# The Role of Commodity Roundtables & Avoided Forest Conversion in Subnational REDD+[1]

## *Agriculture, Food Security & Greenhouse Gas (GHG) Accounting*

## Workshop Report

With negotiations on climate change policy faltering, it is increasingly urgent to indentify immediate, scalable and practical mitigation measures. Eighty international experts, practitioners, funders, and policy makers gathered at the University of California, San Diego to consider the relationships between agriculture, commodity roundtables and reducing emissions from deforestation and degradation in developing countries (REDD+). The conference explored the boundary between traditional REDD+ programs which focus on preventing deforestation and agricultural policies and programs, notably the emerging commodity roundtable systems. Agriculture and livestock expansion are the largest drivers of tropical deforestation (Geist and Lambin 2002; Rudel 2005.)

REDD+ has garnered substantial interest and support, even in the absence of a clear market signal, agreed upon rules, or a coordinating body for international cooperation on REDD+. Areas where REDD+ is active despite these uncertainties are the REDD+ Partnership, bi-lateral and multi-lateral efforts, and UNFCCC debates on the possibility of a UNFCCC REDD+ Mechanism.

Most participants at the workshop agreed that a broader approach to avoiding forest conversion, addressing both the key agricultural drivers of deforestation and range of interventions needed to effectively reduce forest conversion for agriculture, could help achieve REDD+ results. Participants also noted that the timing was right for such a discussion, given the relatively nascent state of commodity roundtables, and the considerable attention to REDD+ programs internationally, nationally, and subnationally. The workshop was organized to elucidate key linkages, areas of possible conflict, and other areas of overlap between REDD+, agriculture, food security, and greenhouse gas accounting (GHG). Most of the major commodity roundtables (and "proto-roundtables") were represented at the conference and explained with a focus on their standards relating to land conversion, GHG accounting, and certification systems

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

and governance. The conference participants concluded with a focused discussion that highlighted areas and ideas for potential collaboration. Key recommendations are:

**1) Support for a SBSTA work plan on reducing emissions from agriculture, including its role in deforestation.**

**2) Support for a Green Commodities fund to fast track incentives for deforestation-free agriculture.**

**3) Support for more research on "land-sparing", including its effectiveness at the global, national and subnational scales, and on essential complementary policies to ensure reduction of deforestation.**

**4) Support for a SBSTA work plan on "drivers of deforestation," including how they work differently under varying local conditions; work should include studies to identify not only key drivers in different regions and but also successful interventions to reduce deforestation.**

**5) Support for efforts to reduce GHG emissions from agriculture (climate-smart agriculture) that reflect the diversity of such emissions; give priority to those emissions arising from land use change and explore potential synergies between different reduction methods.**

**6) Support for SBSTA to consider the use of relevant "sustainable commodity standards" (those that are based on dialogue between industry and civil society, transparent, credible, accountable and use independent 3rd party audits for validation) as tools for effective REDD+ plans.**

**7) Support for enhancing technical capacity on terrestrial carbon accounting in agriculture and forest sectors.**

This report tries to synthesize some of the discussions and ideas generated by the two and half day workshop, with particular emphasis on areas of future cooperation. The workshop was organized around three key topics:

1) "Land Sparing": Can Agricultural Intensification Help Save Forests?
2) Commodity Roundtable Approaches to Reducing GHG Emissions from Land Use Change
3) Synergies Between Food Security and Reduced GHG Emissions

There were also discussions on whether there is a role for agricultural and commodity roundtables to play in the SBSTA and UNFCCC processes and discussion on how subnational REDD+ efforts are engaging agricultural issues and commodity roundtables. All presentations and other related resources are being made available on-line at:
http://www.nwf.org/reddworkshop

**1) Land Sparing: Can Agricultural Intensification Help Save Forests?**

Do increases in agricultural yields spare land? By basic arithmetic, higher crop and pasture yields should provide more food without expanding agricultural area. Using this approach, Burney *et al. (*2010) estimated that yield gains since 1961 have prevented world cropland from more than doubling. However, Angelsen and Kaimowitz (2001) case studies described a wide range of different effects of intensification on tropical forests, and statistical analyses of the relationship on a country level between yield gains for staple croplands and agricultural land area have found no clear relationship in the amount of cropland in total or per person (Ewer 2009; Rudel 2009).

The workshop aimed to set out the arguments for and against the land sparing concept, the importance of the scale at which it can take place and recommend conditions which can encourage yield increases to lead to a reduction in deforestation.

There are several reasons why intensification can lead to an increase in deforestation; mainly because intensification can make agriculture more productive and 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 then 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 research argues that even this may not spare forests because some new areas may still be cleared, while other acres are left fallow.

Factors such as government policies, infrastructure development, land speculation and the basic decisions by people of where and how to live rather than consumer demand and yield factors can affect the rate of forest conversion. However, with an understanding of these factors, there are opportunities for land sparing to function effectively- an example from Colombia was presented where silvopastoral approaches to increase productivity were implemented so that profitability increased without any deforestation. Examples of potential productivity gains, by better land management and cultivation of degraded lands, from Brazil and Indonesia set out win-win possibilities for yields and forest conservation if the requirement to protect forests can be built in to an agricultural intensification program, either through government or market enforcement or with compensation (potentially through a REDD mechanism).

Many participants noted that yield gains in agriculture globally should reduce overall demand for new agricultural lands, but that a huge range of factors prevents such a theoretically simple

story from being realized, especially at the regional and national scales. There is a need for national data on drivers of deforestation and their related impacts. Any real and lasting reductions in forest clearance will also need supportive and integrated government policies that are effectively implemented.

At the local level, many factors come into play where localized gains in agricultural yields could lead to increases in forest clearing (e.g., it becomes more profitable to clear forests, with higher yields). The greenhouse gas resulting from avoided land or forest conversion will always depend on many localized and often subtle factors. There will also be significant changes over time on future GHG stocks and flows on avoided conversion, and these are highly variable and difficult to accurately estimate.

**2) Commodity Roundtable Approaches to Reducing GHG Emissions from Land Use Change**

An important development in commodity agricultural has been the emergence of various "commodity roundtables". These commodity roundtables are voluntary systems that aim to provide assurances to producers of palm oil, sugar, biofuels, soy, cattle and others. For a description of these systems, see **Appendix 1**.

These commodity roundtables are in various states and have various goals and governance. Several of the existing commodity roundtables have matured to provide formal third-party certification programs with growing brand recognition such as the Roundtable on Sustainable Palm Oil, which has garnered as much as 10% of the global trade. Other commodity roundtables are in more formative stages, either just launching their certification system (e.g. Roundtable on Sustainable Biofuels) or developing standards (e.g Global Roundtable for Sustainable Beef). Not all the commodity 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 "green washing". 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, and the discussion found this to be critical to accountability and credibility.

The development of standards for greenhouse gas accounting has been a recent phenomenon within the commodity roundtables. Across the commodity roundtables, most activity related to GHG accounting has focused on identifying best practices for reducing "operational emissions" – those that 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 commodity 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 subnational targets.

Despite their diversity, all of these commodity roundtable initiatives are seeking to diminish forest clearing. And given their membership and potential impact, as well as general inclination toward ensuring supply chains with minimal forest clearance, commodity roundtables are likely to play an important role in achieving REDD+ related GHG emission reductions.

**Commodity Roundtables and REDD+**

Countries that are implementing REDD+ have by and large not yet incorporated agricultural programs or agencies into REDD+ strategies. Some participants noted that of the REDD+ programs being developed for the World Bank's Forest and Carbon Partnership Facility (FCPF), many countries have failed to fully appreciate or describe drivers of deforestation beyond relatively simplistic correlations.

Many workshop discussions explored the need for better national coordination between agriculture and REDD+. A few key areas where closer collaboration would be valuable were identified.

*First*, there is a need for basic coordination between agriculture, commodity roundtable and REDD+ constituencies. Coordination between these groups would likely lead to more integrated and effective policies. Participants expressed a need to foster cross-sectoral commitments such as agricultural efforts to raise yields and REDD+ efforts to reduce forest clearing.

*Second*, REDD+ negotiators tend to be forestry and environment agencies. Agricultural agencies are by and large, not substantially engaged in REDD+. Several participants noted it may be useful to frame REDD+/agriculture synergies in the language of agricultural agencies and programs, rather than in REDD+ language and framing. Internationally, agricultural drivers of deforestation are not yet required as part of the setting of REDD+ reference levels. This discussion has occurred in the context of SBSTA and UNFCCC talks, but is not a mature discussion yet.

*Third*, systems to measure and report data and outcomes are not currently aligned. In fact, there are a plethora of efforts to collect and use data on agriculture, forest carbon, forest clearance, and other variables. However, given that the REDD+ and agriculture and commodity roundtable communities have only just begun to explore areas for potential cooperation (a key goal of the workshop), it is possible that different systems for measuring, reporting and verifying changes in forest clearance, forest degradation and associated emissions changes will not work together. There was strong support for exploring ways to harmonize data collection and use. One key area where harmonization would be useful was the topic of reference levels. The range of "systems" looking at GHG emissions from commodity agriculture and REDD+ programs could lead to divergent reference levels for an area. This outcome could substantially diminish the integrity and confidence in all the systems trying to provide incentives to reduce GHG emissions below consistent and comparable reference levels, or baselines.

Closer integration between agricultural and REDD+ plans could help efforts to improve the permanence of avoided forest clearing and improve overall long-term sustainability.

The discussants also noted ways where REDD+ could benefit commodity roundtables and commodity roundtables could benefit REDD+.

Ways REDD+ Could Benefit the Commodity Roundtables

- Increased industry involvement in not clearing forests, through access to climate finance and carbon markets This could help increase the participation in REDD+ and help address or minimize leakage.
- Potential resources for certification.
- Methods and resources for estimating emissions reductions from avoided conversion.
- International and national coordination.

Ways Commodity Roundtables Could Benefit REDD+

- Concrete action to engage agents of deforestation in stopping or slowing forest clearance, in other words, addressing drivers of deforestation "head on".
- Reduce the transaction costs of REDD+.
- Field-tested criteria for REDD+ related MRV.
- Provide scalable pilots.
- Provide the type of public-private interaction that can help to make REDD+ more sustainable and understood by relevant stakeholders.
- Larger engagement of supply chain and more involvement of relevant public and private actors and possibly broader engagement of civil society.
- Commodity roundtables could help bring more permanence and sustainability to reductions in deforestation.

To what extent should the commodity roundtables evolve or adapt to address issues that are critical to REDD+? As an important first step, researchers would need to explore the potential to align commodity roundtable systems with REDD+ verification processes. There were some who felt that given both the REDD+ and commodity roundtable systems are in early stages, it is not likely that substantial system alignments will be clear in the short term. Most participants also agreed that, given how immature the commodity roundtable and REDD+ systems are, now is also an important times to begin more communication and cooperation. It was noted that for all the variety there is between commodity roundtable systems, there will be even more variety between subnational REDD+ programs.

An agriculture SBSTA work program could look at these REDD+ and agriculture interlinkages such as degraded land, land sparing, etc. It would be useful to achieve consensus on the technical and scientific aspects of the problems. Work programs under SBSTA normally preceded political decisions on funding or mechanisms (this is also how REDD progressed). The various commodity roundtables have different concepts and calculations about what constitutes avoided forest conversion. REDD+ programs are evolving and will all be different.

There are time-sensitive opportunities to link agriculture, commodity roundtables and REDD+ in order to improve food security, improve agriculture and implement REDD+ programs.

**3) 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 food 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.

Participants discussed the Agricultural Synergies Project, which has proposed work to develop detailed guidance about where and how changes that improve food security while reducing GHG emissions can work.

Several participants explained activities they have been involved with that combine elements of agricultural improvements and efficiencies and attention to avoided deforestation and forest and land degradation. Examples included rice management systems in India and pastoral grazing exclosures in Ethiopia. Other conference participants identified opportunities by improving livestock feeding practices, changes in rice management, agroforestry and restoration of drained but unused wetlands, more efficient fertilization, and incentives for improved rangeland management. These presentations are available on-line.

The workshop discussions noted that the understanding of "carbon friendly" farming techniques is quite limited in the climate policy community. Workshop participants felt it would be useful to clearly identify and research the highest potential specific policies and steps that various actors (governments, private companies, individual farmers) can take to secure agricultural yield gains while protecting forests.

**Ideas for Possible Follow Up**

1. General support for continued closer interaction between REDD+ constituencies, commodity roundtables, and agricultural agencies, programs and people.
2. Harmonization of sectoral programs as an overriding idea.
3. Follow up meeting (perhaps establish an annual meeting) of workshop participants on agriculture, GHG, and REDD+.
4. Continued outreach to agricultural agencies and programs on benefits and opportunities for synergies created by REDD+. Participants noted that such outreach might be more productive if it is done on the terms (and in the language) of the agricultural community, as opposed to couched in REDD+ and forest conservation language.
5. Cooperation on ways to better integrate drivers of deforestation, agriculture (large scale and small scale) into the UNFCCC and SBSTA processes. This integration could occur through efforts of agriculture on its own (though this process has been stalled for political reasons), through REDD+ discussions, and through finance discussions. Participants noted two distinct audiences for this cooperation – the international UNFCCC process and individual countries developing REDD+ programs, MRV systems, safeguards, identifying drivers and forest monitoring systems.
6. Establish a listserv where workshop attendees and others can share information on the range of topics identified during the workshop. A "REDD+ and Roundtables" listserv has subsequently been set up. If you would like to be added to the group, please send an email to Nathalie Walker at walkern@nwf.org.
7. Research to further identify the GHG and land sparing components of emerging commodity roundtables. There is a need to ensure that commodity roundtable efforts are credible and build confidence in their integrity. ISEAL is an organization that provides "standards" for various social and environmental standards. Some of the commodity roundtables are members of ISEAL or are applying, while other are not.
8. Explore how to use the vastly greater amount of public funding for agriculture (as compared to REDD+ finance) to implement REDD+.
9. Research ways to better integrate data sharing and technical cooperation, between commodity roundtables, agricultural programs and REDD+ programs. Of particular concern is the need to disentangle reference levels and baselines. For instance, should commodity roundtable implementation be assumed as part of a country's own contribution to reducing emissions from deforestation? Or should it be viewed the other way around? Should REDD+ finance help realize the potential of commodity roundtable certification and compliance? If a commodity roundtable system uses certain base years and other assumptions for compliance, how do these base years and data assumptions match with the REDD+ reference levels that countries have been asked by the UNFCCC to develop (albeit with very little UNFCCC or SBSTA guidance as of yet). A related concern is on forest carbon and GHG assumptions and data. It is possible, and not desirable, that multiple efforts (commodity roundtable, national, subnational) will develop emissions factors, activity data, and reference levels, and come up with very different results.
10. Research into practices, technologies and policies that improve food security and agricultural production while simultaneously avoiding conversion of forests, especially through the work of the Agricultural Synergies Project. Several participants noted that in addition to technical advances and supportive policies on yield gains, special attention should be focused on food and other wastes and inefficiencies.

11. Explore a University of California Certificate Program in Terrestrial Carbon Accounting. Participants noted that with the plethora or systems and efforts to understand GHG implications of REDD+, land sparing and commodity roundtable systems, there should be a course that ensures that people working in the field have the core competencies to estimate GHG stocks, fluxes and changes from various systems (from voluntary markets, to the IPCC and national communications and inventories, to commodity roundtable efforts, to REDD+ MRV programs and reference levels). The Certificate Program could serve as an example for other research institutions.
12. Support on-going efforts for a proposed Green Commodity Fund. Several participants noted that such a fund would highly complement many of the ideas that were developed or noted during the workshop.
13. Special attention to understanding the extent of degraded lands and the opportunities and constraints to moving agriculture to degraded lands and the opportunities and constraints to rehabilitating degraded lands. Several participants noted that, for example in Brazil, there appears to be sufficient lands that have already been cleared to support projected needs from agriculture and ranching. Additional research is needed regarding the intensification of pasture production.
14. Additional research is needed on concepts of a carbon efficiency index and benchmarks for meeting demands without conversion.

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**Appendix 1)**

| 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 | 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) |

| 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 | *GTPS has zero-deforestation pledge pending the availability of financial incentives* |
| Leather Working Group | No | Yes | n/a | *LWG traceability required for no deforestation after October, 2009* |
| Bonsucro | Yes | Yes | Yes | *Bonsucro prohibits conversions of HCV, peatlands, and high carbon areas after 2008* |
| Roundtable on Responsible Soy (RTRS) | Yes | Yes | Yes | *RTRS criteria have a cutoff of May 2009 for native forests and HCV forests ( 2008 prohibition on conversion for EU RE* |
| Sustainable Agricultural Network (SAN) | Yes | Yes | n/a | *Includes voluntary Climate Module and SAN Cattle Standard within SAN certification system* |
| Better Cotton Initiative (BCI) | No | No | n/a | *BCI focus regions are Brazil, India, Pakistan and Africa* |
| Roundtable on Sustainable Biofuels (RSB) | Yes | Yes | Yes | *RSB has the most comprehensive GHG approach to date* |
| Roundtable on Sustainable Palm Oil (RSPO) | In Development | Yes | No | *RSPO Developing PalmCalculator for process emissions* |

**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 which result in new emissions and reductions of 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.