



The Role of Commodity Roundtables & Avoided Forest Conversion in Subnational REDD+¹
Agriculture, Food Security & Greenhouse Gas (GHG) Accounting
Weaver Center, Institute of the Americas, at the University of California San Diego

AGENDA

DAY 1 – September 7, 2011

- | | |
|----------------|---|
| Morning: | Optional informal meet and greet |
| 12:00 - 1:00PM | Welcome reception |
| 1:00 - 1:30PM | Official welcome by Dr. Charlie Kennel, former Director of Scripps Institute of Oceanography, former Director of NASA’s Mission to Earth, former Director of UCSD’s Sustainability Solutions Institute, member of U.S. National Academy of Sciences. (TBC) |
| | Welcome, Introductions and Goals: Barbara Bramble (NWF); John-O Niles (TFG); Roberto Smeraldi (Amigos da Terra- Amazônia Brasileira) |
| 1:30 - 2:30PM | <i>Framing the Challenges and Opportunities: What do we know?</i> <ul style="list-style-type: none"> • Tim Searchinger (Princeton University) – overview of the issues to frame the workshop based on background paper • Responders: Jeffrey McNeely (IUCN); Gabrielle Kissinger (Lexeme Consulting) • Discussion |
| 2:30 - 2:45PM | Break |
| 2:45 - 5:30PM | BLOCK 1: <i>Land Sparing: Can Intensification of Agriculture Save Forests?</i>
Moderator: Michael Obersteiner (International Institute for Applied Systems Analysis) <ul style="list-style-type: none"> • Tim Killeen (Conservation International) • Romain Pirard (Institut du Développement Durable et des Relations Internationales) • Bernardo Strassburg (Instituto GAEA) • Jose Luis Gomez (Acción Ambiental) • Responders: Avery Cohn (UC Berkeley); Lydia Olander (Duke University) |

¹ Reducing Emissions from Deforestation and Degradation, conservation of existing carbon stocks and enhancement of carbon stocks.

5:30 - 6:30PM Cocktail Reception
6:30PM Shuttle to hotel
7:00PM Group dinner (optional)

DAY 2 – September 8, 2011

8:00AM Breakfast

8:30 - 10:45AM **BLOCK 2: *Roundtable and Commodity-Led Approaches to Reducing GHG Emissions from Land-Use Change***

Moderator: Roberto Smeraldi (Amigos da Terra- Amazônia Brasileira)
Holly Gibbs (University of Wisconsin-Madison): Overview on key questions for Roundtables and GHG accounting

- Biofuels: Unpacking the Roundtable on Sustainable Biofuels (RSB) Methodology to account for GHGs
Barbara Bramble, RSB Chair (NWF)
- Soy: Roundtable on Responsible Soy (RTRS)
Cassio Franco, RTRS Vice President (WWF)
- Sugar: Bonsucro
Nick Goodall, Executive Director, Bonsucro
- Palm Oil: Status of Roundtable on Sustainable Palm Oil (RSPO) efforts to include GHG considerations
Tim Killeen, RSPO GHG Working Group (Conservation International)
Clarifying questions

10:30 - 10:45AM Break

10:45AM - 12:30PM Cattle

- Global Roundtable for Sustainable Beef
Bryan Weech (WWF)
- Brazilian Sustainable Beef Working Group (GTPS)
Ocimar Villela, GTPS President (Instituto ARES)
- SAN Cattle Standards and Climate Module
Mark Morge (Rainforest Alliance)
- Responder: Norma Tregurtha, ISEAL Alliance
- General discussion regarding all Roundtables

12:30 - 1:30PM Lunch

1:30 - 3:30PM **BLOCK 3: *Breakout Groups with Lead Facilitators***
(each preceded by short “framing” presentation)

Group 1 – **“Operationalizing Land Sparing”** – What does it take to make it real? How can it be incorporated into REDD+ and what safeguards would be needed?
Framers: Craig Hanson (World Resources Institute) and Gary Paoli (Daemeter) Facilitator: Eric Palola (NWF)

- Group 2 –** “Getting to SBSTA²” – Where is SBSTA heading and what role is there for agriculture and commodity roundtables?
 Framers: Charlotte Streck (Climate Focus) and Doug Boucher (Union of Concerned Scientists)
 Facilitator: Barbara Bramble (NWF)
- Group 3 –** “Sub-national REDD” – What are the current examples and how should they treat agriculture?
 Framers: John-O Niles (TFG) and Laurent Micol (Instituto Centro de Vida)
 Facilitator: Nathalie Walker (NWF)
- 3:30 - 3:45PM Break
- 3:45 - 5:15PM **Groups Report Out** (90 min)
 Some ideas of the questions to address:
 What role is there for Roundtables in REDD+?
 Can REDD+ help incentivize restoration and avoided degradation approaches within the context of Roundtable-led standards?
 What are the inter-actions between agricultural expansion, GHG and HCV forests?
- 5:30PM Shuttle to hotel
 6:30PM Evening Reception and Dinner on the Beach/Scripps!

DAY 3 – September 9, 2011

- 8:00 - 10:45AM **BLOCK 4: Synergies Between Food Security and Reduced GHG Emissions**
 Moderator: Judson Valentim (Embrapa)
- Tim Searchinger (Princeton University) – Global overview of opportunities to reduce GHG emissions while increasing production
 - Tapan Adhya (Central Rice Research Institute, India)
 - Biruk Asfaw, (Save the Children US, Ethiopia)
 - Denise Deckers do Amaral (Brazilian Ministry of Agriculture, Livestock and Supply)
 - Responders: Keith Kline (Oak Ridge National Laboratory); Guy Pinjuv (Carbon War Room)
- 10:45 - 11:00AM Break
- 11:00AM - 12:00PM **Reflections from SBSTA and GCF Representatives**
 Key insights and take-aways from the workshop
 Key leverage points for UNFCCC/SBSTA process going forward
 Recommendations for future research and clarification
 Recommendations to workshop sponsors on appropriate follow-on activities
- Representatives: Peter Graham (Natural Resources Canada); Doddy Sukadri (National Council on Climate Change-Indonesia); Mariana Pavan (IDESAM, GCF Coordinator Brazil); Yakob Ishadamy (Aceh Green) (*tbc*)
- 12:00 - 12:30PM **Wrap Up – Thank-Yous & Next Steps**

² Subsidiary Body for Scientific and Technological Advice of the United Nations Framework Convention on Climate Change

BLOCK SUMMARIES

BLOCK 1: *Land Sparing: Can Intensification of Agriculture Save Forests?*

Do increases in agricultural yields spare land? To Norman Borlaug, the great plant breeder it was obvious. He pointed to the Green Revolution as one of the great environmental achievements of the century. Much of the world's true deforestation and other land use changes have historically resulted from conversion to agricultural uses, which now occupy roughly half of all vegetated lands. By basic arithmetic, higher crop and pasture yields are therefore seen as necessary to provide more food without expanding agricultural area. Using this approach, one study estimated that yield gains since 1961 have prevented world cropland from more than doubling. The study estimated that without these yields gains, land conversion would have generated an extra 13 gigatons of carbon dioxide annual from 1961 to 2005 if people were to eat just as well and assuming these croplands would have originated in the same ecosystems and proportions as existing croplands. (Burney 2010).

Despite this basic arithmetic, economists and other researchers have questioned whether yield gains by themselves protect forests. A seminal 2001 book edited by Arid Angelsen and David Kaimowitz compiled case studies that described a wide range of different effects of intensification on tropical forests, with yield gains encouraging local deforestation in some cases and discouraging it in others. In a separate article, the authors summarized studies of whether pasture intensification saved forests, and concluded that in general it encouraged deforestation, although limiting forest available for conversion would encourage intensification (Angelsen & Kaimowitz 2008). Two papers published in 2009 statistically analyzed the relationship on a country level between yield gains for staple croplands and agricultural land area and found no clear relationship in the amount of cropland in total or per person (Ewer 2009) (Rudel 2009).

Despite the wishful expectations of the Green Revolution, there are several reasons why intensification can lead to an increase in deforestation; mainly because intensification can make agriculture more productive and therefore more profitable. Skeptics of the land sparing concept also point to additional factors that can increase deforestation.

Demand Effects – Yield gains and other productivity gains lead to lower prices, which can increase demand thereby increasing the producer's incentive to utilize the land.

Use of Available Cropland for Alternative Crops: When cropland needs decline for basic staples, farmers may use cropland for other crops, such as fruits and vegetables, or for non-food crops, such as rubber.

Capital Effects: By making farming more profitable, yield gains can increase capital assets for farmers that enables them to re- invest in clearing more land.

Socioeconomic effects: Some studies have alternatively claimed that productivity gains may be associated with consolidating farmland, which could displace small-scale farmers, who move into the forest, or attract new migrants to an area thus spurring additional deforestation (Angelsen 2001).

Alternative Sources of Land -- Even if yield gains reduce the overall need for new cropland, some papers argue that even this may not spare forests because some new areas may still be cleared, while other acres are left fallow.

These arguments also generally point to the role of how other factors such as the influence of roads and government policies rather than consumer demand and yield factors can affect the rate of forest conversion. Still others emphasize the role of land speculation and the basic decisions by people of where and how to live as factors that will frequently trump any productivity gains

In a background paper for this conference, Searchinger argues that the key to reconciling these two points of view is the distinction between local deforestation and global land sparing. Because demand for food is relatively inelastic, yield gains may well result in reductions in the global area of agricultural land. But yield gains in any one country or area will generally make the production of a crop there cheaper and more competitive with other regions and therefore can encourage expansion of agricultural area to supply more of world demand both through direct market effects and by encouraging political leaders to make more land available for conversion. Searchinger argues that this effect creates a great challenge for the future because yield gains are most needed in the tropics to feed growing populations there and those growing food demands will lead to substantial deforestation in the absence of large yield gains. This is further compounded by the global effect of yield gains in the tropics contributing to a world shift of agriculture even more towards the tropics.. This amplifies deforestation pressures and the release of greenhouse gas emissions as well as consequences for biodiversity that are not fully offset by reforestation elsewhere.

This panel will discuss these issues. Key questions include:

1. Are there particular forms of agricultural intensification that are more likely to increase or decrease deforestation?
2. How do the consequences of yield gains vary by type of farming system, crop type, and type of farmers?
3. What policies or approaches by governments or private food companies, including ways of implementing REDD, would be needed to complement yield enhancement, in order to protect forests and not provide incentives to clear them.

REFERENCES

Angelsen, A, Kaimowitz D.(eds). 2001. *Agricultural Technologies and Tropical Deforestation*, CABI International, Wallingford, UK

Burney, J., Davis, S., Lobell, D. 2010. Greenhouse gas mitigation by agricultural intensification. *PNAS* 107:12052-12057

Ewer, R.W. et al. 2009. Do increases in agricultural yield spare land for nature? *Glob Change Biol.* 15:1716–1726;

Kaimowitz D, Angelsen A (2008) Will livestock intensification help save Latin America's forests? *J. Sustain Forestry* 27:6–24.

Rudel, T.K. 2009. Agricultural intensification and changes in cultivated areas, 1970-2005. *PNAS* 106:20675-20680

BLOCK 2: Roundtable and Commodity-Led Approaches to Reducing GHG Emissions from Land-Use Change

Background

The role of sector based commodity roundtables has expanded greatly in the last fifteen years; arising from a variety of multi-stakeholder initiatives to deal with the environmental and social impacts of industrialized agriculture and forestry. A driving force in their creation has been the perceived difficulty of the public sector or state to properly regulate these sectors and the lack of political will to abide by the terms and expectations of international agreements to manage the impacts of global trade. Similarly, the slow development of state-managed programs for implementation of REDD+ initiatives has created the potential for Roundtables to play an important role in reducing the carbon footprint of agriculture while creating pathways for practical REDD+ implementation.

Several of the existing Roundtables have matured to provide formal third-party certification programs with growing brand recognition such as the FSC or RSPO which have garnered as much as 10% of the global trade in their sectors. Other Roundtables are in more formative stages, either just launching their certification system (e.g. RSB) or developing standards (e.g. GTPS). Not all Roundtables aspire to become independent third party certification systems and there is indeed a wide range of rigor and independence across their systems. However, a significant infrastructure has developed within the last ten years to properly recognize and accredit certification systems to ensure their consistent performance and guard against consumer “greenwashing”. The ISEAL Alliance through their Code of Good Practice is seen as a leader in ensuring the integrity of sustainability claims and standard setting across various systems.

In the face of a globalized economy and the influence of the agricultural sector-- where relatively few large companies control a high percentage of the trade in food commodities -- the importance of widely accepted standards for managing the social and environmental impacts of food production are critical. Standard setting within the context of Roundtables has been a powerful tool to make what were previously abstract concepts of product “sustainability” more real, and more applied. While many NGO’s fear that standard setting is not enough unless it can be matched by a rigorous system of monitoring and verification, (i.e. full certification) the importance of getting agreement among key players about guiding principles and place-based standards should not be underestimated .

Commodity Roundtables and Greenhouse Gas Standards

The development of standards for greenhouse gas accounting has been a recent phenomenon within the Roundtables. It is being driven primarily by the “other oil market”—namely, those commodities which supply both food and biofuels—and where carbon footprint methodologies are key to their eligibility as a renewable feedstock in certain markets. Across the Roundtables most activity has focused on identifying best practices for reducing “operational emissions” – those which result from planting, harvesting, processing and transport. This approach typically focuses on meeting a percentage offset or GHG reduction target as compared to emissions from conventional fossil fuel use under a business- as-usual scenario. A second category of activity concerns standards which restrict forest conversion and land use change. This category is of utmost relevance to discussions about the application of REDD+ to agriculture since REDD+ is focused on avoiding both the conversion of forests (new emissions and reductions in existing carbon stocks) as well emissions from forest degradation (i.e. roading, partial conversion, or the role of silvopasture). Therefore, any Roundtable standards which can “stick” in the field and which are broadly accepted by agricultural producers and suppliers could have a significant role in meeting REDD+ national and sub-national targets.

The following Table gives a brief summary of the major commodity systems and their status with respect to GHG standard setting.

Background	Year Founded	Certification System(1)	Certification Began	ISEAL Member? (1)
Sustainable Beef Working Group (GTPS)	2007	No	n/a	No
Leather Working Group	2005	Yes	n/a	No
Bonsucro (sugarcane)	2007	Yes	2011	Yes
Roundtable on Responsible Soy (RTRS)	2006	Yes	2011	No
Sustainable Agricultural Network (SAN)	1997	Yes	2001	Yes
Better Cotton Initiative (BCI)	2005	Yes	2010	No
Roundtable on Sustainable Biofuels (RSB)	2007	Yes	2011	Yes
Roundtable on Sustainable Palm Oil (RSPO)	2004	Yes	2008	No (but applying)
Forest Stewardship Council (FSC)	1993	Yes	1994	Yes

Greenhouse Gas Standards	Operational Emissions(2) (production/transport)	Forest Conversion (3) (land use change)	EU RED Biofuels (4) (accepted?)	Comments
Sustainable Beef Working Group (GTPS)	In Development	Yes	n/a	<i>GTPS has zero-deforestation pledge pending the availability of financial incentives</i>
Leather Working Group	No	Yes	n/a	<i>LWG traceability required for no deforestation after October, 2009</i>
Bonsucro (sugarcane)	Yes	Yes	Yes	<i>Bonsucro prohibits conversions of HCV, peatlands, and high carbon areas after 2008</i>
Roundtable on Responsible Soy (RTRS)	Yes	Yes	Yes	<i>RTRS criteria have a cutoff of May 2009 for native forests and HCV forests (2008 prohibition on conversion for EU RED)</i>
Sustainable Agricultural Network (SAN)	Yes	Yes	n/a	<i>Includes voluntary Climate Module and SAN Cattle Standard within SAN certification system</i>
Better Cotton Initiative (BCI)	No	No	n/a	<i>BCI focus regions are Brazil, India, Pakistan and Africa</i>
Roundtable on Sustainable Biofuels (RSB)	Yes	Yes	Yes	<i>RSB has the most comprehensive GHG approach to date</i>
Roundtable on Sustainable Palm Oil (RSPO)	In Development	Yes	No	<i>RSPO Developing PalmCalculator for process emissions</i>
Forest Stewardship Council (FSC)	No	Yes	n/a	<i>FSC prohibits conversions in HCV areas, and is developing standards for carbon rich sites</i>

NOTES

(1) There is a range of rigor and independence across certification systems. Over the last ten years the ISEAL Alliance has become the recognized leader in accrediting voluntary certification systems through compliance with the Code of Good Practice.

(2) Operational emissions are generally described as those resulting from planting, harvesting, processing and transport.

(3) Forest conversion emissions are associated with land use change (deforestation) and/or forest degradation, both of which result in new emissions and a reduction of on-site carbon stocks.

(4) The European Union's 2008 *Renewable Energy Directive* sets a 20% by 2020 energy consumption goal, but member countries have flexibility about how to comply. The first set of biofuel protocols were formally recognized in June, 2011.

BLOCK 4: *Synergies Between Food Security and Reduced GHG Emissions*

World agriculture faces the dual challenge of producing more food while reducing its carbon footprint. Farms must produce 70% more food to feed at least 9 billion people by 2050 with nearly all that additional food needed for developing countries. Sub-Saharan Africa faces the greatest food needs as its population is projected to grow by 230%, and it already experiences the most prevalent and deepest hunger. At the same time, agriculture and associated land use change may contribute over 25% of world greenhouse gas emissions, with an estimated 14% from the production process, and 10 to 15% from land use change associated with agricultural expansion. Seventy-five per cent of these emissions occur in the developing world, and that percentage will grow as the developing world will produce most of the additional feed needed over the next 40 years.

By 2050, if production emissions grow according to current trends and if emissions from land use change remain the same, agriculture will generate roughly 15 gigatons of greenhouse gas emissions (carbon dioxide equivalent) each year. Although agriculture would contribute less than 6% of world gross domestic product, these emissions would contribute 75% of the targeted emissions levels from all sources if the world is to cut 1990 emissions levels in half.

The bulk of production emissions occur in the form of methane and nitrous oxide. Methane results primarily from the digestion of livestock, rice paddies, manure handling, and the burning of grasslands and savannas to stimulate better forage. The bulk of nitrous oxide results from urine and manure deposited on grasslands by livestock, and fertilizer use or the fixation of nitrogen by crops. Energy use in agriculture, to run machinery and to make fertilizer and pesticides, probably contributes only around 2 percent of world emissions.

How can and should the world start the process of mitigating these emissions? A group of world researchers has suggested an “*Agricultural Synergies Project*” that would help focus initial efforts on those measures that both boost agricultural production and reduce emissions. A guiding principle is that more productive and efficient agriculture tends to generate fewer emissions for each pound of food, and that reducing emissions intensity should be the goal because of the need to produce more food. The researchers have identified particular opportunities in improving livestock feeding practices, changes in rice management, agroforestry and restoration of drained but unused wetlands, and more efficient fertilization.

Yet the greenhouse gas results can depend on subtle factors, and the economics and practicalities of the agricultural measures vary by location and agricultural system. For that reason, members of the *Agricultural Synergies Project* (ASP) have proposed to work together to develop detailed guidance about where and how these changes can work.

One of the goals of ASP is to facilitate the use of international climate funds for agricultural mitigation by helping developing countries to develop agricultural NAMAs (nationally appropriate mitigation activities) that funders can be confident have a strong scientific basis. This emphasis somewhat deviates from the predominant focus of agricultural mitigation which has focused to date on sequestering carbon on agricultural lands largely in soils and by removing land from agricultural production to plant trees. These forms of mitigation would not so much reduce emissions as offset them, and much of the interest in these techniques is to provide offsets for energy emissions rather than agricultural emissions.

Some researchers consider that mitigation through carbon sequestration is overemphasized, in part because verified, additional, and permanent sequestration is more challenging and uncertain than previously thought. Along with measurement challenges the biomass needed to restore carbon stocks may already be in high demand, such as the demand for crop residues for animal feed. In addition, the understanding and opportunity for “carbon friendly” farming techniques has not been fully embraced by the climate policy community.

This session will discuss these issues and address several questions:

1. What are the potential synergies for boosting food production and reducing emissions in the developing world, and what are the opportunities most likely to be embraced?
2. Is there a need for better technical guidance about such measures and what is the best way of providing that guidance?
3. Should agricultural emissions be judged by emissions per unit of food?
4. How should the costs of land use be factored into these emissions considerations, or conversely, should and if so how should improvements in yield be credited with potential reductions in land use and associated carbon savings?
5. How are global research efforts contributing or not contributing to these needs?
6. How can and should international policies support such synergies and what are the different roles for offset funding and for direct government assistance?
7. What role are private companies and food commodity roundtables playing in reducing agricultural emissions, and how can and should they contribute to these efforts?

Workshop Attendees

Affiliation	Name
Acción Ambiental Colombia	Jose Luis Gomez
Aceh Green	Yakob Ishadamy
Amigos da Terra- Amazônia Brasileira	Roberto Smeraldi
Amigos da Terra- Amazônia Brasileira	Hélio Maddelena
ANAB/AClass	Scott K. Richter
Avoided Deforestation Partners	Margaret Dick
Avoided Deforestation Partners	Jeffrey Horowitz
BIC USA	Vincent McElhinny
Bonsucro	Nick Goodall
Brazilian Ministry of Agriculture, Livestock and Supply	Denise Deckers
Brazilian Sustainable Beef Working Group	Ocimar Villela
Carbon War Room	Guy Pinjuv
CE2 Capital Partners	Laurie Fitzmaurice
Central Rice Research Institute	Tapan Adhya, Director
Climate Action Reserve	Kathryn Bickel Goldman
Climate Focus	Charlotte Streck
ClimateWire	Tiffany Stecker
CLUA/Climateworks	Chris Elliot
Conservation International	Tim Killeen
Conservation International - Brazil	Artur Paiva
Daemeter	Gary Paoli
DAK Renewable Energy, South Dakota	David Kolsrud
David and Lucile Packard Foundation	Jamie Dean
Derecho Ambiente y Recursos Naturales – DAR	Hugo Che Piu
Environmental Defense Fund	Ruben Lubowski
Embrapa	Judson Valentim
Fauna & Flora International	Cynthia Machado
Friends of the Earth	Kate Horner
Global Green Carbon	Kirsten McGregor
Gordon and Betty Moore Foundation	Heather Wright
Idesam/GCF	Mariana Pavan
Imaflora	Marina Piatto
Independent Consultant	Michael P. Wells
Institut du Développement Durable et des Relations Internationales	Romain Pirard
Instituto GAEA	Agnieszka Latawiec
Instituto GAEA	Bernardo Strassburg
Instituto Centro de Vida	Laurent Micol
International Finance Corporation	Mark Constantine
International Institute for Applied Systems Analysis	Michael Obersteiner
ISEAL Alliance	Norma Tregurtha
IUCN	Jeff McNeely
Lexeme Consulting	Gabrielle Kissinger
Mongabay.com	Rhett Butler

Affiliation	Name
National Council on Climate Change-Indonesia	Doddy Sukadri
National Wildlife Federation	Barbara Bramble
National Wildlife Federation	Eric Palola
National Wildlife Federation	Nathalie Walker
Natural Resources Canada	Peter Graham
New Forests Pty Ltd	MaryKate Hanlon
Nicholas Institute, Duke University	Lydia Olander
NRG	Yuhau Lin
Oak Ridge National Laboratory	Keith Kline
Princeton University	Tim Searchinger
Prize Capitol	Emily Arnold
Rainforest Action Network	Bill Barclay
Rainforest Alliance	Mark Moroge
WWF-Brasil	Cassio Franco Moreira
Save the Children US, Ethiopian Country Office	Biruk Asfaw
SCS Certified	Todd Frank
Soil Scientist	Hazen Kazaks
Stanford University	David Gilbert
Terra Global Capital	Steven De Gryze
The Forests Dialogue	Gary Dunning
The Prince's Rainforests Project	Andreeanne Grimard
Tong Hong Tannery, Leather Working Group	Vanessa Margolis
Tropical Forest Group	Jeff Jackson
Tropical Forest Group	John-O Niles
UC Berkeley	Michael O' Hare
UC Berkeley	Avery Cohn
UC San Diego Sustainability Solutions Institute	Kelsey Lamberto
Union of Concerned Scientists	Doug Boucher
Unison Resource	Matt Sutton Vermeulen
University of Wisconsin-Madison	Holly Gibbs
UN-REDD Indonesia	Susilo Sudarman
World Bank	Peter Dewees
World Resources Institute	Craig Hanson
WWF US	Bryan Weech
	Christina Coppede
	Janet McGarry
	Virginia Zuniga

This workshop is supported in part by the Gordon and Betty Moore Foundation.

