

VERSION 1 (Jan. 18, 2017)

**GLOBAL  
FOREST  
WATCH**



*Concept Note:*

**UNLOCKING SUSTAINABLE AGRICULTURAL SUPPLY CHAINS  
THROUGH INFORMATION TECHNOLOGY**

**Global Decision-Support System for Land-Use Monitoring and Deforestation-Free  
Assurance**

*"We are drowning in information, while starving for wisdom. The world henceforth will be run by synthesizers, people able to put together the right information at the right time, think critically about it, and make important choices wisely."*

(Edward O. Wilson - environmentalist)

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*"What is the one sentence summary of how you change the world?  
Always work hard on something uncomfortably exciting!"* (Larry Page – tech entrepreneur)

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## CHALLENGE

Agriculture is uniquely positioned to create or destroy. The industry is associated with 71 percent of tropical deforestation, yet is essential for humanity (Forest Trends 2014). Many corporations embraced the challenge, making corporate commitments and signing the New York Declaration on Forests to eliminate deforestation from commodity trade and consumer goods supply chains by 2020.

But those commitments need a scalable solution for implementation. Often-neglected smaller companies and producers must be included in that solution. And additional value must still be created, utilizing cutting-edge information on challenges and opportunities for more sustainable land use.

## BACKGROUND

Deforestation is far from the only challenge to sustainable agricultural development. Food production accounts for 69 percent of the world's water withdrawals (FAO Aquastat 2010), while water stress threatens critical supplies for food production. Agriculture can be illegally produced in governmentally defined protected areas, but can also spur development for rural communities. Therefore, efforts to build deforestation-monitoring capacity in companies must include additional strategic information about agriculture-related risks and opportunities.

Finally, farmers and producers are often left out of global sustainability discussions. Accordingly, agricultural potential can be wasted due to insufficient investments, poor agricultural practices and, most importantly, a lack of knowledge from the field. Precious resources, such as land and water, can be inefficiently consumed, which puts additional pressure on forests. It is time to bring this most important link in the chain into the solution.

## VISION

We will build the go-to global decision-support system to monitor and manage land-related sustainability performance, including deforestation-free assurance.

This easy-to-use web tool will provide companies, banks and other stakeholders at all levels of the supply chain with a cost-effective solution.

## WHAT WILL IT DO?

Ultimately, the system should provide farm-level monitoring and assurance for key commodities and geographies across an array of social and environmental sustainability indicators. As a first step toward that vision, the system will initially provide a risk-based approach for assessing deforestation-free commitments at the supply-shed and/or jurisdictional scale, depending on the commodity, geography, and data available. Risk information can guide a process towards verification and compliance. For example, zero-risk areas could be given a “green light” while being subject to continuous satellite-based monitoring. High-risk areas could be prioritized for farm-level mapping, engagement, and verification. The outputs of this process can be captured and shared within the system.

The proposed decision-support system will provide two means of delivery: (a) a cloud-based web system, accessible to all, and (b) an open-source application programming interface (API), allowing any company, user, or service provider to incorporate parts or all of the system securely into its own firewalls. The cloud-based system will serve stakeholders that lack sufficient internal technical capacity, while the open-source API will enable integration with existing systems and platforms.

## UNITING TOP-DOWN AND BOTTOM-UP INITIATIVES

Helping additional downstream supply-chain actors make decisions based on deforestation monitoring and other land-related sustainability issues is just part of the global challenge. Since producers and farmers must also be integrated, bottom-up strategies and technology solutions that incentivize producers to contribute mapping and monitoring data must be pursued and scaled in parallel to global-system development. Promising examples are emerging in the soy and cattle sectors in Brazil. Over time, the global decision-support system will converge with these producer-targeted initiatives to achieve the ultimate goal of farm-level monitoring and assurance. This initiative will therefore accelerate the creation of a farmer-targeted system that will: (a) create farmer location databases and (b) promote producer integration in global agricultural markets incorporating sustainability aspects into products.

## COOPERATION AND SYNERGIES WITH OTHER INITIATIVES

This initiative will be integrated with existing multi-stakeholder efforts developing frameworks and definitions for deforestation-free commitments. This close collaboration will guarantee that the outputs from these key efforts can be applied to, and are supported by, the global system. These complementary processes will also act as a catalyst to boost uptake of analyses, datasets and maps of credible partners working on geospatial programs and initiatives. The system's collection of datasets and open source application programming interface (API) will allow actors with geospatial management systems in place to incorporate the additional value from the initiative without having to replace their existing systems.

## JOIN US

The initiative, convened by the World Resources Institute with a wide range of participants, is seeking new partners. This concept note forms the basis upon which to discuss interest with potential participants. A meeting of interested organizations was held in September 2016, which informed this first draft of a concept partners can formally, publicly pledge to pursue. Due to the urgency of the issue, a prototype with core functionalities should be available in summer 2017, followed by rapid testing, feedback, and iteration. The design and development of the farm-scale platform should begin shortly thereafter.

We envision a collaborative effort to develop and apply the global decision-support system, with inputs from companies representing different aspects of the supply chain, governments in key producer countries, and NGOs. A public pledge of intentionality toward this vision requires each sector to understand the system's unique value proposition. We outlined hypothetical organizational use cases in the appendix below.

We intend to announce this pledge during the World Economic Forum Annual Meeting January 17-20, 2017.

## WANT TO JOIN THE EFFORT? PLEASE CONTACT:

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## CURRENTLY ENDORSED BY:

- ✓ Bunge
- ✓ Cargill
- ✓ Carrefour
- ✓ Conservation International
- ✓ Daemeter
- ✓ Envol Vert
- ✓ FMO – Dutch Development Bank
- ✓ GIZ
- ✓ IDH – The Sustainable Trade Initiative
- ✓ Inter-American Investment Corporation (IIC/IDB)
- ✓ IOI Group
- ✓ Mars
- ✓ Mondelēz International
- ✓ National Wildlife Federation
- ✓ The Nature Conservancy (TNC)
- ✓ Proforest
- ✓ Rainforest Alliance
- ✓ Transitions
- ✓ Walmart

ACTOR	CONTRIBUTION / INPUT	BENEFITS / OUTPUTS
RETAILERS, CONSUMER GOODS MANUFACTURERS	<ul style="list-style-type: none"> <li>Use the system: Input and map supplier information and ingredient volumes.</li> </ul>	<ul style="list-style-type: none"> <li>Supply-base geospatial management and strategy.</li> <li>Identification of risky areas, purchase order approval/rejection and supplier risk reports.</li> <li>Verify purchases are deforestation-free.</li> <li>Progress monitoring and communication.</li> </ul>
TRADERS	<ul style="list-style-type: none"> <li>Use the system: Input own mill locations and sourcing basins.</li> </ul>	<ul style="list-style-type: none"> <li>Tool for internal geospatial management and strategy.</li> <li>Harmonized approach for deforestation-free and risk reports for sourcing areas that require action.</li> <li>Progress monitoring and communication.</li> </ul>
PRODUCERS	<ul style="list-style-type: none"> <li>Use the system: Input production areas and related data.</li> </ul>	<ul style="list-style-type: none"> <li>Monitor operations and receive information for management decisions.</li> <li>Meet procurement demands of clients.</li> <li>Generate positive exposure for leadership.</li> </ul>
GOVERNMENTS (NATIONAL AND LOCAL)	<ul style="list-style-type: none"> <li>Support or use the system: Rural development initiatives.</li> <li>Provide data on zoning, land cover, etc.</li> </ul>	<ul style="list-style-type: none"> <li>Tools to support farm-level or jurisdiction-level mapping and land use planning.</li> <li>Generate positive exposure for jurisdiction-level leadership.</li> </ul>
BANKS	<ul style="list-style-type: none"> <li>Use the system: Map and evaluate client portfolios.</li> </ul>	<ul style="list-style-type: none"> <li>Awareness of the implications of deforestation and related ESG risks in their portfolios.</li> <li>Capacity to take more corrective action to mitigate these risks.</li> <li>Measurement of natural capital indicators as a means to create sustainable business opportunities.</li> </ul>
NGOS, UNIVERSITIES	<ul style="list-style-type: none"> <li>Support or use the system: Provide data, maps, methods, standards.</li> </ul>	<ul style="list-style-type: none"> <li>Tools to support NGO-led supply chain projects.</li> <li>Improved supply chain transparency.</li> <li>Accountability for deforestation-free commitments.</li> <li>Means of globally promoting uptake of geospatialized products (eg: maps).</li> </ul>
LOCAL COMMUNITIES / COOPERATIVES	<ul style="list-style-type: none"> <li>Use the system: Input production areas and related data.</li> </ul>	<ul style="list-style-type: none"> <li>Monitor operations and receive information for management decisions.</li> <li>Generate positive exposure for leadership, integration into more mature markets and/or sustainability programs.</li> </ul>
SERVICE PROVIDERS	<ul style="list-style-type: none"> <li>Use the API.</li> <li>Share data, maps, methods, standards.</li> <li>Support the development and improvement of the system</li> </ul>	<ul style="list-style-type: none"> <li>Access to better data to improve quality of services.</li> <li>Provide additional harmonized and widely accepted methods of analysis.</li> </ul>