmar-responsiblebusiness.org/resources/briefing-paper-biodiversity-human-rights-and-business.html>]

²⁰ Newspaper article, Myanmar Business Today, 'Ministry Proposes New Policies to Stem Deforestation'. 5th July 2017, Vol no. 4, Issue 24. <https://www.mmbiztoday.com/articles/ministry-proposes-new-policies-stem-deforestation>

²¹ TFA 2020, (2018), 'The Roadmap to Financing Deforestation-Free Commodities'. World Economic Forum, Geneva

²² 'Forests: Action statements and action plans' (2014) United Nations. [available online at: https://web.archive.org/web/20171207232400/https://www.un.org/climatechange/summit/wp-content/uploads/sites/2/2014/07/New-York-Declaration-on-Forests_19May2014.pdf]

²³ Ibid

²⁴ Press release, WWF, 'Myanmar set to lead global sustainable rubber production', 27th

This is another example of the growing trend among large international companies committing to only purchase commodities that are proven to not be linked to deforestation.

Reputational risk

The damage to reputation that occurs through association with exploitative or 'unethical' customers.

The risk of consumer action resulting from being associated with the production or purchase of commodities that are linked to environmental destruction or illegal deforestation. This could include examples such as, retail companies being targeted by non-governmental organization campaigns for purchasing wood or paper from natural forests.

The resulting impact could be customers switching to other suppliers that offer products with lower ecosystem impacts, or governments implementing new sustainable procurement policies in response to public pressure.

Recently, negative consumer attention has increased to include the role that lenders play in providing debt and other forms of capital to companies that contribute to deforestation,²⁵ generating significant negative publicity for those involved.

Quantifying the impact of reputational damage is difficult, but in an increasingly crowded global market place, global banking institutions are beginning to take risk of negative media attention seriously.

Recent research by Greenpeace showed that between the years 2012-2017, 13 banks, including HSBC, BNP Paribas and Standard Chartered, provided USD 3.6 billion worth of loans and bonds totalling over USD 5 billion, to POSCO Daewoo and its subsidiaries, a company that Greenpeace has linked to the destruction of pristine rainforest in Indonesia for oil palm cultivation. Following Greenpeace's release, HSBC enhanced its sustainability guidelines for lending to companies in the agricultural commodities sector, incorporating new standards for

the palm oil sector to protect high carbon stock ('HCS') forests and peat. In addition, HSBC will no longer agree new financing facilities to customers who have not made the appropriate commitment to 'No Deforestation, No Peat and No Exploitation' policies. They have also extended their lending guidelines for the sector to include refiners and traders, as well as growers and mills.



Negative consumer attention has increased to include the role that lenders play in providing debt to companies that contribute to deforestation. ● ● ● ● ● ● ●

Risk mitigation

Potential environmental and social risks may not seem significant or relevant at the time of approval of a financial transaction, however they may become so during execution. At times when traditional risk assessment metrics are being undermined by increasing uncertainty generated by exogenous factors, such as climate change generating previously unidentified forms of risk, financial institutions need to be proactive in the identification, assessment and management of all forms of environmental and social risk, before they become significant and result in an economic loss for a client or investee.

November 2017. Retrieved from: <http://www.wwf.org.mm/en/?uNewsID=317511>

²⁵ UN Environment, 2015, 'Bank and investor risk policies on soft commodities; a framework to evaluate deforestation and forest degradation risk in the agricultural value chain'. United Nations Environment Programme.

Financial institutions can reduce their exposure to risks arising from their clients/investees' association with deforestation and forest degradation by (i) ensuring they have a clear understanding of the potential environmental and social implications of their clients/investees in the context of the transaction, and (ii) ensure that clients/investees' financial and operational sustainability is not undermined by adverse impacts on the environment and surrounding communities.



Banks should assess the level of their exposure to reduced productivity through environmental degradation and to shifting weather patterns predicted by climate change. ● ● ● ● ● ●

Recommendations for financial institutions:

Banks need to be forward thinking

As public awareness of the impacts of business activities on deforestation increases, so does the likeliness of new regulation. Financial institutions should conduct an analysis of future possible scenarios in an effort to understand the potential effect of regulatory and macroeconomic

changes over the short to medium term on their portfolio and strategy. Banks should also assess the level of their exposure to reduced productivity through environmental degradation and to shifting weather patterns predicted by climate change.

Implement a rigorous policy that cover all forest-related commodities

Robust policies and due-diligence processes will help provide protection to the regulatory and reputational risks generated by both legal and illegal deforestation and commodity extraction. Robust policies also provide an important signal to the wider market that the bank has implemented good governance on forest-related risks and are taking serious steps to reduce their exposure in environmentally sensitive areas.

In their 2018 report 'The Roadmap to Financing Deforestation Free Commodities' The Tropical Forest Alliance recommends the following steps to develop and implement a robust set of policies relating to deforestation:

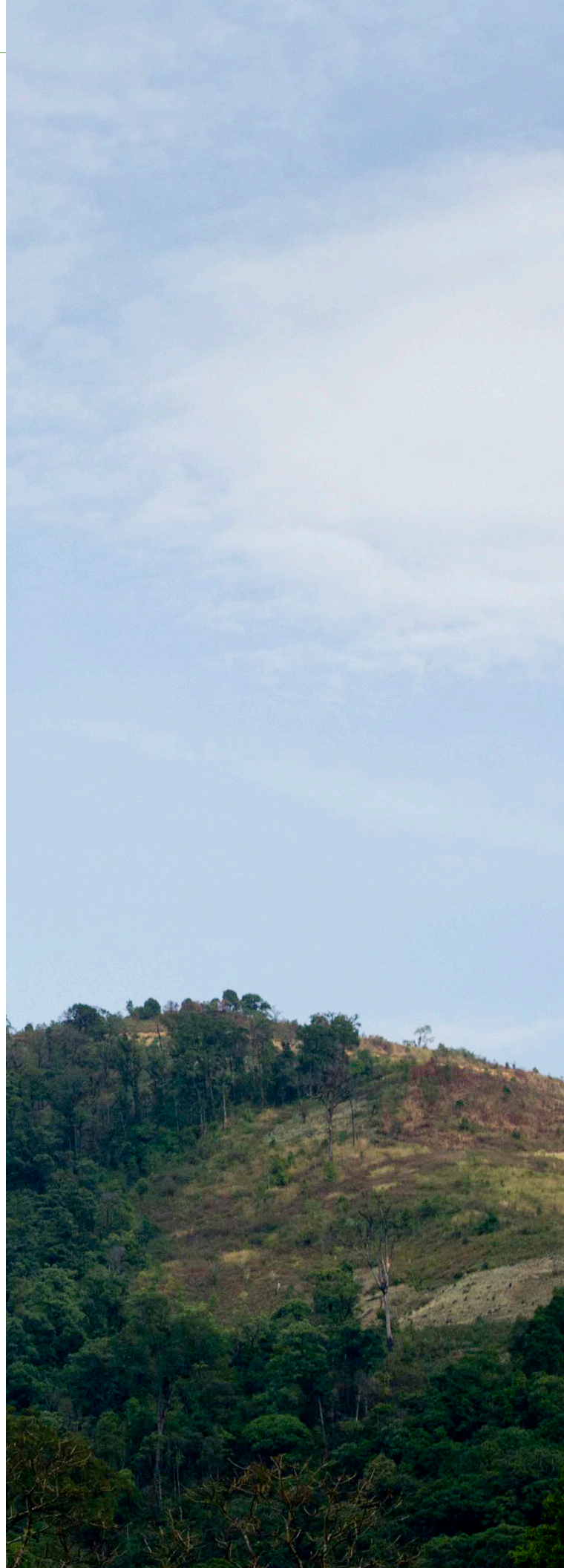
- Develop a policy or policies that cover all soft commodities.
- Use recognized standards on which to base soft commodity policies on internationally recognized standards, such as the World Bank/IFC Performance Standards, and include minimum requirements for companies to:
 - Protect globally important forests and other important areas of biodiversity;
 - Comply with all applicable laws and regulations;
 - Protect the rights of communities, workers and, where applicable, indigenous peoples.
- Contain time-bound commitments; these can either be set by the financial institution or be part of the companies' own time-bound targets but should be in line with those typically required under certification schemes.
- Include these policy requirements in financing documents where possible, ensure they contain conditions precedent and covenants requiring compliance, are measured at least annually and have terms to deal with a breach of covenant and other conditions.
- Include appropriate stakeholder consultation in policy development with clients, investors, staff, NGOs and other financial institutions as appropriate. The policy

should apply to all financial services and products, and to all clients of the financial institution regardless of size or position in a supply chain. Financial institutions should make the policy, or a summary of it, publicly available and report levels of compliance with the policy at least annually.²⁶

In addition, the Soft Commodity Risk Platform (SCRIPT) provides a benchmarking tool, that enables financial institutions to assess its own policies by comparing them to both industry best practices and to its peers, enabling them to identify what are the areas of weakness and areas for improvement.²⁷

²⁶ TFA 2020, (2018), 'The Roadmap to Financing Deforestation-Free Commodities'. World Economic Forum, Geneva

²⁷ TFA 2020, (2018), 'The Roadmap to Financing Deforestation-Free Commodities'. World Economic Forum, Geneva





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