GEF-6 PROGRAM FRAMEWORK DOCUMENT (PFD)

TYPE OF TRUST FUND: GEF Trust Fund

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PART I: PROGRAM IDENTIFICATION

Program Title:	Taking Deforestation out of Commodity Supply Chains		
Country(ies):	Global, Paraguay, Liberia	GEF Program ID:[1]	9072
Lead GEF Agency:	UNDP	GEF Agency Program ID:	PFD 5623
Other GEF Agenc(ies):	WB WWF-US CI IADB UNEP	Submission Date:	April 1, 2015
Other Executing Partner(s):		Program Duration(Months)	48 months
GEF Focal Area (s):	Multi-focal Areas	Program Agency Fee ($):	3,629,927
Integrated Approach Pilot	IAP-Cities ☐ IAP-Commodities ☒ IAP-Food Security ☐		
Program Commitment Deadline:	June 30th, 2016		

A. FOCAL AREA STRATEGY FRAMEWORK AND OTHER PROGRAM STRATEGIES[2]:

Objectives/Programs (Focal Areas, Integrated Approach Pilot, Corporate Programs)	**Expected Outcomes**	**Trust Fund**	**Amount (in $)**	
			GEF Program Financing	**Cofinancing**
(select) (select) IAP-Commodity Supply Chain	The Commodities Integrated Approach seeks to turn the sustainable production of key commodities from niche and specialized operations to the norm in each commodity sector. The Program overall objective is to reduce the global impacts of agriculture commodities on GHG emissions and biodiversity by meeting the growing demand of palm oil, soy and beef through supply that does not lead to deforestation and deforestation-related GHG emissions.	GEFTF	40,332,518	443,200,000
BD-4: Mainstream biodiversity conservation and sustainable use into production landscapes and seascapes and production sectors:	**Program 9**: Managing the Human-Biodiversity Interface. Contributing to **Outcome 9.1** by increasing the area of productive landscapes that integrate sustainability criteria into their management; and **Outcome 9.2** by incorporating biodiversity and forest cover considerations in national and subnational agriculture commodity policies.			

[1] Program ID number will be assigned by GEFSEC.

[2] When completing Table A, refer to the excerpts on *GEF 6 Results Frameworks for GETF, LDCF and SCCF*.

CCM-2: Demonstrate Systemic Impacts of Mitigation Options:	**Program 4**: Promote conservation and enhancement of carbon stocks in forests, and other land use, and support climate smart agriculture. Contributing to both **Outcome A and B** by accelerating the adoption of management practices that quantifiably reduce GHG emission from land use change and deforestation, and supporting the development and implementation of model policy, planning and regulatory frameworks that foster low GHG development from agriculture commodities.			
SFM-1: Maintained Forest Resources: Reduce the pressures on high conservation value forests by addressing the drivers of deforestation.	**Program 1**: Integrated land use planning. **Program 2**: Identification and maintenance of high conservation value forests. **Program 3**: Identifying and monitoring forest loss. Contributing to both **Outcomes 1 and 2** on cross-sector policy and planning approaches at appropriate governance scales and innovative mechanisms to avoid the loss of high conservation value forest.			
		Total Program Costs	40,332,518	443,200,000

B. INDICATIVE PROGRAM RESULTS FRAMEWORK

Program Objective: Reduce the global impacts of agriculture commodities expansion on GHG emissions and biodiversity by meeting the growing demand of palm oil, soy and beef through supply that do not lead to deforestation.

Program Component	Financing Type[3]	Program Outcomes	Trust Fund	(in $)	
				GEF Project Financing	Co-financing
Support to Production Project: Enabled supply and production in the right ways and in the right areas and locations while conserving the forest and reducing deforestation in the targeted landscapes	TA	Improved policy, regulations, coordination and enforcement capacity of national and local governments in 4 producing countries. Increased supply of commodities produced in landscapes targeted for reduced deforestation and replicated across supply chains	GEFTF	19,604,194	130,200,000
Generating Responsible Demand Project: Strengthen the enabling environment and public and private sector demand, for reduced-deforestation commodities in priority	TA	Buyers and traders in domestic and global markets increasing purchases of reduced-deforestation commodities Improved Policy Frameworks at national and local levels to drive demand for reduced-deforestation commodities in 3	GEFTF	8,331,485	203,000,000

[3] Financing type can be either investment or technical assistance.

markets		major markets			
Enable Transactions Project: Design and pilot financial and risk management instruments that extend financing to reduced-deforestation commodity production and reduce financing for unsustainable practices	TA	Commercial transactions totaling a minimum of USD100 million dollars of new investment per year Increased financing benefiting smallholders investing in reduced-deforestation practices Reduced finance for commodity production leading to deforestation	GEFTF	6,687,252	102,000,000
Adaptive Management and Learning Project: Strengthen global capacity and integrated nature of the program to effectively leverage demand, transactions and support to production to implement the program in a synergic way for greater impacts and replication	TA	Integrated reports, information and programing lead to timely decision-making and integrated action that deliver reduced-deforestation commodities	GEFTF	3,788,991	1,900,000
		Subtotal		38,411,922	437,100,000
		Project Management Cost (PMC)[4]	GEFTF	1,920,596	6,100,000
		Total Project Cost		40,332,518	443,200,000

Note on cofinancing: Numbers and sources will be reviewed for accuracy and eligibility.

If Multi-Trust Fund project :PMC in this table should be the total and enter trust fund PMC breakdown here ( )

C. CO-FINANCING FOR THE PROGRAM BY SOURCE, BY NAME AND BY TYPE

Sources of Co-financing	Name of Co-financier	Type of Cofinancing	Amount ($)
GEF Agency	UNDP	In-kind	4,000,000
GEF Agency	WWF	In-kind	16,000,000
GEF Agency	IADB	Grants	20,000,000
CSO	Foundations	Grants	8,700,000
CSO	Industry groups	In-kind	4,500,000
Donor Agency	IICA, FAO, etc	Grants	2,500,000
Recipient Government	Recipient Governments	In-kind	3,500,000
GEF Agency	UNEP	In-kind	2,000,000
GEF Agency	IFC	In-kind	2,000,000
Private Sector	Production and demand companies	Equity	280,000,000
Private Sector	Financial institutions	Loans	100,000,000
Total Cofinancing			443,200,000

D. GEF/LDCF/SCCF RESOURCES REQUESTED BY AGENCY, TRUST FUND, COUNTRY, FOCAL AREA AND THE PROGRAMMING OF FUNDS

GEF Agency	Type of Trust	Country Regional/Global	Focal Area	Programming of Funds	(in $)		
					Program Amount	Agency Fee	Total c=a+b

[4] For GEF Project Financing up to $2 million, PMC could be up to10% of the subtotal; above $2 million, PMC could be up to 5% of the subtotal. PMC should be charged proportionately to focal areas based on focal area project financing amount in Table D below.

	Fund				(a)	(b)*	
UNDP	GEF TF	Global: Production	Multi-focal Areas	IAP-Commodities	20,584,404	1,852,596	22,437,000
WWF-US	GEF TF	Global: Demand	Multi-focal Areas	IAP-Commodities	8,748,060	787,325	9,535,385
WB	GEF TF	Global: Transact.	Multi-focal Areas	IAP-Commodities	7,021,615	631,945	7,653,560
UNDP	GEF TF	Global: Adapt. M.	Multi-focal Areas	IAP-Commodities	3,978,440	358,060	4,336,500
Total Grant Resources					40,332,519	3,629,926	43,962,445

*/ anticipated total GEF inclusive of PPGs and fees amounts to $44,997,945 (PPGs $950,000, fees $85,500)

Note: Total funds allocated per agency represent Program components and lead agency. Funds allocation within component and among agencies involved in implementation.

* Please indicate fees related to this Program. Refer to the Fee Policy for GEF Partner Agencies.

E. PROGRAM'S TARGET CONTRIBUTIONS TO GLOBAL ENVIRONMENTAL BENEFITS[5]

Provide the expected program targets as appropriate.

Note: Since project sites will only be selected during the PPG, it has not been possible to determine target contributions to global environmental benefits. This will be done during PPG phase.

Corporate Results	Replenishment Targets	Indicative Program Targets
1. Maintain globally significant biodiversity and the ecosystem goods and services that it provides to society	Improved management of landscapes and seascapes covering 300 million hectares	*tbd hectares*
2. Sustainable land management in production systems (agriculture, rangelands, and forest landscapes)	120 million hectares under sustainable land management	*tbd hectares*
3. Promotion of collective management of transboundary water systems and implementation of the full range of policy, legal, and institutional reforms and investments contributing to sustainable use and maintenance of ecosystem services	Water-food-ecosystems security and conjunctive management of surface and groundwater in at least 10 freshwater basins;	*Number of freshwater basins*
	20% of globally over-exploited fisheries (by volume) moved to more sustainable levels	*Percent of fisheries, by volume*
4. Support to transformational shifts towards a low-emission and resilient development path	750 million tons of CO_{2e} mitigated (include both direct and indirect)	*tbd metric tons*
5. Increase in phase-out, disposal and reduction of releases of POPs, ODS, mercury and other chemicals of global concern	Disposal of 80,000 tons of POPs (PCB, obsolete pesticides)	*metric tons*
	Reduction of 1000 tons of Mercury	*metric tons*
	Phase-out of 303.44 tons of ODP (HCFC)	*ODP tons*
6. Enhance capacity of countries to implement MEAs (multilateral environmental agreements) and mainstream into national and sub-national policy, planning financial and legal frameworks	Development and sectoral planning frameworks integrate measurable targets drawn from the MEAs in at least 10 countries	*Number of Countries:*
	Functional environmental information systems are established to support decision-making in at least 10 countries	*Number of Countries:*

PART II: PROGRAMMATIC JUSTIFICATION

1. Program Description. Briefly describe: a) the global environmental and/or adaptation problems, root causes and barriers that need to be addressed; b) the baseline scenario or any associated baseline program/ projects, c) the proposed alternative scenario, with a brief description of expected outcomes and components of the program, d)

[5] Provide those indicator values in this table to the extent applicable to your proposed program. Progress in programming against these targets for the program per the *Corporate Results Framework* in the *GEF-6 Programming Directions*, will be aggregated and reported during mid-term and at the conclusion of the replenishment period.

incremental/ additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing; and e) innovation, sustainability and potential for scaling up.

1. Global environmental problems

Agriculture expansion and production of commodities has been identified as the primary driver of approximately 80% of deforestation worldwide.[6] This process leads to well understood species and habitat loss in key biodiversity areas and carbon rich forests, and contributes between 12-15%[7] of global greenhouse gas emissions. Increasingly governments and local communities are appreciating the associated loss of ecosystem services and negative impacts on livelihoods caused by deforestation.

With world population set to increase to nine billion by 2050, and incomes expected to rise, food consumption is predicted to double. The size of the global middle class – important for their increasing disposable income and consumption – is set to almost triple by 2030.[8] Projected increases are consequently on the rise for food and fiber commodities to meet the needs of a world population that is more urban, more prosperous and more consumptive in nature.

Within this context, global demand for soybeans for animal-feed and food consumption, oil palm as a key ingredient for food, soaps and biofuels, and beef for domestic and international markets, are at historical highs and will continue to grow as incomes and consumption increase globally. Agricultural commodities are also a key element of economic development and prosperity in developing countries and emerging economies, and often accounts for upwards of 10% of developing countries' gross domestic product (GDP).[9] Such growth in production harbors implications for the environment that will have to be managed in order to maintain the natural capital upon which this desired growth would be developed.

Although agricultural commodities are grown in many places across the world, a small group is of particular importance for the GEF partnership due to the magnitude and significance of their impact resulting from the location and rate of expansion of the areas dedicated to their production. Most of the expansion of soy, beef and palm oil is concentrated in the tropical rain forests of Amazonia, West Africa, and South East Asia. These forests are prime areas targeted for production expansion and hence are under pressure to be opened, fragmented and converted into agricultural lands. As this expansion of commodities coincides with high levels of biodiversity and carbon density, production methods must be reconciled with other societal objectives such as forest conservation, maintenance of ecosystem services, and climate regulation. (For more detail on these commodities and the nature of their supply chains, see annex B and C).

The expansion of commodity production and the associated deforestation is a result of complex national and international supply chains spanning from farmer to final consumer. These chains often involve many actors with a diverse range of motivations and incentives including both large and small-scale growers, traders, manufacturers, retailers, and financiers, as well as governments at national and local levels. These complex chains help to explain the phenomenon of commodity-driven deforestation, its pace and extent and its future potential, if left unbridled, to have significant and lasting global impacts. However, these same chains also offer the opportunity to harness the power of the market to move commodity production away from its current unsustainable pathway and remove deforestation from commodity supply chains.

2. Root causes and barriers

Unsustainable practices remain prevalent in many places where palm oil, soy and beef are produced and sourced. The volatility inherent in commodity sectors, coupled with low barriers to entry and low start up investments, often results in expansion in locations where governance and technical capacity may already be limited and

[6] Boucher, D. et al. (2011) The Root of the Problem: What's Driving Deforestation Today? Union of Concerned Scientists and Kissinger, G. et al. (2012) Drivers of Deforestation and Degradation: A Synthesis Report for REDD+ PolicyMakers. Exeme Consulting.
[7] United Nations Environment Programme (2011) Keeping Track of Our Changing Environment.
[8] Forest Trends 2014
[9] From World Bank online databank http://data.worldbank.org

cannot match the demands arising from the rapid increase in commodity production. Impacts on natural resources and ecosystem services are therefore often overlooked or left unaddressed. As commodity expansion often outpaces clear analysis and careful planning, the lack of environmental, social, and food safety protections pose significant environmental, development, and business risks.

Voluntary market based approaches have shown some potential to establish a new paradigm for commodities. However, experience highlights the mismatch between the impact on the ground and the scale and nature of the challenge. While voluntary market-based certification and standards are key for getting trade and industry involved in creating initial market dynamics, market demand and producer premiums have shown only limited results; moreover, business and civil society can only support a small number of fragmented and competing development or capacity-building projects. Responses must address the multiple challenges that continue to face the mainstreaming of sustainability within commodities and the links between supporting improvements in supply-side enabling conditions and practices and demand-side market leverage have yet to be fully harnessed.

Many initiatives already deal with commodity production. Most of these, however, are limited in scope to individual commodities, individual supply chains, individual countries or specific supply chain links. Although often successful at the focus of their efforts, this fragmented approach has not managed to implement comprehensive change within entire commodity sectors and ultimately has been unable to reduce the rate of deforestation resulting from commodity expansion. A new approach is necessary, one that capitalizes on these individual efforts while addressing those roadblocks along value chains and within commodities that prevent the widespread improvement in commodity production.

3. Baseline scenario and associated efforts

The combined forces of support to production and increase in demand of a sustainable commodity have shown great potential for change and influence over the market. If these forces are balanced and coordinated, the pace of transformation can be increased as well. Brazilian soy in the Amazon is an example that demonstrates what can be achieved through an integrated approach that combines policy, producer engagement and market demand.

Government efforts are varied in nature and scale; public agendas for promoting agriculture expansion, forest conservation, and rural development are not always aligned and coordinated at a national level. Financial institutions and other private sector service providers involved in agriculture and value chains are showing initial interest in reduced-deforestation commodity trade and the role they can play in promoting it. Only by working through an integrated approach is it possible to create linkages and synergy that go beyond current efforts and multiply connections. An initiative constructed based on the different expertise and visions of Implementing Agencies and Partners can reflect the complexity of the challenge. Additional baseline and market information can be found in the Palm Oil and Soy & Beef annexes (annex B and C) to this document.

Agricultural commodities – and in particular palm oil, soy and beef – are key components of the national development plans of many developing countries. The agriculture agenda is critical for rural development as these are among the fastest growing commodities in the market. Governments are concerned with both supporting commodity production and reducing deforestation. At a national level, the creation of platforms has allowed for multi-stakeholder and multi-institutional dialogue processes, while also supporting new forms of public-private partnerships that help mainstream reduced-deforestation production and trade.

The supply chains for beef, soy, and palm oil have a number of companies that play a systemic role in the markets and are found across regions and/or across segments; these include Cargill, Bunge, Dreyfus, JBS, Wilmar, etc. Wilmar touches 45% of palm oil globally, while 5 players touch over 50% of soy from Brazil. The soy sector is characterized by high-level mechanization in leading producing countries, including Brazil. Many market characteristics of the soy sector are similar to those of the palm oil sector. Quality demands are low and soy has low visibility in most end products. The supply chain can be very long, especially in the livestock feed sector.

The market for beef is similarly growing to meet heightened demand for meat worldwide. Beef has become an increasingly global commodity, produced not only for the domestic market, but also for export due to

advancements in refrigerated transport and freezing over the past decade. Hides from cattle raised for beef are also an important source of leather. The soy and beef sector are closely related in terms of deforestation due to the conversion of land for pasture and cultivation of livestock feed.

The supply chain for palm oil is composed of large-scale players with leverage over smallholders and is growing very rapidly. The Indonesian palm oil sector, especially, has a large percentage of smallholders, combined with many larger estates, but almost no middle level. The production requirements of palm oil are somewhat more sophisticated than soy due to the short time frame between the harvesting of fresh fruit bunches (FFBs) and their transfer to processing mills. Production of soy is predicated on having a nearby processing mill, good infrastructure, and precise harvest timing by farmers. In Indonesia, large estates manage 60% of the planted area for oil palm, and 40% is managed by predominantly unorganized smallholders. The strong presence of large-scale operations in Indonesia is facilitated in part by the availability of land and finance for large-scale plantation schemes. Market demand for palm oil is continually expanding, due to its high oil yields and relatively low production costs. However, market demand for quality is low, and palm oil generally has a low-visibility in end products. Therefore, the palm oil market typically focuses on the lowest price. Furthermore, supply chains can be very long further complicating traceability of the product.

In recent years there has been an increase in stakeholder dialogue around commodity issues. There are global roundtables such as RSPO and RTRS as well as global industry forums such as Consumer Goods Forum. At national levels there have been important industry led initiatives such as Sustainable Beef Working Group in Brazil and PISAGRO in Indonesia. There are also government led multi-stakeholder initiatives such as the Indonesia National Palm Oil Platform (INPOP) which brings together the entire sector through plenary meetings as well as the formation of working groups on key themes (social, environmental, economic) led by respective government agencies and including technical experts from within the country. A similar Platform is being launched in Paraguay for soy and beef. These multi-stakeholder coordination and public-private dialogues are also instrumental for the design and delivery of assistance to smallholders.

Major food and Fast Moving Consumer Goods companies have strengthened environmental standards in their supply chains, and made commitments to deforestation free supply chains and sustainable sourcing. The Soy Moratorium (via the GTS, or Brazilian Soy Working Group), and the recent commitment on the part of the Indonesian Chamber of Commerce (Kadin) and three traders (Wilmar, Cargill and Golden Agri Resources) that together represent 70% of the global palm oil trade to deforestation free trade and production, are major examples of companies working with governments and stakeholders to strengthen environmental sourcing standards.

Globally, there has been a wave of commitments in demand markets to reduced-deforestation commodities over the last four years. This includes sustainable, deforestation free commitments on the part of leading market actors such as Unilever, Walmart, Kraft, P&G, FrieslandCampina, Marks & Spencer, Tesco, Carrefour and others. Commitments such as Unilever's 100% sustainable sourcing pledge have been scaled into industry platforms, such as the pledge on the part of 57 companies of the Consumer Goods Forum (CGF—a platform of 400 global companies) to take deforestation out of their commodity supply chains for palm, soy, pulp and beef. Both supply and demand of sustainable products has increased rapidly, but in many cases demand remains far behind supply. Not all certified production is sold as certified. For example, of all RSPO-certified palm oil, the market uptake was only 52% in 2011 and 2012.

Global banks and branded companies and their major suppliers have also begun to adopt sustainable sourcing practices. Levers that were used for early adoption such as price premiums for certified products, preferential access to markets and advisory support have been important to get the market transformation started in certain commodities but will not be sufficient for moving key markets that drive deforestation. From the finance side, banks have begun to organize into groupings such as the Banking and Environment Initiative (BEI) with the aim of taking deforestation out of their lending portfolios but to date only large international banks (e.g. Rabobank, Barclays, Deutsche Bank, UBS, etc.) have signed on with no regional or local banks in emerging markets yet participating. Governments and banking regulators are starting to analyze their potential contribution and frameworks; one of the clearest examples is the Government of Brazil's Low Carbon Agriculture loan program to support agricultural intensification, forest restoration and other investments that favor low emission production.

The supply and demand for commodities is characterized as being a part of a global market and price is determined as a function of the markets as a whole. One of the effects of commoditization is that the market can be volatile and heavily influenced by trends and predictions of future supply and demand. The expansion of cattle ranching continues to drive deforestation in virtually all Amazon-basin countries. During the last decade, the removal of many policies that stimulated deforestation was offset by the increased influence of global markets. The time is right for GEF intervention because beef production is increasingly concentrated among a small number of large and increasingly market-sensitive actors. Additionally, the sector is already sensitized and has begun addressing sustainability through national and international beef and livestock roundtables and certification programs.

Cultivation of palm oil has led to significant deforestation in tropical rainforests, particularly in Southeast Asia. Conversion of native forests for the establishment of oil-palm plantations has resulted in deforestation of biodiversity-rich natural habitats, loss of critically endangered species and a significant increase in greenhouse gas emissions. Expansion is predicted within the remaining forests in South East Asia, as well as in the wetter regions of the Amazon and West and Central Africa. Intervention is timely as oil palm roundtables are maturing into credible processes but remain hampered by technical issues at source level and the absence of clear market demand.

The increase in soy production in the last decade has contributed to deforestation in the Amazon, Atlantic Forest, and most significantly the Cerrado region. Action by the GEF is now appropriate as the increasing demand for animal feeds and biofuels threaten to foster another wave of soy expansion. As the soy roundtable process develops it provides an important means to influence the future development path of soy and address a range of environmental and sustainable development issues.

4. Proposed alternative scenario, outcomes and components

This Program is piloting a coordinated approach to solve underlying root causes of deforestation from agriculture commodities. Focusing on a specific component of sustainability – deforestation – strengthens the effectiveness of the Program and allows for the Program's partners to find clear coordination points. To vastly reduce or take deforestation out of commodity agriculture supply chains, production has to come from areas that do not contribute to deforestation. The Program's Theory of Change builds on the notion that if the right lands (agriculture lands, degraded lands, etc.) are available and accessible for production, and if forestlands are not accessible, agriculture expansion and growth can be achieved without contributing to deforestation.

The theory also rests on the assumptions that good production practices and locations are contingent on the ability of producers to have enhanced capacity to adapt better management practices and improve yield, and that financial flows and economic incentives, coupled with market awareness and demand for reduced-deforestation supply to enable and signal producers, can similarly play a key role in driving agriculture expansion to the desired locations. Consequently, the adoption of better practices and sustainability principles can contribute to adjacent forest conservation, such as in-farm set asides, protection of water sources and other important activities that contribute to environmental services being protected.

The Program, based on the theory of change developed, thus focuses on activities and investments that are directly related to taking deforestation out of the supply chain. The strongest connection found between deforestation and commodity markets is the land and location of the production areas in relation to forested land. This gives the Program's design its departing point – commodity production should not expand into natural, high conservation value forested areas. Location, access to land and production are key to the aim of this Program. Sustainable demand, financing, and working with the regional and local governments to create enabling environments are important to influencing the location selection and practices of producers of monoculture agri-commodities.

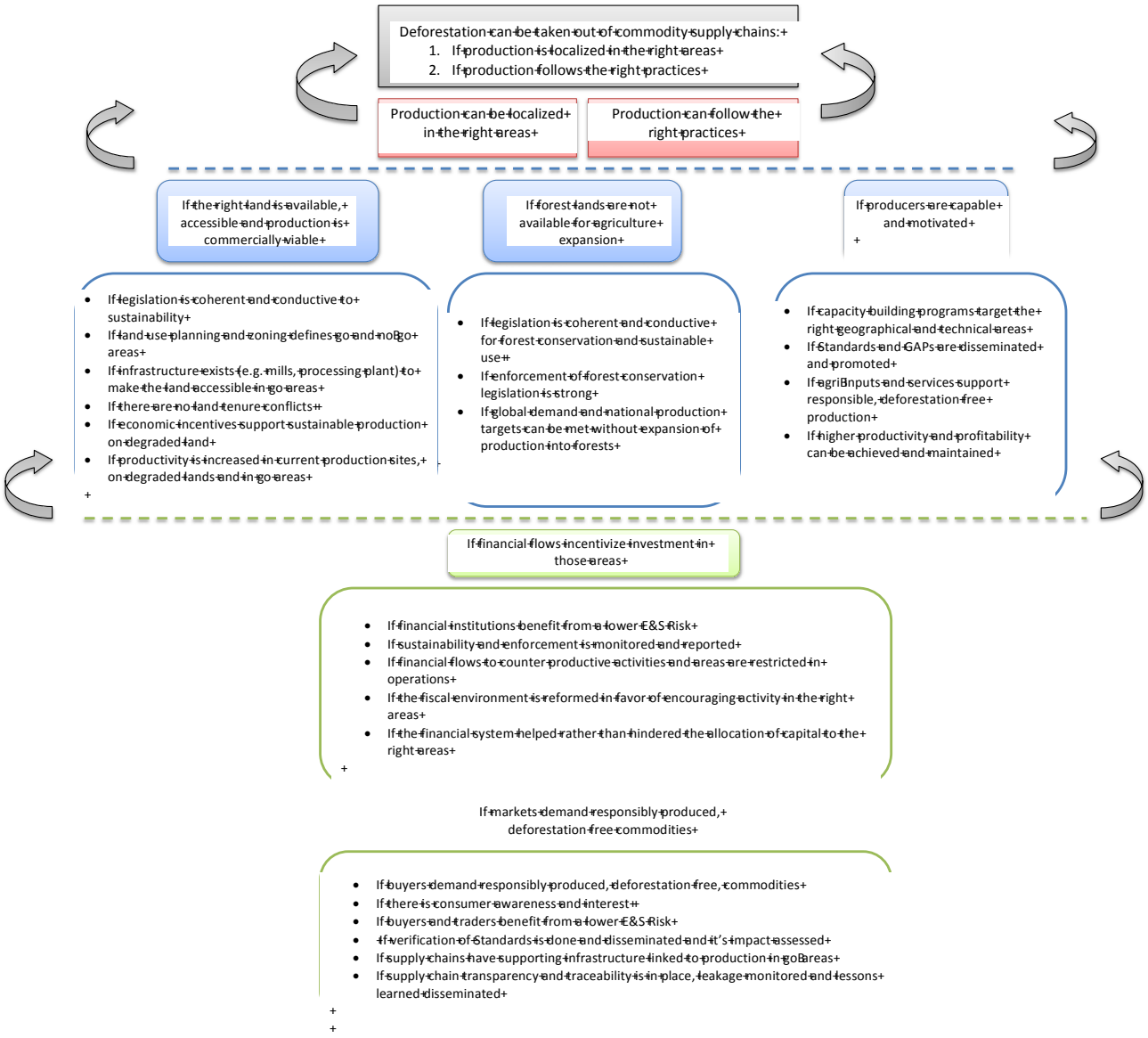

Figure 1: Theory of Change

An integrated, multi-Agency approach of significant scale is considered the right option to tackle the challenge. The recent wave of commitments, innovation and action on the part of both private and public sector actors establishes a strong baseline for action.

The production of soy, beef and palm oil creates negative environmental and social impacts while also creating development opportunities for rural communities. The current situation requires action to identify and address the immediate and future implications of commodity expansion and provide the basis for strategic interventions to ensure growth within a sustainable development pathway.

The IAP will invest in specific stages of key commodity value chains in regions identified with rapid expansion of key commodities. Interventions will be prioritized using criteria such as their potential to generate significant global environmental benefits, threat and opportunity profile, among others.

The key to success is the level of inter-relatedness between the production, processing, and supply of these commodities. The same companies are often involved in their production and processing, and are often invested in by the same financial institutions. This means that improvement in sectors depends on working with the same groups of actors. At the moment the fragmented landscape of sustainable commodity initiatives makes it difficult

for actors to focus and affect change. Similarly, it is difficult for these actors to improve one commodity supply chain while other parts of their business continue unsustainable practices.

A window of opportunity exists during which changes to commodity production pathways can still be made before irreversible damage to natural resources occurs. Taking advantage of this opportunity depends on an integrated commodity approach that not only removes the barriers along single commodity sustainable supply chains, but also harnesses the potential synergy and multiplying effect of addressing these three major commodities in a combined approach. An integrated commodities approach is a means to leverage the growing public and private sector interest in promoting sustainable commodities through the use of common approaches and pooled investment. Such an approach can identify shared objectives and economies of scale that can bring about change within the various actors through entire supply chains, within producing countries, and at the global level. Long-term sustainability within commodities depends on being able to link long-term national policy-making and programs for sustainable development with day-to-day supply chain management approaches.

The GEF's IAP cannot take on all the diverse sustainability challenges facing commodity markets and supply chains. An integrated commodities approach identifies the most effective and appropriate entry points for support, whether supply or demand side, public or private, policy or technical based on full comprehension of market and supply chain structures and corresponding sustainability pressure points along and between the chains. The Program will leverage the capacities and presences of strong partners with relevant expertise from the public, private, multilateral and CSO sectors, such as ministries in producer countries, the Consumer Goods Forum companies committed to deforestation free commodities, and global commodity standards.

Table 1 below outlines the proposed Program components and child projects.

Table 1: Program's Projects and Components:

1. Support to Production Project
    a. Component 1: Production policy & enforcement
    b. Component 2: PPPs and dialogue
    c. Component 3: Farmer support systems and agri-inputs
    d. Component 4: Producer support in targeted landscapes
    e. Component 5: Land-use plans and maps in targeted landscapes
2. Generating Responsible Demand Project
    a. Component 1: Demand for reduced deforestation commodities with major buyers and traders
    b. Component 2: Enabling environment for reduced deforestation commodities in demand markets
    c. Component 3: Reduced-deforestation commodity demand
    d. Component 4: Transparency, traceability, and decision support tools for reduced-deforestation commodity production
3. Enable Transactions Project
    a. Component 1: Support to Commercial Transactions
    b. Component 2: Financial Markets & Institutions
    c. Component 3: Incentives and Additional Revenue Options
4. Adaptive Management and Learning Project
    a. Component 1: Program's Overall Coordination and Adaptive Management
    b. Component 2: Monitoring, Evaluation & Reports
    c. Component 3: Research on Impacts

The Program in collaboration with its partner governments, and private sector and civil society partners will identify and target landscapes and areas in the producing countries; for example, the Chaco region of Paraguay, and concentrate the coordinated efforts of the different Program interventions in those areas. The child projects will support production and supply that does not contribute to deforestation, but rather increases the ability of buyers to manage for deforestation in supply chains, increases purchases from suppliers that do not deforest and

facilitates comercial transactions. The combined result will be the proof of concept and demonstration that deforestation can be taken out of a supply chain and still be commercially viable, and that regions can increase their agricultural output without deforestation. Work done at the landscape level will be taken to scale by working with producers' companies to spread commitments throughout their land holdings. Those landscapes and their experience will be central to the policy and dialogue work done at a subnational or national level as well as to efforts to generate international demand for reduced-deforestation production.

While the total funding envelop for the program is $45 million there are indications that the program will attract a much larger sum as countries begin to develop projects which are aligned with the objective of the program. The program is providing countries with a point of focus during the development of their own STAR allocation prioritization processes. These projects align country priorities with the theory of change of the program and allow countries to develop intervention strategies which address national priority topics on commodity-driven deforestation and use of the knowledge, influence and community of practice being established by the program.

For example in Indonesia the project "*Strengthening Forest Area Planning in Kalimantan*", which has been developed in parallel with this program, will use STAR resources to augment those being made available through the program in order to provide a more comprehensive and impactful intervention on the ground. Additionally Indonesia is considering how other significant forest-related programming within GEF-6, (for example community-based forest management and forest peatland restoration initiatives) can be designed to maximize the interaction between the projects and the program to further the objectives of avoiding deforestation from commodities expansion. Another key country for the program, Paraguay, has also initiated similar discussion on how to integrate and harmonize STAR and program initiatives.

Additionally a number of countries within South America and West Africa have intimated that while they will not be the focus of on-the-ground interventions from the program, they do wish to address commodity-driven deforestation. These countries are planning to develop projects with STAR funds which link directly into the program's initiatives particularly the growing community of practice and maximize the development of mutually supporting efforts. These initiatives illustrate the level of support from countries facing commodity-driven deforestation for the strategy proposed by the program and its anticipated ability to support impact at scale through combined efforts.

Investment and development needs at any given location and within any commodity supply chain will vary depending on the local conditions demanding tailored responses. At the same time, a whole chain approach can work with national and sub-national governments to create positive enabling conditions, link brands and retailers with national programs to benefit businesses, rural populations and supply chain actors to reduce deforestation and build sustainability throughout the chain.

Market-driven demand and development projects can complement good governance, well-functioning legal systems, effective local extension service systems, accessible formal credit structures, national tax and incentive schemes or other public services. It is therefore necessary to institutionalize the conditions for sustainable production by building capacities both in governments and private sector stakeholders. This enhanced government capacity and an improved enabling environment will allow for government and policy to mainstream and lock as sector requirements the positive actions and examples from leading institutions.

5. Program Components & Outcomes

The overall Program objective is to reduce the global impacts of agriculture commodities on climate change and biodiversity by meeting the growing supply and demand of palm oil, soy and beef through means that do not lead to deforestation.

The Program design is based on the involved Agencies' programmatic and strategic approaches related to sustainable commodities, tropical agriculture and deforestation. The Agencies share a common overarching goal and their programatic components are similar and follow the same logical framework, even though each Agency has a specific differentiation and particular expertise. Consultation with Governments of potentially involved

countries will allow the Agencies to prioritize and refine this logical framework and set of components to reflect local interests and challenges. Each component will be tailored to the countries and geographies chosen during project preparation.

The Program is structured in four interconected components:

(i) Support to Production,
(ii) Generate Responsible Demand,
(iii) Enable Transactions, and
(iv) Adaptive Management and Learning.

Support to Production:

The goal of the Production child project is to support agricultural development in areas suitable for production while conserving forests and safeguarding the rights of forest-dependent communities. This child project will enable supply and production in the right areas and location while conserving the forest and reducing deforestation in the targeted landscapes.

These efforts will be brought to scale through targeted sub-national level engagements each designed to address key entry points that afford leverage from national and sub-national level policy and platforms, including trader engagement and national-level producer commitments (e.g. through land banks). The Project will develop the capacity of governments and the private sector to identify the "go and no-go" areas of a landscape, allowing for agriculture expansion without deforestation, enabling the necessary dialogue, and strengthening monitoring and enforcement. This capacity and the model proven in the targeted landscapes will have national level impact, reducing overall deforestation rates. Working with a national level vision will allow the project to consider leakage and replication across a country.

The project will support integrated demonstrations in multiple landscapes, working with an array of stakeholders including commercial producers, smallholders (both women and men) and communities to transform production systems and improve land use. Conservation incentives will be used to work with smallholders to allow them to engage in the conservation of forest. Successful interventions in the targeted landscapes will inform the development of better national policies that provide the enabling environment for sustainable production initiatives to succeed. Identifying areas suitable for commercial production, community use or conservation is a cornerstone of this child Project and the overall Program. Targeted landscapes will be approached in a comprehensive manner with support to public sector capacity and private sector stakeholders with a focused objective targeting the right use of the land and taking into account the identification of the right incentives for sustainable production as well as conservation. Private and public sector commitments will be scaled by extending the gains in a landscape through corporate land banks, supply chains and government intervention.

The Production Project will focus on three commodities that have driven tropical deforestation, land use change and associated emissions over the last decade: **palm oil** (largest driver in Indonesia and southeast Asia) and **soy** and **beef** (largest drivers in the Amazon and key leakage biomes such as the Cerrado, Pantanal and Atlantic Forests).

In Latin America, priority would be given to two landscapes where the interaction of beef and soy production is still high and the deforestation frontier is expanding. These landscapes usually contain a combination of small and large farmers, and there are structural problems and lack of capacity with regards to land use planning and enforcement. These efforts will be brought to scale through targeted engagements at the national level, for example, Forest Code compliance to engagement of the Brazilian soy working group responsible for the Soy Moratorium to the Brazilian national and global beef standards. Existing efforts already aggregate the farmers and provide a dialogue with local and national governments.

For palm oil, the Project will aim to work in a large and consolidated producer like Indonesia and a emerging producer and new frontier of investment like Liberia in West Africa. The challenges and structural problems of these producing countries are different, but choosing consolidated leaders in palm oil production and a nascent producer will allow the Project to provide guidance and lessons applicable to multiple geographies.

Liberia is currently at a turning point in its development pathway. After decades of civil conflict and then a recent recession due to the Ebola Virus in West Africa, Liberia faces significant pressure to convert its natural resources for development. Since 2009, four international palm oil companies have been granted concessions in Liberia for palm oil production on 620,000 hectares of land. Although the palm oil concessions have been chosen in areas where the forest is relatively degraded, there is still considerable conservation-quality forest inside and between the palm oil concessions. There is a serious risk that current land use trends could result in fragmented and degraded natural landscape, that fails to meet conservation objectives and may be sub-optimal for industry and communities. Conflicts between communities and palm oil companies have already occurred over land rights and resource use. The social implications of large-scale land clearance for palm oil are therefore equally high.

In Indonesia the underlying causes of deforestation are well studied and the Project will concentrate in solving those causes. Conflicting policy between agriculture and forest lands, access to degraded lands, and smallholder's capacity are known challenges. These challenges will need to be addressed as well as further facilitating the implementation of the Indonesian Palm Oil Industry Pledge towards deforestation free production signed in November 2014. The companies who have signed up to this pledge will need support in order to achieve the goals outlined. In particular, assistance and support to second and third tier plantation companies who will have neither the market access and links, nor motivation to support the pledge unless they see a benefit to moving beyond a business as usual approach.

Key project components include:

Component 1: Production policy & enforcement. This component will review policy and regulations, promote monitoring and enforcement, and if necessary work with governments to improve policies identified as barriers to deforestation reduced commodities. Access to land, concessions and strengthening the role and involvement of governments in the enabling environment for agriculture and forest conservation in productive landscapes are potential topics of intervention. In addition, the component will also explore and promote the use of conservation techniques as a tool to help local actors, particularly smallholders, change their agriculture practices and ensure that production does not drive more agricultural expansion.

Component 2: PPPs and dialogue. Dialogue is a key principle and tool of this child project. This component will support the dialogue at a sector level within the country. It will enable public-private discussions as well as coordination between different governmental institutions and Ministries. National and Sub-National Commodity Platforms are dialogue forums that facilitate this component's objective and explicit links will be sought with other existing platforms (e.g. REDD+, roundtables, and industry groups). The National Commodity Platforms will be key instruments for achieving programme integration in the producing countries. By convening all stakeholders in the supply chain and government to dialogue and formulate national action plans for the commodities, they link national and local activity (in the targeted landscapes) and government policy with market commitments (domestic and global).

Component 3: Farmer support systems and agri-inputs. Farmer capacity systems – extension programs, training facilities, trade facilitation centers, etc. – are required to enhance the benefits and profitability of the farmers and their communities. The project will also assess the availability and access to agriculture inputs and services, transportation and other service providers and consider options for improvement when possible. This component will work to strengthen the public, private or mixed systems that deliver those services nationally and in the targeted landscapes and priority regions for the Project.

Component 4: Producer support in targeted landscapes. In the targeted landscapes, the Project will support capacity building of the farmers engaged and directly contributing to the Program's targets. This support can come from direct Program partners or from other capacity building institutions and will be specifically tailored to the deforestation-free requirements and objectives set by the Program. Since producers in a landscape often have land-holdings in other landscapes, the Project will also engage producers to make and implement commitments across their land holdings. The Project will pursue the use of conservation agreements where feasible to directly link agricultural technical assistance to forest conservation.

Component 5: Land-use plans and maps in targeted landscapes. In the targeted landscapes and priority regions, the Program will require a detailed definition and identification of the right land for agriculture production and for forest conservation. Land use maps, access to degraded and targeted lands, and forest conservation efforts will have to be clearly identified, agreed and promoted. This component will build on existing mapping efforts and land access programs where available. Local governments will be key partners to approve the land use plans, and companies will help implement the plans.

For more detail, see Support to Production project summary annex.

Generating responsible demand:

The goal of the Demand child project is to strengthen the enabling environment and public and private sector demand, for reduced-deforestation commodities in priority markets. The increased rate of tropical deforestation is driven by consumer demand, which the project will address directly.

The barriers to demand for sustainable, reduced deforesation commodities remain severe. These include a lack of awareness among companies, consumers and policymakers, commitments on the part of major buyers to source sustainably, actual purchases that reflect commmitments on the part of industry, and the lack of policy and market enabling conditions that promote sustainable commitments. However, important momentum to advance responsible demand exists, through the wave of corporate, platform and public-private commitments that have created unprecedented momentum (for more detail see Generating Responsible Demand project summary annex).

The current response is insufficient, and the need is great for additional commitments, resources for implementation action and supporting capacity. Most importantly, while deforestation occurs within production countries, the demand that drives such deforestation is multi-national. An integrated approach that coordinates demand and production and addresses the whole of the supply chain is needed. Incremental investments are needed to move commitments from market leaders to the mainstream of the market, to test solutions that address the whole of the supply chain and present actionable plans to transition to sustainable sourcing, and to build capacity to address demand in emerging economies.

The Demand child project will directly address these barriers and leverage recent commitments from governments and the private sector to advance a tipping point in more sustainable, reduced deforestation commodities. The Project will be global in nature, with a target of generating reduced-deforestation global supply chains for the three major commodities. It will emphasize targeted engagement with the key buyers and key markets that have represented the majority of recent demand, emerging economies where demand is increasing and domestic demand for these commodities within production countries. The Project will move beyond commitments on the part of market leaders, promote specialized capacity to engage traders, work with partners on actionable blueprints to implement commitments, and advance comprehensive capacity to engage buyers in the key demand markets. This will include domestic demand in producing geographies, linking to other initiatives and efforts on demand in major, mature export markets (EU and US) and demand in Asia emerging economy markets.

High-level outcomes include:

- Buyers and traders in domestic and global markets increase purchases of reduced-deforestation commodities
- Improved policy frameworks at national and local levels to drive demand for reduced-deforestation commodities in 3 major markets

The Demand child project will advance these outcomes through four integrated components that will be adapted and deployed in the different geographies in different forms and intensity.

Component 1: Demand for reduced deforestation commodities with major buyers and traders. This component will build on and accelerate commitments for reduced-deforestation commodities, such as the CGF and TFA platforms and individual corporate pledges to reduced-deforestation supply chains by Fast Moving Consumer Goods companies. The focus will be on sustainable sourcing commitments on the part of the largest buyers in the largest markets globally for each commodity. The Project will engage private and public sector

buyers on making and implementing pledges. The aim is to expand commitments into the mainstream, and to develop and implement purchasing policies and approaches that can bridge the current gap between commitments, implementation and actual increased uptake. The emphasis will be on purchasing policies and pledges that can demonstrate and quantify reductions in deforestation with increased transparency in supply.

The overall aim of the work with traders will be on the development and implementation of responsible sourcing criteria; capitalizing on the momentum within trading companies to shift from spot purchasing to long term contracts to have greater stability of supply, using this interest and leveraging purchasing power as a guarantor for finance for committed producers; and leveraging their extensions to their supply base to incorporate the principles and criteria for responsible production (connected to the Production child project). The Project will also work with the traders to consolidate supply and demand to remove some of the barriers of linking those producers that do not contribute to deforestation to market actors already demanding their product.

Component 2: Enabling environment for reduced deforestation commodities in demand markets. An emphasis will be on strengthening the enabling environment for trade of legal, reduced-deforestation palm oil, soy and beef by raising awareness, building the knowledge base and identifying policy solutions. This component will learn from past succesful policy advances and initiatives to ensure legality in timber imports, adapted for the agricultural commodity trade, and recent advances in public procurement standards such as the government purchasing requirements of palm oil in the UK. The intended result is the development of new policies and demand side measures that help curb deforestation due to agro-conversion, such as public procurement standards.

Component 3: Reduced-deforestation commodity demand. The aim of this component is to ensure that consumers in major demand markets demonstrate increased demand for reduced deforestation products. It is important that demand exists to purchase sustainably produced commodities. The need for demand to keep pace with supply may increase as the share in global consumption of many commodities shifts towards markets which do not yet have a high awareness of deforestation issues. In markets with higher levels of awareness, it is necessary to move beyond first-mover companies. In emerging markets, one of the main challenges associated with motivating key corporate actors into this agenda is a lack of awareness – both from the companies and from consumers. Consumer awareness campaigns, which both educate and raise the urgency of an issue by tying in and capitalizing on tangible social and environmental concerns (water scarcity, food safety, etc.), can make a difference. This will be accomplished through at least one consumer facing promotion, in collaboration with public and private sector partners, for each commodity in a primary demand market. The objective is to ensure that retailers and consumers support the uptake of commodities that do not contribute to further deforestation. For palm oil, this would include working in collaboration with partners to outline and execute a campaign for sustainable palm oil in the domestic market. For beef, it would include work with industry, traders, retailers and platforms to plan and implement a campaign that promotes sustainably-produced beef for the regional domestic market.

Component 4: **Transparency, traceability, and decision support tools for reduced-deforestation commodity production**. This component aims to educate and support buyers and consumers in the major markets and provide decision support tools that help promote and implement solutions for sustainable sourcing.

Clear and compelling business cases are needed to demonstrate increased competitive advantage via financial benefits, risk mitigation, impacts and to convince actors of their shared responsibility. Solid business cases have the potential to drive the expansion of demand, and mainstream better production within and beyond the Demand Project's target companies, and across multiple supply chain actors (brokers, traders, manufacturers, retailers, etc.). The Project will develop business cases demonstrating the economic, environmental and social benefits of buying sustainably produced commodities (employing BMPs, certification, conservation, legality, etc.) It will also determine criteria for buyers to make deforestation free purchase claims and benchmark standards and approaches against these criteria, and support capacity in standards to demonstrate impacts. Additionally, it will develop Key Performance Indicators methods and metrics for measuring demand-side contributions to commodity production that does not result in deforestation.

This component will also be responsible for the development of a Monitoring & Evaluation regimen for the Project. This will focus on the number of companies that have made and are implementing commitments and the increase in uptake of the target commodities produced through means that do not result in deforestation.

Enable Transactions:

The goal of the Transactions child project is to design and pilot financial and risk management instruments that extend financing to reduced-deforestation commodity production and reduce financing for unsustainable practices.

This project will facilitate the involvement of commercial and financial actors in the actual purchasing of deforestation free supply coming out of the Program and its targeted areas. The project will provide guidance and support to enable and strengthen financial flows and trade that fuel the transactions.

The Transactions project links the efforts and results of the Production project with the ones of the Demand project, helping supply and demand materialize in concrete trade transactions and financial support. The Project will ease the barriers commercial actors have to initiate new purchasing agreements and contracts, will help with business development and match-making efforts, and will facilitate the communication and negotiation between buyers and local production in the targeted landscapes. It will also identify interested financial institutions able to service the farmers involved in the Program and facilitate the provision of financial services required. Special attention will be paid in working with financial institutions interested in providing financial services to farmers committed to conservation of forest.

Project components include:

Component 1: Support to Commercial Transactions. This component will focus on the development and promotion of transformative commercial debt and/or equity financial transactions between private sector financial institutions and strategic actors (traders, branded companies) in their supply chains in targeted geographies and commodities. The provision of capital under specific conditions - such as the IFC's Performance Standards - can help private sector actors with material supply chain influence drive more sustainable practice upstream or downstream. Performance Standards (PSs) of particular relevance might include PS 3 on resource efficiency and pollution prevention, PS 5 on land acquisition and involuntary resettlement, and PS 6 on biodiversity conservation and sustainable management of living natural resources. Transactions might include those with with companies/banks that source from low deforestation suppliers, or who stimulate the productive use of degraded land (palm oil, soy and beef) thereby taking pressure off forested lands for expansion.

Component 2: Financial Markets & Institutions. Recognizing the importance and leverage that financial institutions and markets have on a sector, the Project will engage these institutions to work at a system level and influence lending policies of domestic and international banks through existing networks and organisations (e.g. BEI, UNEP FI), leverage the work of on-going initiatives (e.g. Principles of Responsible Investment) to promote deforestation-free investment portfolios of influential investors, increase the transparency of the financial sector, and identify the key components of a regulatory framework to govern national and international capital markets in a way that can scale up the flow of capital to sustainable agricultural commodity production in target areas.

Component 3: Incentives and Additional Revenue Options. Through this component, the Project will identify models that can leverage and unlock access to non-commercial funds (e.g. through bilateral and/or multilateral REDD+ Finance) that can complement the private sector investments and existing incentives for producers and demand. It might also support extensions services, policy implementation and enforcement. This recognises the fact that while public private partnerships that delivered blended finance have not been universally successful, well designed mechanisms can help address both financing needs and the challenges of aligning the interests of the public and private sector. Specifically, they can address barriers which might include: (i) availability of capital (ii) uncompetitive risk-adjusted returns (iii) lack of information (iv) challenges of coordination across networks and supply chains, and (v) awareness and entrenched behaviour. For more detail, see Enabling Transactions summary annex.

Adaptive Management and Learning

The overall goal of the Adaptive Management and Learning project is to strengthen global capacity and the integrated nature of the program to effectively leverage demand, transactions and support for production to implement the program in a synergic way for greater impacts and replication.

To function as an integrated approach and one program, coordination and programing are key functions. The Program's overall goal is based on the synchronization of activities and outcomes implemented by different Agencies and child projects; this synchronization requires a strong technical and administrative coordination. Agencies and partners involved in the implementation will be jointly responsible for the necessary adaptative management throughout the implementation of the Program.

The combined view and expertise of the different Agencies, complemented by key partners, provides a comprehensive analysis of the problem and challenges along the implementation.

Project components include:

Component 1: Program's Overall Coordination and Adaptive Management. The Program will be managed by the implementing Agencies as part of a Steering Committee, and supported by an Advisory Group. These coordination mechanisms will support the coordination and communication required between the different child projects and components in order to maintain a technical synchronization of activities and maximize synergy. It will also serve to analyze changing priorities or conditions for implementation to review programing and allocation of efforts. Coordination and synergy with other global programs and efforts related to commodities and deforestation will be aligned and facilitated by the Program as a means for leverage and replication. Green Growth, Natural Capital Accounting, and other sustainable developments are synergic, global efforts that contribute directly to this Program's agenda.

Component 2: Monitoring, Evaluation & Reports. As an Integrated Approach Program, this Project component will aggregate the partial results from the Production, Demand and Transaction child projects to produce a comprehensive view of the Program's progress and effectiveness. The high-level impact and results of the Program come from the integration of the child projects and their interconnected outcomes.

Component 3: Research on Impacts. A current body of research exists that links sustainable production (such as production following global sustainability standards) and environmental gains, and compares the improvements against a business as usual production regime. Recent research has also been done on the ability of commodity interventions at scale to impact deforestation rates at scale (Nepsted, Gibbs)**.** However, more and conclusive research is needed. In coordination with the STAP of the GEF, commodity roundtables, standard setting bodies, and other research groups, this project component will deepen the understanding of root-causes of deforestation and the correlation between sustainability practices and deforestation rates. A full research agenda will be developed and coordinated in consultation with the above mentioned partners. The component will also provide coordination and disemination of knowledge and market information to use among its partners and with other institutions investing in agricultural commodities.

6. Incremental and additional costs

The integrated nature of this Program requires an additional level of coordination and synchronization of efforts by the implementing agencies and additional partners to deliver on the inter-related outcomes and results. The integration of multiple projects, implementers and expertise is both at an operational level and a technical level. The Program will also align interest and contributions from very diverse stakeholders. Governments, civil society, industry and farmers will be able to collaborate and dialogue around common issues and a sector.

In order to have a transformative effect, the GEF finance provides incremental capacity to work with business, industry and governments in key supply and import markets. On the Demand side, this includes moving beyond

commitments on the part of market leaders to expand into the mainstream of the market; specialized capacity to engage key actors such as traders; capacity to work with buyers, traders, policymakers and partner organizations on the implementation of existing commitments; comprehensive capacity to engage buyers in the emerging economy export markets that are the future to global trade; and capacity to address domestic demand. The Demand child project builds on a strong baseline of public and private sector commitment to changing demand towards reduced-deforestation commodities, and project activities will empower these key stakeholders to implement such commitments.

At a national level, and from a Production perspective, activities will build on the existing baseline in each geography, pushing for synergy and increased reach of existing public and private efforts. National efforts will be considered and expanded, focalizing their approach towards a reduced deforestation commodity production and greater land use efficiency and planning. Private sector efforts and commitments will be brought in coordination with other stakeholders, and policy and government efforts will be complemented by those of companies.

7. Innovation, sustainability and potential for scaling up

The innovative approach of the Program comes from directly linking demand and production through the specific focus on commodities sourced from the targeted landscapes for a 'whole of supply chain' approach. The Program will work to change the overall structure of the market, to tip the global market for palm oil, soy and beef towards production that does not lead to deforestation.

Sustainability and continuation of activities after Program implementation comes from the change in business and market practices. The new market structure and business standard will maintain producers and buyers aligned with the new practices.

The Program's initial target commodities and countries of action can be easily expanded. Replication will come from applying the approach and proven model to other commodities. Scaling up will be required into other geographies and countries that produce or demand the commodities of this Program. The Adaptive Management and Learning child project will dedicate resources to expanding the knowledge sharing and tracking global expansion of production and demand, determining the new frontiers and markets where the approach is needed.

Multinationals, national companies and platforms will be stimulated to expand their commitments to other commodities and to other geographies, specifically those geographies which are new frontiers of deforestation. Changes in policies will move the demand for reduced deforestation commodities from voluntary actions towards an economic, compliance or market access motive, beyond the lifetime of the Program. This will embed reduced deforestation supply and demand into national and corporate policy and practices over the long term and help to expand to other geographies as well as to other commodities. The Program's approach will be increasingly accepted as business as usual in the food and agriculture sectors.

Identifying and designing new innovative ways of financing the production and trading of sustainable commodities that reduce deforestation rates in the countries where they are produced is challenging. Innovative financing (e.g. energy efficiency finance) has moved markets but the area of sustainable commodity finance is quite a new concept. Innovation is required, particularly in areas where plantations have to be replanted or rehabilitated or degraded lands have to be made more attractive to investors whether on a completely commercial basis or where appropriate (as in the case of smallholders) where blended finance can play a role. Working with regulators on appropriate environment, social and governance reporting and minimum standards is also necessary work that will enable a baseline to be set for in-country banks that are often not signatories to voluntary agreements such as the Equator Principles or the Banking and Environment Initiative (BEI).

The program is also looking for opportunities with other emerging initiatives related to commodities and commodity driven deforestation and is actively seeking collaboration with these. These potentially offer the opportunity to share intelligence, tools and techniques and allow for much wider reach for all involved initiatives. As many initiatives are in the early stage of development this process will be continued throughout program preparation.

2. *Stakeholders.* Will program design include the participation of relevant stakeholders from civil society and indigenous people? (yes ☒ /no☐) If yes, identify key stakeholders and briefly describe how they will be engaged in program design/preparation:

Implementation of the Projects will be collaborative and multi-Agency; therefore, coordination at a global and national level will have to remain strong after Program design.

The Program will seek to support action with four different sets of actors committed to this overall goal:

- Governments – through developing the enabling conditions for sustainable practices
- Financial institutions providing financial transactions and services to commodity value chains at national, regional, and global levels
- Buyers (any or all of the following – traders, processors, brands, and retailers)
- Producers – at a range of scales from smallholders (particularly women and indigenous groups), local communities, SMEs and multinational companies

The Governments of the countries involved in the implementation of the Program will be central to the project preparation phase and during implementation. Ministries of Environment and Agriculture have a role in most of the countries and in all cases local governments, at State, Province or District level, will have an active role in the targeted landscapes.

Some of the key global program partners for implementation are below. Specific partners per geography of implementation will be sought and engaged for project preparation and implementation.

Consumer Goods Forum (CGF). Rationale: representing nearly 400 Fast-Moving Consumer Goods (FMCG) companies, its Sustainability Committee designed a pledge to deforestation free supply chains for palm, beef, soy and pulp announced with 20+ member pledges at UNFCC COP-16 in Cancun

Tropical Forest Alliance (TFA). Rationale: Expansion of CGF deforestation free supply chain into an Alliance with the U.S. Department of State announced at the Earth Summit in Rio and since expanded to include the governments of Liberia, Netherlands, Norway, and UK

Banking and Environment Initiative (BEI). Rationale: Replication of the CGF deforestation free supply chain pledge made by 10+ of the largest global financial institutions with growing traction in the financial sector

Roundtable on Responsible Soy (RTRS). Rationale: Most credible global sustainable soy certification; first soy on market 2011.

Roundtable on Sustainable Palm Oil (RSPO). Rationale: Most credible global sustainable palm oil certification; in 10 years has reached 18% of production

Global Roundtable on Sustainable Beef (GRSB). Rationale: Developing globally credible sustainability criteria for beef production; membership includes critical percentage of global beef demand.

Ministries of Environment and Ministry of Agriculture. Rationale: Both Ministries are instrumental in land use planning, agriculture concessions and the interaction between forests and agriculture expansion.

CSOs and NGOs. Rationale: Depending on the location and final design of the program multiple organizations will have to be included at a national and local level.

3. Gender Consideration. Are gender considerations taken into account? (yes ☐ /no☐). If yes, briefly describe how gender considerations will be mainstreamed into program preparation, taking into account the differences, needs, roles and priorities of men and women.

Many companies source from established producer groups, yet women are usually underrepresented in both the membership and governance of these groups. On male-owned farms, female family members still do much of the work, yet receive little of the income from crop sales and have little say on how income is spent. They are also not beneficiaries of technical training and extension programs and are less likely to benefit from sustainability certification schemes.[10] Mainstreaming gender considerations in agricultural development is key to achieving global environmental benefits, while meeting the challenge of reducing deforestation while increasing agricultural commodity production. If women had equal access to productive inputs, FAO[11] estimates that yields from women's farms would increase by 20-30 per cent and total agricultural output by 2.5-4.0 per cent in developing countries.

The program will ensure full and equitable representation and benefit sharing from program activities. It will seek to engage with all stakeholders at national, subnational and at the community level including any potentially marginalized groups. The program will seek to add to or strengthen these groups when key stakeholders are underrepresented. We will ensure men, women, youth and other groups are engaged and build monitoring systems that include necessary disaggregation to track this throughout the life of the program. To ensure that the program meets the GEF Gender Mainstreaming policy, the program will develop a "Gender Mainstreaming Strategy and Action Plan" during the PPG phase that will guarantee the mainstreaming of gender issues throughout the program. UNDP, WWF and CI will develop, approve and oversee the implementation of this Strategy and Action Plan throughout the duration of the program and they will guide and work closely with the other agencies to harmonize the overall structure of the gender strategy.

Through the child project on production and demand, the Program will integrate participation of both women and men by working with smallholders, and buyers including traders, and women in the informal sector. The project will incorporate gender sensitive actions, indicators and targets to assess the share of women and men as direct beneficiaries of this program. The work with smallholders will be particularly important for the inclusion of both men and women and other marginalized groups to provide them with farmer's capacity systems and extension programs, training facilities and trade facilitation centers to assure benefit sharing is in place for the targeted landscape.

UNDP as the overall lead has a Gender Equality Strategy that will be key in shaping the framework for mainstreaming gender. GEF funds through UNDP have supported programs and projects that are designed to generate multiple benefits that are aligned with national development and global environmental priorities.

WWF has instituted a global network gender policy to ensure that its conservation policies, programmes, and activities benefit women and men equally and contribute to gender equity, as part of a broader commitment to strengthening the social dimensions of its projects and programmes. WWF Certification Assessment Tool (used to compare the Principles & Criteria of various standards) specifies a number of requirements for a credible standard with relevance for gender issues. WWF has also worked to engage producers directly in demonstration cases, linking small producer groups directly to suppliers, for example in an FSC project linking community rattan producers—the majority women—in Laos to direct sourcing for Coop CH, or in working with a women's cooperative of soy farmers in Brazil on RTRS certification. This has improved livelihoods and increased family income for the involved producers.

CI is committed to ensuring that both men and women are fully involved in its projects and programs. CI recognizes that socially defined roles, responsibilities, and norms often dictate how men and women interact with their environments, and understanding these are fundamental to successful interventions. By building capacity of its internal staff and partners around the world to identify gender dynamics, CI develops actions to reduce gender-related barriers to participation. CI's work has focused in gathering social-cultural information and ensuring that gender is addressed holistically in all stages of a program design cycle, including planning, implementation, monitoring and evaluation. Both CI and WWF have Gender Specialists/Advisors that are full-time staff.

[10] Man-Kwun Chan (2010). Improving opportunities for women in smallholder-based Supply Chains. Business case and practical guidance for international food companies.

[11] FAO, 2011. The State of Food and Agriculture 2010-2011, Women in Agriculture, Closing the gender gap for development. FAO, 2011.

Through the coordination with all the agencies, the indicators will be selected during project design. Key aspects to monitor are: (i) inclusion of women-led farms in supply chains, (ii) representation of women in training and capacity building efforts, and (iii) achievement of equitable workload balance. Monitoring of progress in mainstreaming gender will be done at both project and program level and the knowledge management component of the Program will ensure consistency in data collection across child projects.

4. Benefits. Describe the socioeconomic benefits to be delivered by the program at the national and local levels. Do any of these benefits support the achievement of global environmental benefits (for GEF Trust Fund), and/or adaptation to climate change?

The program will lead to the conservation and maintenance of globally significant biodiversity, ecosystems goods and services that provide to societies by working with producers and buyers in increasing both the supply and demand of key commodities that do not lead to deforestation and degradation of forests. The tropical rain forests of Amazonia, West Africa, and South East Asia are recognized internationally as key biodiversity hotspots. They are important centers for endemism for plants, birds, mammals, and reptiles, among other taxa.

Through the implementation of participatory land-use planning processes, good agricultural practices, and conservation agreements, the program will seek to develop sustainable land management practices in agriculture landscapes that will not lead to deforestation, while improving the socio-economic conditions of those involved in the program. Benefits will be measurable on the increase of use of degraded lands, increase in productivity of the commodity and sector, high biodiversity and carbon areas under protection in agriculture landscapes, and farmers and communities positively affected by the program. Further, by working with all stakeholders, private sector and national governments to create enabling conditions, the program will help support transformational shifts towards a low-emission and resilient development path.

5. Risks. Indicate risks, including climate change risks, potential social and environmental future risks that might prevent the program objectives from being achieved, and if possible, propose measures that address these risks to be further developed during the program design:

Risks	Risk Management
External Risks	
Coordination of outcomes and interconnected activities between child projects fails during implementation	The nature of this Program as an Integrated Approach implemented by multiple Agencies makes outcomes dependent on the coordination and joint delivery by the different child projects. Synchronization and technical alignment will be constant concerns and effort by Program partners and the Adaptive Management component.
Government and stakeholders' buy-in and willingness to commit to long-term policy changes and improvements	As it is with most transformative projects, this program will require the on-going commitment of governments and stakeholders to transform practices and adapt to new improved systems. The Program will commit enough resources and time to build capacity and provide follow-up to the main stakeholders and decision makers during implementation.

Buyers/traders that make commitments are not able to implement these commitments	Program invests in partnering with committed buyers on development and roll out of responsible purchasing policies. Strategy development for deforestation free sourcing and connections to producers committed to deforestation free production.
High-level commitments that have been brokered (e.g. TFA, large scale corporate commitments) fail to make progress or follow through on commitments	Closely monitor progress of commitments and highlight any failings Begin monitoring overall uptake (and not just production) Focus on implementation of commitments Promote public, transparent reporting
Demand for deforestation free commodities grows in advanced economies but remains low in emerging economies, due to concerns on the impact of sustainability on price in price-sensitive markets. This will have the effect that more sustainable production is reserved for export to advanced markets while emerging economies continue to have a higher risk supply base	Raise awareness; establish an enabling environment in emerging economies, engage largest buyers in emerging economy markets, engage traders that serve these markets, and build business cases for emerging economy buyers and policymakers that demonstrate that sustainability is cost effective.
Prolonged Commodity Downturn – The cyclical nature of commodities will often result in periods where commodity pricing/margins are low and investments from corporates in sustainably sourced commodities are reduced.	Improving the business case for adoption of best practices will often lead to cost savings and productivity improvements that in turn make producers more resilient to price fluctuations and more bankable.

6. Coordination. Outline the institutional structure of the program including monitoring and evaluation coordination at the program level. Describe possible coordination with other relevant GEF-financed projects and other initiatives.

The programing of activities across different projects and geographies to deliver intertwined outputs will be critical for the outcomes of this Program. Agencies, governments and partners involved in the implementation will be jointly responsible for the necessary coordination and synergy of it. The combined view and expertise of the different stakeholders, complemented by key partners, provides a comprehensive analysis of the problem and challenges related to implementation.

The different Agencies bring the necessary mix of expertise. UNDP and UNEP's public sector mobilization capacity and government expertise, WWF and CI as civil society deeply emerged in the topic of conservation and agriculture commodities, WWF's and CI's efforts in mobilizing the private sector and help create credible, global, multi-stakeholder sustainability standards, CI's years of experience in working with communities and governments to link conservation and sustainable production, and the WB/IFC focus on transactions, financial institutions and trade complement each other. The initiative will further leverage the capacities and presences of strong partners with relevant expertise from the public, private, multilateral and CSO sectors, such as ministries in producer countries, the Consumer Goods Forum companies committed to deforestation free commodities, and global commodity standards.

The coordination required is also at a technical level. The support to production and strengthening of local capacity in the governments and farmers has to be met by an increased interest and responses from the demand

side. The balance and synchronization of volumes and timing of production and demand are required to allow for meaningful transactions that fuel the transformation of the market and benefit local producers.

CI, IADB, IFC, UNEP, UNDP and WWF are the Implementing Agencies working together on the Program. The four child projects will be implemented by the Agencies in a coordinated way, the following Agencies will lead each project:

- Adaptive Management and Learning – led by UNDP with IFC and WWF
- Support to Production – led by UNDP with CI, IADB and WWF
- Increase of Demand – led by WWF with UNDP and CI
- Enabling Transactions – led by IFC with UNEP and WWF

A Steering Committee, initially constituted by the Implementing Agencies and expanded with other key partners involved in the design process, provides a decision-making forum to assure alignment and synergy between the Program's components. The Steering Committee provides a governance structure and decision making mechanism for a successful design of the Program and the necessary coordination during implementation of the Projects. It also aims to solve any disagreement between the Agencies or Projects that was not possible to solve bilaterally and to provide an overall, high-level, coordination of the technical alignment and synergy between the Program's components.

The main roles of the Steering Committee are:

- Review progress of previously agreed work-plans and calendars
- Define key milestones, points for review, and topics group agreement
- Discuss process forward, change to plans and main activities
- Review group reports and communicate progress to the GEF on Program level activities
- Coordinate key interaction with Governments and OFPs in each country for Program level activities
- Agree on communication points and group communications
- Coordinate joint organization of workshops and events related to the Program
- Define and coordinate fundraising and key partnerships agreements
- Assure consistency in publications and communication documents
- Review, comment and recommend approval of the Program Framework Document
- Review, comment and recommend alignment of Project objective and outcomes for consistency with the Program Framework
- Discuss and review overall GEF budget allocation for the PIFs and its components.

An Advisory Committee will be constituted with external advisors of globally recognized expertise. The members will have multiple backgrounds in terms of geography and stakeholder group to secure diversity in voice and perspectives.

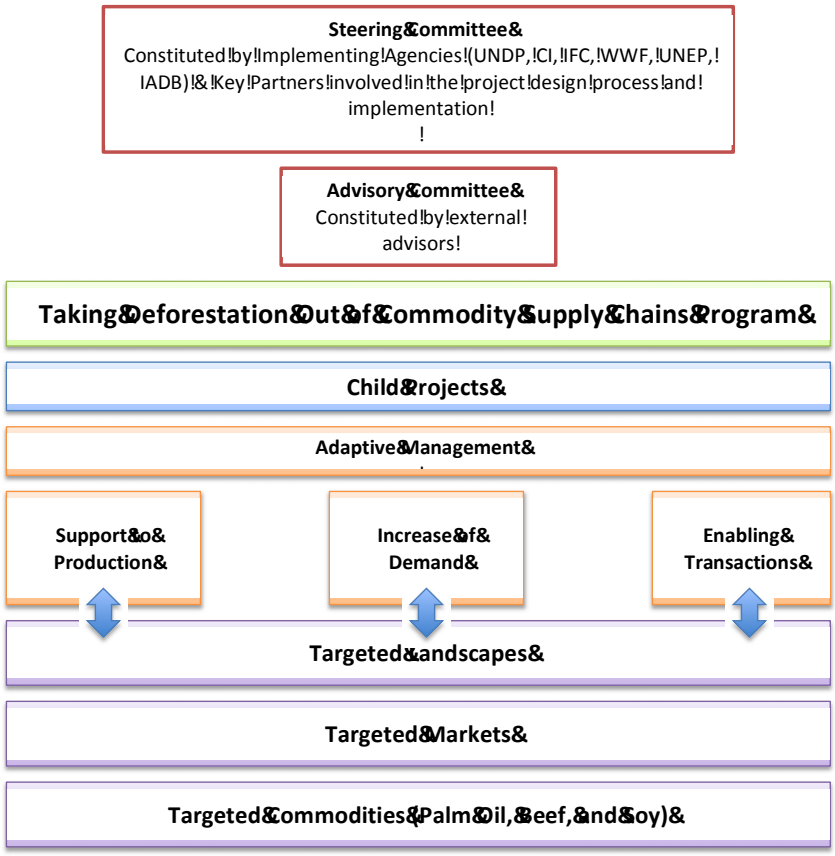

Figure 2: Program Coordination and Knowledge Management

7. Knowledge Management. Outline the knowledge management approach for the program, including plans for the program to learn from other relevant initiatives, and to assess and document in a user-friendly form, and share these experiences and expertise with relevant stakeholders.

Through the adaptive management and learning child project, the program will effectively strengthen knowledge of responsible demand, enabling transactions and support to production systems that are able to increase supply and demand of soy, beef and palm oil that will not lead to deforestation in key geographies.

Reports will be generated to provide a comprehensive view of the program's effectiveness and it will generate state-of-the art information on market demand for the target commodities. By working with STAP, round tables and other leaders in the sustainable commodities arena we will create a platform where information can be readily accessible and others can share their experiences and lessons learned from other initiatives that can complement this work.

The Program's progress and systematization of experience will follow the main log-frame and a design that includes the role and outcomes of each of the child projects. The Program will identify key indicators of progress and results to be tracked and collected by the projects as part of each monitoring and reporting requirements. The aggregated view and analysis will be reported as one coordinated effort by the adaptive management and learning child project.

Each child project and Implementing Agency will follow its own particular M&E procedures and requirements, at the same time it will track shared indicators previously agreed to contribute to the overall Program's framework. The initial set of proposed impact indicators are:

- Hectares of conserved forest

- Hectares of agriculture land managed sustainably
- Percentage of farmers and communities positively affected
- Trade in volume and value that requires deforestation free commodities
- Value of financial incentives deployed to support deforestation free production
- Value of financing provided to transactions under the Program

To determine short and medium term progress towards the long-term goal and impacts, the Program will track and analyze the progression from commitments and pledges by governments, private sector and other stakeholders to action and results. The capacity to implement and deliver on those commitments is an intermediate requirement (between commitment and action) that can also be measured and considered by the Program.

8. *National Priorities.* Is the program consistent with the National strategies and plans or reports and assessments under relevant conventions? (yes ☐ /no☐). If yes, which ones and how: NAPAs, NAPs, NBSAPs, ASGM NAPs, MIAs, NCs, TNAs, NCSA, NIPs, PRSPs, NPFE, BURs, etc.

As finance mechanism to the UNFCCC, UNCBD, and UNCCD, the GEF plays an important role in supporting global forest management and conservation. The three Rio Conventions have made clear the importance of forests to achieving their individual objectives. This program will be able to address the common goal of reducing and avoiding the loss of forest resources, and will support the following objectives:

Aichi Biodiversity Targets (CBD decision X/2)

i. Target 5. By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.

ii. Target 7 By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.

REDD-plus activities (UNFCCC decision 1/CP.16)

i. Reducing emissions from deforestation.

ii. Conservation of forest carbon stocks.

DLDD and sustainable forest management (SFM) (UNCC D decision 4/CO P.8)

i. Reinforce SFM as a means of preventing soil erosion and flooding, thus increasing the size of atmospheric carbon sinks and conserving ecosystems and biodiversity.

The program also contributes to the UNFF Global Objectives on Forests (E/2006/42 E/CN.18/2006/18): Reverse the loss of forest cover worldwide through SFM, including protection, restoration, afforestation, and reforestation, and increase efforts to prevent forest degradation.

The Program will also contribute to country specific priorities where active on the ground. Some potential examples are:

Indonesia established a National Action Plan for Reducing Greenhouse Gas Emissions (Rencana Nasional Penurunan Emisi Gas Rumah Kaca/RAN-GRK) as a country commitment at the G-20 Summit in Pittsburg, USA on 25 September 2009, which is one of the main goals of this project by increasing supply and demand of commodities that do not lead to further deforestation. Law No. 32/2009 also promotes a set of environmental policy instruments to integrate conservation and development goals with some innovative mechanisms: i) mainstreaming conservation towards development and economic activity planning through natural resource budgeting, “green” national and regional accounting, rewards for ecosystem services between regions and

internalization of environmental cost systems; ii) environmental fund establishment by public and private sectors; and iii) incentive and disincentive systems by applying environmental friendly goods and services, environmental tax, retribution, subsidy, cap-and-trade, eco-labeling, and payments for ecosystem services. This project recognizes that agriculture and production of palm oil in Indonesia is one of the main economic activities and the intention of the program is to continue this trajectory in a sustainable way without leading to further degradation of forests.

In Liberia, this project is in line with the NBSAP to take appropriate measures to protect critical ecosystems against harmful effects or destructive practices for conservation of biological diversity. It creates biodiversity awareness among sectors, the society and promote international cooperation; it commits the people to the sound and sustainable use of biological diversity to bring about socio-economic development; it promotes access to genetic resources and the fair and equitable sharing of benefits arising from their utilization; and it contributes to the fulfillment of the Millennium Development Goals through poverty alleviation, food security, and women empowerment in biodiversity conservation.

In Brazil, this project is aligned with the National Climate Change Policy, especially with (i) PPCerrado - Action Plan for Prevention and Control of Deforestation and Forest Fires in Cerrado, in its three axes: Sustainable production, Monitoring and control, and Protected areas and spatial planning; and (ii) ABC Plan - Sectorial Plan for Mitigation and Adaptation to Climate Change for the Consolidation of a Low Carbon Emission Economy on Agriculture. It also has convergence with PLANAVEG - National Plan for Recovery of Native Vegetation currently being discussed publicly, as it supports producers' compliance with the National Forest Code. The support to mid-sized landowners also is consistent with the PRONAMP - National Program for Support to the Rural Mid-size Producer.

9. *Child Selection Criteria*. Outline the criteria used or to be used for child project selection and the contribution of each child projects to program impact.

The implementation will be done by four child Projects:

- Adaptive Management and Learning – to be led by UNDP
- Support to Production – to be led by UNDP
- Increase of Demand – to be led by WWF
- Enabling Transactions – to be led by IFC

The Steering Committee, composed of the involved Agencies and the GEF, has overseen the design process and Program preparation. This Steering Committee will provide a decision-making forum to coordinate alignment and synergy between the Program's components during Project Preparation phase as well.

Child Projects will be submitted for CEO Endorsement once reviewed and cleared by the Steering Committee no later than June 30th, 2016.

PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)

A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S): (Please attach the Operational Focal Point endorsement letter with this template).

NAME	POSITION	MINISTRY	DATE *(MM/dd/yyyy)*
Hon. Anyaa Vohiri	Executive Director	ENVIRONMENTAL	MARCH 3, 2015

		PROTECTION AREA, REPUBLIC OF LIBERIA	
CP Ronaldo Coronel	GEF OFP, Director of Administration and Finance	**SECRETARIAT OF THE ENVIRONMENT (SEAM)**	**MARCH 12, 2015**

B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF policies[12] and procedures and meets the GEF criteria for program identification and preparation.

Agency Coordinator, Agency name	**Signature**	**DATE** *(mm/dd/yy yy)*	**Project Contact Person**	**Telephone**	**Email Address**
Adriana Dinu, UNDP-GEF Executive Coordinator.		April 1, 2015	Andrew Bovarnick, Global Head, Green Commodities Programme & Lead Natural Resource Economist		Andrew.bovarnick@undp.org

C. Additional GEF Project Agency Certification *(Applicable Only to newly accredited GEF Project Agencies)*
For newly accredited GEF Project Agencies, please download and fill up the required **GEF Project Agency Certification of Ceiling Information Template** to be attached as an annex to the PFD.

[12] GEF policies encompass all GEF managed trust funds, namely: GEFTF, LDCF, and SCCF

ANNEX A

LIST OF CHILD PROJECTS UNDER THE PROGRAM FRAMEWORK

Child Projects under the Program[a/]							
Country	**Project Title**	**GEF Agency**	**GEF Amount ($)**			**Agency Fee ($)**	**Total ($)**
			Focal Area 1	**Focal Area 2**	**TOTAL**		
			Project	Project	Project		
	FSPs						
Global	1.Support To Production	UNDP	20,584,404		20,584,404	1,852,596	22,437,000
Global	2.Generating Responsible Demand	WWF-US	8,748,060		8,748,060	787325	9,535,385
Global	3. Transactions	WB	7,021,615		7,021,615	631945	7,653,560
Global	4.Adaptive Management And Learning	UNDP	3,978,440		3,978,440	358060	4,336,500
	Subtotal		40,332,519	0	40,332,519	3,629,926	43,962,445
	MSPs						
	1.	(select)			0		0
	2.	(select)			0		0
	3.	(select)			0		0
	Subtotal		0	0	0	0	0
	Total		40,332,519	0	40,332,519	3,629,926	43,962,445

Note: Total funds allocated per agency represent Program components and lead agency. Funds allocation within component and among agencies involved in implementation.

a/ Total amount of child project concepts should equal the GEF program financing requested and consistent with Tables A, B and D.

ANNEX B

Taking Deforestation out of Commodity Supply Chains

SOY & BEEF VALUE CHAINS

Introduction

Food and fiber production (including subsistence agriculture and ranching), and the land use change it drives, represents the second largest anthropogenic source of GHG emissions on the planet, behind fossil fuel combustion. Much of this is driven by production of beef, soy, palm oil and pulp. With world population set to increase to nine billion by 2050, and incomes expected to rise, consumption is predicted to double, putting increased pressure on forest resources. World meat production is projected to increase by 78% (concentrated in Brazil), while Brazilian soy production is expected to see a 40% increase over the next decade.

Brazil is the world's fourth largest emitter of greenhouse gases and nearly half of Brazil's emissions are from land use change and forestry (LUCF), specifically deforestation. The Amazon is the world's largest tropical rainforest and has a high carbon stock (240 Gt CO2e) and concentration (570 T CO2e/hectare above and below ground). The Cerrado is the 200 million ha wooded savannah south and east of the Amazon and has a carbon stock of 55 Gt CO2e and average concentration of 280 T CO2e/hectare.

Deforestation rates in the Cerrado have averaged ~1.4 million ha/year since 2003. Cerrado forest conversion emissions from cattle were 0.258 Gt CO2e in 2009, roughly equivalent to Amazon forest conversion emissions from cattle. Brazil's LUCF emissions are currently split evenly between the Amazon and Cerrado (~0.4 Gt of CO2e per biome assuming 75 T C/ha emissions from deforestation in the Cerrado) – the Cerrado is half as carbon rich, but is being deforested at twice the rate, mainly for agriculture, cattle, and charcoal production for the steel industry. Monitoring of Amazon deforestation is possible because a universal system exists. In fact, an analysis of satellite imagery collected in the PRODES project by the Brazilian Institute for Space Research (INPE) demonstrated that 762.979 km^2 (equivalent to 184 million football fields) of the Amazon has been deforested over the past 40 years. Similarly, the Cerrado, one of the world's richest savannahs, is the most threatened biome in the country and has already lost 48,2% of its vegetation cover.[13] Monitoring of deforestation has demonstrated that by 2009, 66 percent of total deforested Amazonian land was used for open pasture and 22% was secondary vegetation.[14] A recent study has shown that 30% of Brazil's carbon emissions have been linked to deforestation since 1990, of which 29% were associated with soybean production and 71% with cattle ranching.[15]

Global Soy

Soy production is one of the five largest drivers of LUCF emissions, and contributes to deforestation in places of global significance to biodiversity conservation, including the Cerrado-Pantanal and the Amazon, the world's largest tropical forest. Projected world output of soybean in 2014-2015 is a record 315.1 million metric tonnes, led by Brazil (94.5 mMT, Argentina (56 mMT) and Paraguay (8.5 mMT).[16] Soybean meal is also regularly produced for livestock feed purposes, while soybean oil represents 27% of worldwide vegetable oil production.[17]

[13] http://siscom.ibama.gov.br/monitorabiomas/cerrado/
[14] http://www.cbd.int/doc/world/br/br-nr-05-en.pdf
[15] Karstensen et al., 2013, http://iopscience.iop.org/1748-9326/8/2/024005
[16] USDA, World Agricultural Supply and Demand Estimates, March 10, 2015, *available at* http://www.usda.gov/oce/commodity/wasde/latest.pdf
[17] https://www.worldwildlife.org/industries/soy

Growth in demand for soy and cattle led the Brazilian legislature to consider revision of the Forest Code, which, by providing strict controls on the ratio of Amazonian land holdings that can be cleared, has helped conserve natural forests for decades to come. Primary export markets for soy include the EU and China. China's demand for soy is equivalent to the entire increase in soy production in Latin America over the last decade (more than half of Brazil's soy exports go to China) and is forecasted to increase dramatically over the next few years.

In a selection of European countries, poultry and pork production represents the bulk of soy flows, while poultry exports from the Netherlands and pork trade by Germany also represent significant volumes. Sector concentration (market share of top 5 companies) is high in soy crushing (particularly Argentina and India) and poultry processing (particularly Brazil and the US), and low in animal feed, with the latter sector being fragmented and not clearly defined. There are a number of companies that play a 'systemic role' in the soy markets and are found across regions and/or across segments; these include Cargill, Bunge, Dreyfus and JBS. In Brazil and Argentina Bunge and Cargill are the leading crushers. In Brazil Bunge, Cargill and Marubeni are the leading exporters, while when zooming in on ports in the Amazon and MAPITOBA (acronym for the geographic region composed of the Brazilian states of Maranhão, Piauí, Tocantins, and Bahia), ADM and Cargill are the leading exporters. Bunge and Cargill take the lead in trade from Brazil to the EU and Marubeni is the leading exporter to China. In China (which drives much of the demand), Wilmar and China Agri/COFCO are the leading crushers.

Global Beef

Beef production is the largest driver of deforestation related emissions, with the cattle industry accounting for 25% of emissions and the Brazilian cattle industry alone accounting for half of that. Beef production accounts for 60% of the land use for agriculture and has contributed to deforestation due to the increased need for pasture and croplands for livestock in response to rising meat consumption, which has grown 25-fold since 1800 and averaged 42.8kg per capita in 2012.[18] Bovine meat accounted for 24% of total meat consumption and production reached almost 60 million metric tons worldwide in 2014.[19] There was an estimated 1,494 million head of cattle globally in 2012 using 30 million square kilometers of land, primarily in Brazil, the European Union, India, Australia, the United States, Argentina, and China (the leading global meat producer).[20] Cattle production is the leading driver of deforestation in the Brazilian Amazon and Cerrado biomes (66 percent of deforested Amazonian land in pasture and an additional 21 percent is pasture reclaimed by secondary forest[21]). Brazil is the second largest producer of beef (after the U.S.) and the top global exporter since 2004. The growth of the cattle sector in Brazil has had an increasing impact on the Amazon as cattle production has shifted to that region. From 1990-2008, the herd size in the Legal Amazon grew from 21.1 million head (18% of national total) to 71.4 million (36% of national total). Slaughter capacity in the Legal Amazon also grew significantly.

Deforestation in the Amazon has decreased since 2004 from its peak of ~1.5 Gt of CO2e (27,000 km2) in 2004 to the current level of ~0.4 Gt of CO2e (7,000 km2). This decline is largely due to legal enforcement, market engagement and the global recession. However, success with reducing deforestation in the Amazon has not extended to the Cerrado. In fact, conversion in the Cerrado increased by 156%, from 2009 to 2012 (Soares-Filho et al. 2014). The best data suggest that the Amazon forest conversion emissions from cattle were 0.264 Gt CO2e in 2009, down from .709 Gt CO2e in 2005.

[18] Galloway et al. 2010; UCSUSA, Grade A Choice: Solutions for Deforestation Free Meat http://www.ucsusa.org/sites/default/files/legacy/assets/documents/global_warming/Solutions-for-Deforestation-Free-Meat.pdf
[19] USDA, Livestock and Poultry: World Markets and Trade, October 2014, http://apps.fas.usda.gov/psdonline/circulars/livestock_poultry.pdf
[20] Stehfest et al. 2009; FAOSTAT database, 2012
[21] http://www.cbd.int/doc/world/br/br-nr-05-en.pdf

Brazil has an estimated 205 million head of cattle and has seen an increase in productivity per hectare of 25% in the past decade.[22] In 2013, beef production in Brazil was 10.2 million tonnes CWE, 80.9% was destined to the domestic market and 19.6% was exported.[23]

The beef sector in Brazil is comprised of a small number of meat processing giants, with Brasil Foods, Marfrig and JBS being large Brazilian players that operate globally. These players represent a very large share of Brazil's meat exports and are key suppliers to global fast-food retailers like McDonalds. In secondary processing of meat (packaged meats, sausages, ready meals, etc.), the landscape is dominated by private label players; only in Brazil and India are branded companies the largest secondary processors. Market share for the three largest processors—JBS, Marfrig, and Minerva— has gone up from 24% in 2011 to 37% in 2013 (BeefPoint, 2013). In some states such as Mato Grosso, Mato Grosso do Sul, and Goiás, their market share is as high as 68%. (Daturesearch, 2014)

Due to market pressures for more land to increase production, the beef industry responded, with the three largest processors—JBS, Marfrig, and Minerva— signing a moratorium on any products coming from newly deforested lands (Walker et al., 2013). To date, 140 beef processors in four Amazonian states—Pará (120), Mato Grosso (17), Rondônia (2), and Amazonas (1)—have signed the Terms of Adjusted Conduct (TAC), a federal agreement that provides credit, promotion, and technical assistance in exchange for a commitment to deforestation-free operations (Brasil 2013). Additionally, JBS, Marfrig, and Minerva initiated regular third-party audits of their suppliers.

Brazil and Sustainable Beef and Soy

Agricultural commodities are a key element of economic growth in rural areas of Brazil, accounting for 22.5% of Brazil's gross domestic product. Commodity production is central to Brazil's economic development, with the current $83 billion agribusiness trade surplus accounting for the majority of the current trade surplus. The rapid intensification of the Brazilian beef sector is expected to persist, as the Ministry of Agriculture projects that Brazilian beef exports will grow by 2.4% per year and will represent 44.5% of the global market by 2020.[24] There are similar projections for Brazil's soybean production (the second largest in the world), which is expected to grow by 2.43% annually until 2019.[25] Soy has been the most rapidly growing agricultural commodity in Brazil over the past three decades and represents 49% of total land cultivated with grains in the country.[26] The Ministry of Agriculture also estimates that domestic soy production will represent 40% of the global market of soybean meal and 73% of soybean oil by 2019.[27] The frontier of agricultural expansion in the Northeast region of the country, known as the MATOPIBA (comprising the states of Maranhão, Tocantins, Bahia, and Piauí) is expected to see an increase in cultivated land of 17 % (from 2010) to 7.5 million hectares by 2020/21.[28] The challenge now is to improve sustainable production practices of highly relevant commodities, which are so vital to socio-economic progress, but also for the nature equilibrium. Studies have found that Brazil has enough land to meet current agricultural demand until 2040 and could increase productivity of its livestock and soy sector to meet rising demand without further conversion of natural habitat (Strassburg et al 2014). In fact, the current productivity of pasturelands is estimated to be around 32-34% of estimated capacity (94 million animal units as opposed to 274-293 million).

Since the primary driver of deforestation and land use change in Brazil over the last decade has been agricultural commodity production, led by soy and cattle production, the challenge now is not to end production of high impact commodity production, which is so vital to socio-economic progress, but to make it more

[22] Brazilian Beef, The Beef Sector, Brazilian Livestock, http://www.brazilianbeef.org.br/texto.asp?id=18
[23] Brazilian Beef, Statistics/Information, Beef Profile, http://www.brazilianbeef.org.br/texto.asp?id=9
[24] Ministério de Agricultura, Bovinos e Bubalinos, http://www.agricultura.gov.br/animal/especies/bovinos-e-bubalinos
[25] Ministério de Agricultura, Soja, http://www.agricultura.gov.br/vegetal/culturas/soja
[26] *Ibid*
[27] *Ibid*
[28] Ministério da Agricultura, Pecuária, e Abastecimento/Embrapa, *available at* http://www.agricultura.gov.br/arq_editor/file/Sala%20de%20Imprensa/Publica%C3%A7%C3%B5es/slides_materiasF01.pdf

sustainable. Brazil has seen a dramatic reduction in deforestation over the last decade. While the factors leading to this drop are diverse, the reduction has widely been attributed to a combination of policy as well as market responses: demand from major buyers for deforestation free soy and beef, the Soy Moratorium on the part of the Brazil soy industry's association, the Beef Moratorium (or the Conduct Adjustment Terms – TACs), and the establishment and entry into the marketplace of the Roundtable on Responsible Soy (RTRS) and ProTerra standards, as well as nationally developed criteria by the industry and producers (i.e. Soy Plus program).

From 2009 to 2010, only 0.25% of land was planted with soybean crops in areas deforested since the beginning of the Soy Moratorium (Nepstad et al 2013). In the state of Mato Grosso (the leading agricultural producer with the highest rates of deforestation), forest clearing for soybeans declined to very low levels even as soy prices increased. Increasing yields through multiple cropping supported this trend, allowing the 2013-2014 harvest to reach 95 million tons up from 88 million the previous year, making Brazil the world's largest soy producer. An important element in the Brazilian public policies context is the new Forest Code. Its first version was signed into law in 1934, modified in 1965, and has undergone several amendments and technical improvements since. The Forest Code defines how forests and native habitat must be protected on rural properties in order to ensure ecosystem services and protect civil society from environmental hazards. While the Forest Code is one of the most impressive laws on forest and ecosystem protection in the world, compliance has always remained low with illegal deforestation persisting in rural areas. As a result of low compliance, the new Forest Code was debated in Congress for twelve years before it was enacted in May 2012; revisions that were under deliberation included amnesty for perpetrators of illegal deforestation under the 2008 Environmental Crimes Law and reductions in environmental protections. On the other hand, however, new components have been introduced that provide a strong framework to operationalize compliance, reforestation, and partial compensation of illegally deforested lands (more than 21 million hectares). These components will require mobilization and cooperation between the private and public sectors, as well as civil society, in order to fully implement the new Forest Code currently in force and recover some of the environmental losses.

The government also launched a Permanent Inter-Ministerial Working Group (GPTI) in July 2003 and a Plan of Action for the Prevention and Control of Deforestation in the Legal Amazon (PPCDAm) in March 2004[29]. The first phase of the program (2004-2008) led to the creation of 25 million hectares of protected areas. A similar plan was created for the Cerrado (PPCerrado) region in 2009, following the launch of the Sustainable Amazon Plan (PAS)[30] in 2008, which contains a set of directives for implementing a long-term strategy for sustainable development across the nine Brazilian states in the Amazon. The government also launched a Rural Environmental Registry, with a mandate for all rural landowners to register; and recently approved Environmental Compliance Programs (PRA), a set of actions and initiatives to be developed by farmers or squatters in order to adopt and promote environmental compliance, through restoration and compensation of their environmental liabilities. The Grupo de Trabalho da Pecuaria Sustentavel (GTPS), a multi-stakeholder initiative for beef in Brazil, was also formed to develop standards and identify better practices to reduce deforestation and other impacts.

Brazil is not only famous for being a high deforestation country but also for being the most successful one in reducing its deforestation rate. Emissions from tropical deforestation have declined by a total of 2.6 billion tons of CO2 in the Brazilian Amazon and global GHG emissions in 2012 were 1.6% lower because of Brazil's achievement (Nepstad et al., 2013). Many observers agree that Brazil is proving that intensification, combined with laws and policies to reduce deforestation, is feasible at a very large scale and can show positive results.

However, despite progress in Brazil, challenges remain. The deforestation rate of the Legal Amazon rose by 29% in 2013 and fell by only 18% in 2014[31]. Furthermore, the decrease in the annual deforestation rate by 83% over the last decade in the Amazon has also resulted in increased conversion of the Cerrado biome, which has

[29] http://www.mma.gov.br/florestas/controle-e-preven%C3%A7%C3%A3o-do-desmatamento/plano-de-a%C3%A7%C3%A3o-para-amaz%C3%B4nia-ppcdam
[30] http://www.mma.gov.br/florestas/controle-e-preven%C3%A7%C3%A3o-do-desmatamento/plano-amaz%C3%B4nia-sustent%C3%A1vel-pas
[31] http://www.obt.inpe.br/prodes/index.php

importance for both global biodiversity and GHG emissions. The region of MAPITOBA in the heart of the Brazilian Cerrado - is the center for the expansion of the agricultural frontier in the country. It is a region that combines the presence of fertile land, water availability, flat terrain, and year-round easy access and proximity to export ports, allowing for the expansion of grain crops, such as soybeans, corn and cotton, with highly precise technology. The challenge in this region today is to refrain from repeating the past expansion model, which led to the disappearance of a large part of the Cerrado. The opportunity, therefore, is to develop the potential for food production without degrading the environment and ensuring quality of life for the inhabitants of the region. The premise is that it is possible to expand food production in the region without incurring environmental devastation in the Cerrado or compromising the well-being of local communities.

Another important area facing soybean expansion is the Cerrado enclave in Amapá, which by its uniqueness and specific context should be regarded with attention. The Atlantic Rainforest has been facing increases in deforestation rates as well. On November 25th 2014, the Soy Working Group (SWG) – that brings together industry, NGOs, the government, Banco do Brasil and a representative of the Consumer Goods Forum – announced the renewal of the Soy Moratorium until 31 May 2016, ensuring that companies do not trade, acquire or finance soybeans cultivated in recent deforested areas in the Amazon biome. The agreement envisages for the first time that companies will also work together with NGOs, government and other partners to support and raise awareness among soybean growers to enable them to implement better production practices and to comply with the Forest Code. The Rural Environmental Registry (CAR) and the Environmental Compliance Program (PRA) are fresh and innovative tools that are essential for enabling rural property owners to meet legal requirements. It is of global significance to deforestation that the Moratorium remains in place and is strengthened moving forward. Through the GEF deforestation and commodities program, we have an unprecedented opportunity to begin working on the next generation of the moratorium to ensure a smooth transition in 2016, and to support its implementation moving forward.

Support for the Moratorium, enforcement of the Forest Code and key tenants such as implementation of the Rural Environmental Registry will necessitate a major thrust on the part of the private, public and NGO sectors. However, the coinciding of a soy boom and a deforestation drop in the Brazilian Amazon demonstrate the potential for directly addressing commodities that drive deforestation. Compliance with Brazil's Forest Code, which defines how forests must be protected on rural properties, has been low through decades. Two instruments have been introduced that can definitely make a positive difference in favor of ecosystems and the services they provide, the already mentioned CAR and PRA.

Paraguay

Paraguay has one of the highest deforestation rates in the world, nearly entirely driven by the agriculture sector, which fueled the country's 14% growth in GDP last year, accounts for 72% of its exports, and made Paraguay the fourth largest soy exporter and the sixth largest beef exporter globally (379,920 tonnes). The government of Paraguay has a clear agenda to elevate the country to the fifth largest global beef exporter and believes that the Chaco region has the potential to provide niche-market beef production. Two regions with globally significant biodiversity are affected: the Atlantic Forest in the east and the Chaco tropical dry forest, savannas and wetlands in the west. For the past two decades soy production has primarily affected the Atlantic Forest where a devastating 90% of forested lands have been converted to agriculture. Cattle producers hold legal permits that would allow them to convert about five million hectares of Chaco forests into pasture. Currently the Chaco is experiencing approximately 300,000 hectares a year of deforestation related to beef production. Soy is on its way to the Chaco as well. Experiments are underway to test drought and heat-tolerant strains with initial results indicating that the crop would do well there.

There is an urgent need to reverse this rapid expansion of the agricultural frontier, which continues to be fueled by the growing global demand for soy and beef. In the Chaco, we must curtail the conversion of forests for pastureland and ensure that the nascent growth in soy doesn't fuel further deforestation. In the Atlantic Forest, where the Zero Deforestation Law has reduced deforestation rates by 80-90%, the need is for reforestation of corridors between remaining forest blocks.

There is now a window of opportunity to preserve the remaining forests, for several reasons. First, large multinationals such as Arthur Daniels Midland, Cargill and Minerva have recently committed to take deforestation out of their supply chains, in an effort to reduce environmental, economic and social risks, and a number of their Paraguay-based counterparts are following suit. So the markets are poised to provide a strong incentive – and the private sector is open to receiving help in translating their commitments into on-the-ground action. Second, a large proportion of the beef and soy production streams in Paraguay are controlled by relatively few actors, and a number of them have indicated an interest in being part of the solution. Third, the country is experiencing a change in public attitudes about corruption and impunity, and is demanding increased transparency and accountability. Fourth, the cattle producers in the Chaco are very interested in increasing efficiency, intensification and profitability. And fifth, the financial institutions that have facilitated the expansion of production of soy and beef are now beginning to engage in efforts to ensure that their investments do not lead to further deforestation and are soliciting assistance.

ANNEX C

Taking Deforestation out of Commodity Supply Chains

PALM OIL VALUE CHAIN

Global outlook

Oil palm is the most efficient oilseed crop in the world and accounts for 39% of global vegetable oil production. In 2012, oil palm accounted for 5.5% of global land use for cultivation.[32] In 2013, over 59 million tons of palm oil was produced globally on 16 million hectares primarily in Indonesia (33.5m MT) and Malaysia (20m MT).[33] Almost half of this production was consumed in India (8.3m MT), Indonesia (9.8m MT), and China (6.4m MT). Annual global production is currently valued at $50 billion and global demand is expected to grow by 5% per year to reach 72.9 million metric tonnes until 2020, fueled primarily by growing consumption in Asian markets. However, the market is expected to remain supply constrained until at least 2020 and approximately 60% of the predicted growth is expected to come from Indonesia, although West Africa, Brazil, and Papua New Guinea will also show significant growth in production.

Smallholder farms account for 40% of Indonesian, 38% of Malaysian, and 95% of West African production. Productivity on smallholder farms in Asia averages 3.4 metric tons of oil per hectare versus 3.9 metric tons on commercial farms. Processing and trading of palm oil is highly concentrated in Indonesia and Malaysia, while it is very fragmented in West Africa. Indonesian and Malaysian companies, however, are beginning to expand to West Africa.

The expansion of palm oil plantations is frequently associated with significant deforestation and land degradation, which are the main causes of biodiversity loss and greenhouse gas emissions (GHG). A recent analysis estimates that Indonesia has lost more than 6 million hectares of primary forest between 2000 and 2012 and now has the highest rate of tropical deforestation in the world (averaging 47,600 hectares per year).[34] Almost half of this deforestation occurred in degraded lands or wetlands, which contributes to even greater GHG emissions from peat soils. [35] The study also reports that 40% of the loss in primary forests over the past decade occurred in protected areas and national parks where forest clearing should have been restricted or prohibited under Indonesia's environmental regulations, such as the 2011 Forest Moratorium.[36]

The global land area of mature oil palm increased from 3.5 million hectares (Mha) in 1990 to 13.1 Mha in 2010; more than 90% of this expansion occurred in Malaysia and Indonesia.[37] In Indonesia, oil palm plantations cover a total of nearly 8.5 Mha, making the country the world's largest oil palm estate holder and leading producer of crude palm oil (CPO). This growth has been achieved by between 37% and 56% of Indonesia's oil palm plantations expanding onto natural forest.[38] In Malaysia, expansion of palm oil production occurs primarily on

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[32] Oil World 2013

[33] Index Mundi, year of estimate 2014, USDA

[34] Margono, Belinda Arunarwati, Peter V. Potapov, Svetlana Turubanova, Fred Stolle, and Matthew C. Hansen. "Primary forest cover loss in Indonesia over 2000–2012." Nature Climate Change, no. 4 (June 2014): 730-735.

[35] *Ibid*

[36] *Ibid*

[37] Birka Wicke, Richard Sikkema, Veronika Dornburg, André Faaij, Exploring land use changes and the role of palm oil production in Indonesia and Malaysia, Land Use Policy, Volume 28, Issue 1, January 2011, Pages 193-206, ISSN 0264-8377, 10.1016/j.landusepol.2010.06.001. (http://www.sciencedirect.com/science/article/pii/S0264837710000633)

[38] L.P. Koh, D.S. Wilcove. Is oil palm agriculture really destroying tropical biodiversity? Conservation Letters, 1 (2008), pp. 60–64. Fahmuddin Agus[1], Petrus Gunarso[2], Bambang Heru Sahardjo[3], K.T. Joseph[4], Abdul Rashid[5], Khali Hamzah[5], Nancy Harris[6], Meine van Noordwijk[7] Historical CO_2 Emissions from Land Use and Land Use Change from the Oil Palm Industry in Indonesia, Malaysia and Papua New Guinea. RSPO, RT9, Kota KInabalu, Nov 2011 http://rt9.rspo.org/ckfinder/userfiles/files/P6_3_Dr_Fahmuddin_Agus(2).pdf

logged-over, "secondary", forests and on former rubber and coconut plantations,[39]while in Indonesia natural rainforest (37%) and peatland (22%) have been converted for palm oil production.[40] Natural forest conversion is not stopping. Indonesia has a 7% growth rate of palm oil with as much as 500,000 hectares of new palm oil planted per annum between 2005 and 2010. In Indonesia, almost 40% of the labor force is employed by the agricultural sector, and up to 3.7 million workers are estimated to work in the palm oil sector alone. [41] Globally, the palm oil industry employs an average of five workers per hectare.[42]

Palm oil production is important to economic development in producer countries due to its high yield and profitability compared to other oilseed crops; therefore, the challenge is not to eliminate production of palm oil but to make its production sustainable in a way that is compatible with national and local development, from smallholder plot to plate, and land use targets from smallholder farmer to large multinational and consumer. Palm oil has the benefit of being one of the few vegetable oils to have a crop-specific sustainable certification standard, the Roundtable on Sustainable Palm Oil (RSPO) created in 2004 to develop sustainable production practices with the active participation of key producers, civil society, the financial sector, as well as consumer goods companies and retailers. The total volume of sustainable palm oil certified by the RSPO is currently 12 million metric tonnes (18% of global production, produced on 3.18 million hectares) of which half was sold as Certified Sustainable Palm Oil (CSPO) primarily to the European market.[43]

Solutions are needed to halt the expansion of oil palm plantations into forest landscapes, while meeting the demand for palm oil for food and biofuel. The conversion of forests and peat lands occurs as a result of inadequate regulatory systems, compounded by poor governance, as well as a mindset within industry and government that does not value the biodiversity and carbon sequestration benefits of these lands. Solutions include improving land use zoning based on above and below ground carbon stocks to prevent expansion onto peat land and forests, which should be combined with mapping protocols to identify low carbon, degraded lands that can be rehabilitated as productive land. These maps can then be incorporated into regulatory frameworks and lending priorities by financial institutions that conserve biodiversity and high carbon stock landscapes. Conservation of high biodiversity and high carbon stock areas can be fostered by performance-based climate change mitigation funds (available in Indonesia, Brazil, and parts of West Africa), and backed by robust measurement, reporting, and verification systems.

Other actions include identifying "no-go zones," based on carbon storing and biodiversity conservation, which should be linked to parallel initiatives that support smallholders, in order to improve their productivity and enhance their livelihoods. The goal is to organize farmers to implement better management practices and ensure legal compliance with environmental and social regulations and safeguards, while introducing high yielding varieties to improve productivity and incomes. Improving productivity of smallholders and promoting expansion on degraded lands can meet the growing demand for edible oils and biofuels, while avoiding deforestation and the conversion of peat lands.

Palm Oil Expansion

I. Indonesia

[39] S.A. Abdullah, N. Nakagoshi. Forest fragmentation and its correlation to human land use change in the state of Selangor, peninsular Malaysia. Forest Ecology and Management, 241 (2007), pp. 39–48.; K.K. Ming, D. Chandramohan. Malaysian Palm Oil Industry at crossroads and its future direction. Oil Palm Industry Economic Journal, 2 (2) (2002)
[40] FWI/GFW. The State of the Forest: Indonesia. Forest Watch Indonesia and Washington DC: Global Forest Watch, Bogor, Indonesia (2002) Retrieved 13.06.2007 from http://www.wri.org/biodiv/pubs_description.cfm?pid=3147; L.P. Koh, D.S. Wilcove.Is oil palm agriculture really destroying tropical biodiversity? Conservation Letters, 1 (2) (2008), pp. 60–64
[41] World Wildlife Fund (2012), *Profitability and Sustainability in Palm Oil Production*, Report March 2012
[42] *Ibid*
[43] RSPO Trade Data

Indonesian palm oil production covers over eleven million hectares of land, approximately 52% of palm oil plantations are occupied by private plantations, 41% by smallholders and the remaining 7% by Government plantations. Private plantations represent the largest producers of palm oil in Indonesia, producing over 16.5 million tons of palm oil in 2014, while smallholder plantations produced 10.7 million tons and government plantations produced 2.2 million tons. Palm oil production is rapidly expanding, especially on Sumatra, where the bulk is currently produced by smallholders.

In response to growing global and local demand, Indonesia aims to approximately double its current palm oil production to 40 million metric tons per year by 2020. This will require an additional five million hectares of oil palm plantations based on current productivity. The former President committed to achieve this while reducing GHG emission by 26% unilaterally and 41% with international support by 2020 based on levels pegged to 2007. In order to reduce emissions from land use and land use changes and forestry (LULUCF), which accounts for more than 85% of the country's emissions, the Government developed the National Action Plan for Reducing Greenhouse Gas Emissions (RAN-GRK) in 2011 and established a Presidential Task Force for the Preparation of REDD+ Institutions which has achieved some good progress, chief of which is the attempt to prepare and agree on a national "One Map" approach to land licensing, and mapping in Indonesia. This Task Force has now been disbanded and with the new Ministry of Forests and Environment approach, it is hoped it will streamline process.

Recognizing the impact of palm oil production on biodiversity and the environment as well as its contribution to greenhouse gas emissions, the Indonesian government and the Indonesian Oil Palm Growers Association have begun to respond to market demands and international pressure to increase the sustainability of oil palm grown in the country. In May 2010, the President declared a policy to develop oil palm plantations only on 'degraded land' instead of on forest or peat land. The Roundtable on Sustainable Palm Oil (RSPO) aims to divert the palm oil frontier away from primary forests and areas of high conservation value and it proscribes land-grabbing, insisting that all lands must only be acquired with respect for the rights of local communities and indigenous peoples, including respect for their right to give or withhold consent to land purchases or leases. RSPO guidelines recommend that new palm oil plantations do not replace HCVAs or areas required to maintain or enhance them. Indonesia is the second largest producer of certified sustainable palm oil, it is estimated that RSPO production reached 3.5 million tons in 2010, and approximately 9% of Indonesia's palm oil output is certified by the RSPO. Borneo recently had 145,000 ha of RSPO certified plantations, which are mainly operated by large international producers, including 12,000 ha that fall within HoB boundaries.

One effort set by the Government of Indonesia to gain and to ensure the sustainability of the Indonesian palm oil industry is through developing a sustainability standardization called the Indonesian Sustainable Palm Oil (ISPO) Scheme. ISPO is different from other voluntary palm oil certification schemes, such as RSPO, in that it is a compilation of existing Indonesian regulations, and is thus mandatory and reflective of the sustainability guidelines and aspirations of the Indonesian Government and other domestic stakeholders. Although ISPO is equipped with a certification mechanism similar to voluntary schemes, the essence of ISPO is to facilitate palm oil producers/mills to comply with the law, which in Indonesia can be challenging due to overlapping legislation or unclear guidelines.

In October 2014, the Ministry of Agriculture (MoA) launched the Indonesia Palm Oil Platform as a government-lead space to convene multiple stakeholders to engage in dialogue in order to jointly develop and agree on a national action plan to improve sustainability of the sector. A secretariat, at MoA, will support regular dialogue and actions to unify and connect initiatives.

Deforestation: The expansion potential of oil palm plantation is estimated to be 24.5 million hectares of which 10.3 million hectares are to be realized in Kalimantan up from the current planted area of 3.164 million hectares. Palm oil plantations are expanding into forested areas, including high conservation value (HCV) / high carbon stock (HCS) forest areas. Significant carbon losses ensue, particularly where expansion takes place on Peat Swamp Forest (PSF) areas. Palm oil plantations in Kalimantan now cover 3,164,000 hectares of the state, having expanded nearly 300 percent since 2000. The forest loss led to the emission of 0.41 gigatons of carbon,

more than Indonesia's total industrial emissions produced in a year. Researchers calculated that 47 percent of oil palm plantation development from 1990 to 2010 in Kalimantan was at the expense of intact forests, 22 percent at secondary or logged forests, and 21 percent at agro-forests, a mix of agricultural land and forests. Only 10 percent of expansion occurred in non-forested areas. It is estimated that by 2020, full lease development of allocated palm oil lease would convert 9,384,400 hectare of which approximately 90% is forested lands with 41% intact forests, leading to massive carbon emissions.

Biodiversity loss: Conversion of tropical forests to oil palm plantations can have a devastating impact on plant and animal species. There are claims that oil palm expansion has led to habitat loss and increasing fragmented forest landscapes, which is a major threat to biodiversity, including flagship species such as the Sumatran Elephant and Sumatran Tiger. This is particularly problematic as many forest species are intolerant of oil palm such that extensive monocultures of this crop create further forest/habitat fragmentation and population isolation. Furthermore, palm oil production causes extensive land degradation and soil erosion associated with deforestation, forest fires and peat land drainage. Palm oil production expansion into forests and peatlands leads to habitat loss and increased GHG emissions, while fertilizer application is said to cause water contamination, impacting biodiversity and local community livelihoods derived from fishing and honey making. Palm oil plantations were reported to have caused water supply problems downstream as a result of water use and fertilizer and pesticide application. These threats pose not only a negative impact on biodiversity and ecosystem services, but also have a significant economic cost to the provinces and the nation, from loss of natural capital. Underlying causes include population growth, poverty, unclear land titles and tenure rights and weak natural resource governance.

Greenhouse gas emissions: Indonesia is the third largest GHG emitter in the world, behind the US and China, largely due to its emissions from land use change and deforestation. According to the World Bank, land-use change, in particular peat land fire and peat decomposition, and forestry alone is estimated to release about 2,563 MtCO2e. In particular, peat land conversion to palm oil is a significant contributor of GHG emissions. In Indonesia, where peat lands form more than 10% of total land area, the impact is substantial.

Smallholders: National data estimates that there are more than 2.2 million smallholders cultivating 41% of the total palm oil area in Indonesia, i.e. approximately 3.2 million hectares. Independent smallholders, in particular, face many challenges that lead to low productivity and insecure livelihoods. Low productivity is related to low quality seeds and seedlings, none or low quality inputs, harvesting of unripe fruits and bad management of the plantations (IFC 2012). This is due to general lack of knowledge, lack of data management systems, low or no access to finance, a complex land tenure system and unreliable access to market (Samosir and Gillespie 2013, Gillespie 2010).

Typically, the social issues smallholder communities face include: monopolistic relations with local mills; unfair allocation of smallholdings; un-transparent processes of land titling; high and manipulated debts and; and unfair pricing because of endless cycles of debt. (IFC 2010, McCarthy 2102, Gillespie 2012.) In addition, there are some cases of human rights abuses by plantation companies, especially during land acquisition and plantation development due to lack of recognition of customary rights, breached agreements, and disregard for the environment.

A. Policy and Regulations

There are a number of weaknesses in the current policy framework that hinder the government's ability to exercise adequate oversight and enforcement of remaining tracts of high biodiversity forest landscapes and to promote adequate expansion of palm oil plantations. For example, the newly enacted plantation law does not allow for the setting aside of high conservation value (HCV) forests, forest lands are not gazetted and tenure is unclear, and lack of recognition of customary land rights lead to conflict.

The concession-granting process prioritizes plantation development over concerns relating to integrating biodiversity and carbon issues in decision making for granting and siting of concessions (Paoli and Gillespie 2013; Gillespie 2010). There are also perverse incentives, for example, the National Land Agency's "abandoned land" regulation (Regulation PP10/2010) encourages concession holders to clear the areas that are allocated to them, which complicates matters for plantations trying to set aside HCV areas or for landscape based approaches.

There is a need for an enhanced national and/or district level framework and capacity to be able to incentivize and facilitate the use of degraded or abandoned land for new oil palm plantation, as well as enhanced capacity for environmental impact analysis that is required for granting palm oil business licenses. There is also a gamut of international fiscal incentives that would be required to be developed rapidly, for greater use of degraded lands in furthering agriculture expansion.

The Ministry of Forestry lacks clear mandates and sufficient capacity for exercising adequate oversight on the land use planning and oil palm concession allocation processes particularly for location outside of state forest areas, resulting in biodiversity issues often being not as important as the district development mandate (Gillespie, 2010). Spatial planning capacity and land use regulations sometimes fail to prevent concessions being awarded within forested areas.

At the district and landscape level, capacity is also weak for application of landscape planning and management, as well as for biodiversity-aware plantation estate design and production practices. District level land use plans are often not compliant with the national and provincial level plans and there is little stakeholder participation in land use planning processes. HCV, Free, and Prior Informed Consent (FPIC) and high carbon stocks (HCS) are not legally recognized concepts, which contribute to poor decision making for forest conversation. This sometimes results in the situation that forests being conserved within plantation concessions can be subsequently handed over to the district government and reallocated to other concessions that will convert those into plantation, nullifying the efforts.

In addition to all of the above policy issues, it is also becoming readily apparent that many palm oil developments have not adhered to the permitting process, resulting in illegal developments. Weak enforcement of existing legal procedures around concession permitting is a systemic failure, as recently noted by the former Minister of Forestry and an analysis of existing concession compliance.

B. Industry Pledges and Commitment

Significant progress has been made to improve the actual production practice of oil palm cultivation through individual plantation performance, improved government oversight, and certification schemes such as the RSPO and the reinforced legal requirements of the ISPO regulations. However, the uptake of good practices and certification schemes is growing but has not reached transformational levels (RSPO is at 18% of global production). Recently in September 2014, at the UN Climate Summit in New York City, four major palm oil companies joined with the Indonesian Chamber of Commerce (KADIN) in calling upon the Indonesian government to eliminate deforestation and peat land destruction nationwide. The four companies (Wilmar, Golden Agri-Resources, Cargill, and Asian Agri) reaffirmed their commitments to eliminate deforestation in their supply chains and called on the Indonesian government to be a partner.

TFA 2020, The Consumer Goods Forum, and KADIN will coordinate efforts to reduce deforestation associated with palm oil. In parallel, key government stakeholders of Indonesia, the REDD+ Agency and Ministry of Agriculture are also committed in supporting and facilitating a sustainable and palm oil sector through initiatives such as One Map, License Information System development (SIP) and Indonesia Sustainable Palm Oil System.

II. Liberia

Liberia is currently at a turning point in its development pathway. After decades of civil conflict and then a recent recession due to the Ebola Virus in West Africa, Liberia faces significant pressure to convert its natural resources for development.

West Africa, as a region, is considered a new palm oil development focus for the industry. According to Liberia's Agenda for Transformation (PRS II) and the National Export Strategy 2014-2018, palm oil production is considered by the Government to be one of the most important industries for the future. Palm oil production already accounts for the second largest industrial land use in Liberia after timber. The Ministry of Agriculture is looking to enhance its preparedness as an exporter in the oil palm sector, based on its comparative advantage in production, strategic location and the rising demand for palm oil in the world. They believe Liberia will become a major exporter of oil palm products in the West Africa Region in the next five years. However, as the industry is at the very early stages of development and plans and practices are still evolving, an opportunity exists to develop models that best suit the physical and social landscape of Liberia. Since 2009, four international palm oil companies (Golden VerOleum, Sime Darby, Equatorial Palm Oil Limited, and Socfin/Canalla) have been granted concessions in Liberia for palm oil production on 620,000 hectares of land. The oil palm industry in Liberia has an average market capitalization of US$8.2 billion[44] and it is estimated that the palm oil sector directly employs over 40,000 families and that 220,000 people are involved in smallholder oil palm production. These numbers are estimated to grow exponentially over the next decade, making palm oil potentially the highest income-generating sector in the country, but also the biggest threat to is forests and biodiversity.

Based on projections, if potential production levels are realized in areas currently under concession, Liberia could be among the top five producers in the world. These investments could spur economic development, but also have the potential to drive significant forest loss and have a detrimental impact on forest dependent communities. Ensuring that this growth is done well, that incentives are put in place for production to happen in the right areas and have adequate benefit sharing among communities, both participating in oil palm development in conservation activities, and that conflicts over resources and land are minimized will have huge implications at both the national and local levels in Liberia and beyond.

Although the palm oil concessions have been chosen in areas where the forest is relatively degraded, there is still considerable conservation-quality forest inside and between the palm oil concessions. The concessions areas are not, on the whole, on free and unencumbered land. The potential for conflict between pending oil palm plantation concessions and closed canopy natural forest is significant. There is therefore a serious risk that the end result of current land use trends is a fragmented and degrading natural landscape that fails to meet conservation objectives and maybe even sub-optimal for industry and communities. Communities own much of the land and are highly dependent for subsistence on the land and resources that palm oil developments will consume. Conflicts between communities and palm oil companies have already occurred over land rights and resource use. The social implications of large-scale land clearance for palm oil are therefore high.

While these could pose threats to natural capital the post-conflict reconstruction of the palm oil sector in Liberia also offers an opportunity to incorporate international best practices from an early stage. There is a clear need to provide reliable information that partners can use to make informed planning and management decisions, facilitate agreements, work with partners to develop and test targeted interventions and provide capacity building where needed. As a result, this investment could have a huge impact on Liberia's oil palm development and could become a model for sustainable palm oil production more broadly.

Lastly, the underlying causes of deforestation and fundamental interaction between agriculture expansion and land use change will also need to be understood more in Liberia; government capacity, farmers needs and

[44] Rights and Resources Group. 2013. Investments into the Agribusiness, Extractive and Infrastructure Sectors of Liberia: An Overview. Washington DC: RRG.

immediate motivations, and different stakeholders involved will have to be considered for the country and targeted landscapes identified.

A. Deforestation and Forest Dependent Communities

Liberia is home to globally significant forests that provide a wide range of benefits to the Liberian people and the international community such as habitat for globally important biodiversity, ecological services, ecotourism potential, timber and non-timber forest products, and significant input to the national budget through commercial forestry development. Investment in Liberia could encourage conversion of primary forest areas to agricultural use and lead to social issues associated with relocation and land rights unless effective policies and strategies are implemented to protect forests and the people who depend on them. The concessions areas are not, on the whole, on free and unencumbered land. The potential for conflict between pending oil palm plantation concessions and closed canopy natural forest is significant. Communities own much of the land and are highly dependent for subsistence on the land and resources that palm oil developments may consume. When this land is converted to plantation it can either dislocate or displace these activities, causing conflict. But if done right conflict can be avoided and critical natural resources can be preserved for the population. The future handling of concessions and other land use entitlements will require, beyond doubt, a genuine local consultation process with rural communities to ensure that the principles of Free Prior and Informed consent are observed and that communities have access to the economic opportunities that the emerging palm oil industry will offer.

B. Policy and Regulations

Liberia's policy sector on oil palm development and reduced deforestation are rapidly developing. On one hand, the Government and palm oil companies share an ambition for the large-scale development of the industry over the next decade as outlined in the Export strategy. That said, Liberia has also made significant commitments to reducing deforestation. The country has endorsed a low carbon development plan and is currently developing its national REDD+ Implementation strategy. However, government policy and key statements to date do not reflect a full grasp on how both these initiatives could be developed and implemented in a harmonized way.

Liberia is currently working on its National REDD+ Strategy and implementation. With the funding from the Forest Carbon Partnership Facility (FCPF) Liberia is developing its reference scenario and implementation plans. Liberia has also recently entered into a partnership with Norway, which will support the county in further defining and implementing this strategy. There is recognition of the need to harmonize Liberia's REDD+ Development with its agricultural expansion aspirations, but little has been done to ensure this is resolved in an efficient and practical way.

Palm oil concessions have been granted with the aim of maximizing foreign investment and local employment. While Liberia is looking to adopt international standards across the sector, it is still possible to strengthen Liberian policy towards oil palm, to ensure proper monitoring systems are put in place, and to provide workable solutions to community outreach, small holder integration and effective land-use planning.

C. Industry Pledges and Commitment

All four of the international palm oil companies operating in Liberia are members of the RSPO, either directly or through their holding companies. As international actors and members of the RSPO, they have commitments to sustainable palm oil development, including limitations to clearing of high conservation value areas (HCV). Golden Veroleum, which has been granted concessions to 220,000 hectares in Sinoe, Grand kru, Maryland, Rivercess and River Gee Counties in Southeastern Liberia, has taken this one step further with a

commitment to no net loss of high carbon stock forest. The standards that these companies must abide to provide a vehicle to ensure that emerging production systems do not result in the loss of primary forest or social unrest. However, the palm oil industry in Liberia is at the very early stages of development and companies are currently establishing themselves in landscapes that differ significantly from those found in major palm oil producing regions such as Malaysia and Indonesia. Palm oil concessions in Liberia have been granted over land that is assumed to be unencumbered public land but in reality these concessions extend over vast areas that feature an intense mix of high biodiversity value forest, forest dependent communities and competing natural resource interests such as logging, mining and rubber. Landscapes in Liberia provide a number of unique challenges for companies who are committed to complying with the legal, economic, environmental and social requirements of producing sustainable palm oil. The industry therefore has to adapt its procedures and proceed carefully. An opportunity exists to develop models that best suit the physical and social landscape of Liberia.