



Optimization of land use for soy, palm oil and sugarcane

Can we deal with deforestation and land tenure issues?

Arend Jan van Bodegom

Project Report



Wageningen UR Centre for Development Innovation (CDI) works on processes of innovation and change in the areas of secure and healthy food, adaptive agriculture, sustainable markets and ecosystem governance. It is an interdisciplinary and internationally focused unit of Wageningen University & Research centre within the Social Sciences Group.

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Solidaridad

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Bodegom, A.J. van

Centre for Development Innovation, Wageningen University & Research centre

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The value chains for different internationally traded commodities like soy, palm oil and sugar extend from the production areas in developing countries to consumers in Europe, the USA and other economically more developed areas. There is increasing awareness that all the stakeholders in these international chains need to live a socially and economically decent life. Roundtables could be promising and useful instruments for making this possible, but up to now they have faced two major challenges: (1) how to stop deforestation due to the extension of the commodity production areas, and (2) how to resolve land tenure and land rights issues, especially involving indigenous peoples. This report describes the situation in Paraguay (soy), Kalimantan in Indonesia (oil palm), Liberia (oil palm) and Brazil (sugarcane). It describes several approaches for dealing with deforestation and land tenure issues with the involvement of relevant stakeholders, especially in the production areas, and including the roundtables.

Orders

+ 31 (0) 317 486800

info.cdi@wur.nl

Preface

A lot of people on planet earth use soya, palm oil and/or sugar cane in some way or another. Like all agricultural products, this asks for land areas to cultivate these crops. These activities affect the landscape, the local society and the environment. To harvest, proceed and market these products (the value chain) there are also a lot of different stakeholders involved, all with their own specific roles and responsibilities.

For years most consumers just used these products without realising where the soy or palm oil came from and under what circumstances these products were cultivated or what the impact on the landscape was. Lately we happily see more and more awareness of topics like social and environmental impact.

In this report, Arend Jan van Bodegom shows that awareness and willingness are very important to discuss the impact on the landscape, the indigenous people and land tenure issues. By analysing the value chain, the role and responsibilities of various stakeholders, using scenarios, et cetera, a round table can contribute to a more sustainable future.

Of course, there are no simple answers to tackle all the questions that can be raised. But awareness and willingness are serious contributory factors to achieve before we can provide an answer. Through this study, in which four cases are described, Arend Jan shows that only if we understand and accept how 'it works' can we try to intervene and ask or convince stakeholders to take responsibility for their actions.

This report is in the centre of the work of the Centre for Development Innovation / Wageningen UR: only if we understand the complexity of the system and identify the relevant stakeholders in their context, then we can strive for a sustainable and thus long-lasting impact.

Co Verdaas
Director
Centre for Development Innovation, Wageningen UR

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Executive summary

The value chains for different internationally traded commodities, like soy, palm oil and sugar, extend from the production areas in developing countries to consumers in Europe, the USA and other economically more developed areas. There is increasing awareness that all stakeholders in these international chains need to live a socially and economically decent life. Roundtables could be promising and useful instruments for making this possible, but up to now they have faced two major challenges:

- How to stop deforestation due to the extension of the commodity production areas
- How to solve land tenure and land rights issues, especially involving indigenous peoples

These challenges have to do with the social, economic, institutional and ecological situation in the areas where the commodities are produced. There is a need to deal with these local situations.

The cases to be studied were:

1. Soy: Paraguay. The private-sector party with an interest in the area could be for example Rabobank.
2. Palm oil: Kalimantan (Indonesia) and Liberia. The private-sector party with a possible interest in the area could be Sime Darby.
3. Sugar: Mato Grosso do Sul (Brazil). The private-sector party with a possible interest in the area could be Shell.

For the cases, key knowledgeable individuals were interviewed by Skype (or phone) and additional questions were asked by e-mail. In addition, the available literature was studied. The important issues focused on during the interviews and in the literature study included:

- The state of different natural resources, the pressures on them and the reasons for these pressures
- The existing conflicts concerning land tenure and deforestation
- The stakeholders and their different interests, and the different kinds of power they have to change the situation

Roundtables for commodities institute a dialogue between civil society and industry actors geared towards achieving an effective regime of standard-setting. The aim is to benchmark producers applying principles of sustainability. In recent years, a number of international standard-setting bodies, known as roundtables, have emerged to regulate primary commodity industries by devising a set of sustainability criteria that would ensure workers, local communities and natural resources are better protected. There are 11 roundtables, of which four are relevant for this study: the Roundtable on Sustainable Palm Oil (RSPO), the Roundtable on Responsible Soy, Bonsucro (sugarcane) and the Roundtable on Sustainable Biomaterials (RSB). All four roundtables have standards as a way of making the production of the commodity they deal with more sustainable. Their effectiveness to date is challenged by several NGOs. Scientists have described several points of criticism which need attention in future actions to be developed by the roundtables:

- The limited inclusiveness of stakeholders and discourses
- The fact that deliberations have a limited impact on collective decisions
- The increased importance of businesses and decreased importance of governments
- A managerial approach, illustrated by the popularity of standards which focus on particular issues while detracting attention from other issues

- The marginalization of certain development concerns
- A relative neglect of what is happening 'upstream in the value chain' (the geographical area of production), also visible in weak reporting, monitoring and enforcement mechanisms

Standard-setting is only one method for improving the sustainability of the agri-business. Roundtables consider themselves as 'communities of change'. Such communities have other functions apart from standard-setting, like creating a shared vision, organizing the global supply chain and creating coherence in strategies, learning, research and capacity development, bringing about a joint financing system, and advocacy.

The issues addressed by the roundtables have to do with sustainability in agri-business, which is an example of what is termed a 'wicked' problem: highly complex, having innumerable and undefined causes, and difficult to understand and frame. It often affects multiple stakeholders throughout the agri-food system and beyond. Thus, wicked problems cannot be resolved by finding 'right answers' or 'solutions', *but rather they must be managed*. This is also true for the above-mentioned points of criticism. Stakeholders will have to work together to find a way out, including by trial and error.

Two functions of roundtables should receive more attention: (a) developing and disseminating new knowledge and tools, training and piloting new approaches, and (b) financing by combining forces to aggregate their impact and create a more efficient funding vehicle than any individual body could do on its own.

All four roundtables have criteria that deal with deforestation and land tenure issues. These criteria seem to be very general, for example "deforestation in high value conservation areas should be zero", but no intermediary steps are identified to reach that goal. In practice the situation is very complex and it is unrealistic to expect that the ideal situation can be reached from the start. The Roundtable on Sustainable Biomaterials (RSB) goes one step further: it also recognizes the need to work on ecological corridors.

In Chapter 3, a brief overview is presented of the relationship between land tenure and deforestation. It turns out that tenure is inextricably linked to many socioeconomic and governance factors, so it is difficult to disentangle tenure from other direct and indirect causes of deforestation. Local factors play a crucial role. Land tenure and land tenure security are not, in and of themselves, perfect safeguards for forests.

The four cases - Kalimantan, Brazil, Paraguay and Liberia - are all important production areas of globally important commodities and areas with a high biodiversity value. Much destruction of the natural habitat has already occurred. Kalimantan (one of the palm oil cases) is amongst the most species-rich regions in the world. Many ecosystems are threatened by deforestation. The expansion of palm oil plantations was the most important land use change. From 1980 to 2009, there was a ten-fold increase in oil palm production. In Brazil (the sugarcane case) both the Cerrado and the Pantanal are globally important ecosystems. The Cerrado (a dry vegetation type) has already lost more than half of its original area. In the Cerrado, large-scale deforestation has taken place for soy production (the relationship between deforestation and sugarcane production seems less obvious). The ecosystems in the Cerrado are the watersheds which feed the Pantanal. The Pantanal, the other important ecosystem in the sugarcane production area, is the largest wetland in the world. It is a World Heritage Site. The growing agricultural expansion is threatening the productivity of the Pantanal because it is eliminating the sources of recharge (natural forests which act as protection, as well as tributaries) in the Upper Watershed. On the other hand, the chemicals used in agriculture contaminate bodies of water to a considerable degree and are transported to the sedimentation plain and distributed throughout the system by the flood pulses.

In Paraguay (the soy case) the soy fields were originally part of the Atlantic Forest. These forests are the habitat for many species of animals. There are approximately 1.7 million hectares left of the original 7.5 to

8 million hectares. There has been little deforestation of Atlantic Forest since 2006. Deforestation in Paraguay took place for extensive cattle breeding but now these areas have been converted into soy fields, which are much more profitable. Extensive cattle breeding now takes place in another ecosystem - the Chaco, a dry forest type. In Liberia (one of the palm oil cases) the important natural ecosystem is the Guinean Moist Forest. The diversity in life inhabiting these forests is great, with important animal and plant species. The forests have been severely reduced by logging, clearing for agriculture, and mining activities.

The study's production areas still contain important habitats for biodiversity conservation. Deforestation still goes on, because the international demand for soy, sugarcane (ethanol) and palm oil are important drivers for deforestation. The deforestation and changes in other natural habitats have an impact on the services the original ecosystems provided for local people and internationally. Internationally, emissions of carbon dioxide are an issue, especially in Kalimantan. The burning of sugar is an issue in Brazil, causing soil and water pollution. In Paraguay and Liberia, people are losing the opportunity to collect non-timber forest products, or the opportunity to earn their living with small-scale fisheries.

With exception of Brazil, the governmental responses to threats to ecosystems and ecosystem services can be considered as inadequate. In Brazil, there are cases where the increase in sugarcane areas has not resulted in the loss of native forests. Brazil also has a good environmental legal framework, but richer states within Brazil are better organized than poorer ones. In Kalimantan, the government at various levels is generally described as weak. In Paraguay, implementation of forest policies suffers from corruption. Liberia is working seriously on land tenure issues, but conservation of biodiversity does not seem a priority.

The picture as to land tenure in the four cases can be characterized as gloomy. In Kalimantan, there are many conflicts about land tenure. The existing legal framework is very much to the advantage of the plantation companies. A comparable situation exists in the permit process for new oil palm plantations. Many oil palm plantations overlap with protected forest land. In Brazil, many traditional inhabitants do not have a certificate of ownership of their land. Indigenous peoples in particular suffer from this situation. The government is dealing with the process of legalization, but the pace is (too) slow. In Paraguay, there is no clarity as to land tenure; for example the situation as to land registry is very unstable. Land ownership is highly concentrated in a few hands. There is tension between different groups. In Liberia, land tenure issues have very deep historical roots. In the hinterland where palm oil companies want to establish plantations, there are traditional rights to land recognized by presidential deeds and traditional lands without such deeds. The situation is extremely complex. A complicating factor is that there is a lack of reliable data on land tenure.

In these cases, the following types of stakeholders can be identified:

- (a) The government, which can generally be described as 'weak', not capable of implementing the rules it has set and suffering from corruption. The exception is Brazil.
- (b) Private companies, both national and international. Although there are international roundtable processes, this does not mean that they act in a concerted way.
- (c) Local communities – sometimes indigenous groups, and smallholders, which include landholding small farmers as well as agricultural labourers. They generally have a weak position.
- (d) Civil society (or NGOs), which provide help to local communities and labourers, but this is not enough to improve their marginal position. They also play a role in advocacy.

(e) Migrant labourers, for example sugarcane labourers in Brazil.

(f) Banks that provide loans for investment in plantations and processing facilities.

(g) International consumers, generally not much in the picture. However, theoretically they could demand production that is more socially and environmentally sustainable.

Only in the case of Brazil is the potential role of knowledge institutes (universities and research institutes for capacity building and facilitation) mentioned. This publication advocates a more conspicuous role for such institutes. Also the roundtables could play a role in concrete cases in the local area of production.

Do stakeholders feel a sense of urgency that the current situation is no longer acceptable? The hypothesis is that if such a sense of urgency is lacking, efforts to change the situation will be fruitless. The provisional conclusion is that the sense of urgency seems to be stronger in Liberia and Brazil, while more doubt exists as to Kalimantan and Paraguay.

So what can be done?

The problems of deforestation and land tenure arise first of all in a specific landscape, a specific area with various people living in it, with different relations. The prerequisites for a successful process that will solve the problems are that: (a) stakeholders accept their interdependencies; (b) they are willing to communicate and learn from each other; (c) they are willing to actively tackle the problems discussed; and (d) each participant is interested in reaching a negotiated agreement. These four prerequisites can also be summarized by saying there must be *a sense of urgency* among stakeholders.

The direction is clear: upstream in the value chain, in the rural areas where the sugarcane, palm oil and soy are produced. As an addition to the development and implementation of principles and criteria (e.g. in the roundtables) it is necessary to develop the regulatory capacity to reach upstream into remote rural areas where the problems emerge. New governance and accountability relationships need to be developed in these areas. The key challenge is to deal with large differences in power between the different stakeholders.

Land tenure issues and deforestation occur in an actual, visible landscape. In order to deal with these problems effectively, a landscape approach is needed. Why focus on the landscape? Because both deforestation and land tenure have many spatial aspects. Adopting a landscape perspective offers the opportunity to cross administrative and political boundaries, allowing for broader groups of actors to engage in spatial decision-making. A landscape approach is necessary as a supplement to a value chain approach in order to deal effectively with deforestation and land tenure issues.

The proposal is to start Multi-Stakeholder Processes (MSPs) in these landscapes. MSPs in a landscape approach are different from MSPs in the commodity supply chain approach. The commodity supply chain approach takes the supply chain as the focal point while the landscape approach takes the landscape as the focal point. This is a crucial difference and it does not imply that MSPs for value chains should be discontinued.

A multi-stakeholder process at the local level ('upstream in the value chain') is also a negotiation process. MSPs are developed around seven principles:

1. *Working with complexity*: create MSPs based on the recognition that human systems are complex and processes are dynamic and often unpredictable.
2. *Fostering collective learning*: stakeholders should be enabled to learn together from their collective experience.

3. *Reinventing institutions*: institutions should be changed. Institutions are ‘the rules of the game’, which may be formal or informal.
4. *Shifting power*: social change involves understanding, working with and shifting power structures related to political influence, economic wealth, cultural status and personal influence.
5. *Dealing with conflict*: conflict is an inevitable and normal part of any MSP. Understanding conflict, exposing it and dealing with it is essential for MSPs to be effective.
6. *Enabling effective communication*: underlying an effective MSP is the capacity for people to communicate with each other in an open, respectful, honest, emphatic and critical way.
7. *Promoting collaborative leadership*: different types of leaders have to be recognized: political, traditional, informal etc. These leaders have to promote cooperation.

While principle number 4, shifting power, undoubtedly proves to be the most controversial, it is also indispensable, for example for dealing with challenges like local communities often hardly benefitting from international investments and often not being involved in decision-making. An MSP consists of various phases: initiation, adaptive planning, collaborative action and reflective monitoring. During the process, various approaches might be helpful. The ‘theory of change’ approach may help make it clear how stakeholders believe that change could take place and give a tangible route for the commonly defined changes. A landscape approach – perceiving the landscape, its elements and people as a system with its own complexity and uncertainties - is helpful for participatory landscape planning.

The MSP should lead to concrete interventions for the struggle against deforestation, land tenure issues and other issues that the stakeholders deem necessary:

- Regulatory approaches. This includes land use planning, land tenure regulations, changes to the law or better implementation of the law etc.
- Market incentives: This could include incentives for the production of sustainable soy, palm oil and sugarcane, but also capacity building for producer groups.
- Innovations in production systems, resource use and social and economic arrangements (organization).
- Capacity building for the different stakeholders in order to improve their functioning and the functioning of the production system in relation to the landscape system. This includes interventions that promote a change of culture, transparency, solidarity, accountability and awareness raising.

In order to successfully develop a multi-stakeholder process at the landscape level, practitioners, policy-makers and other actors in the landscape have to be able to correctly analyse a concrete situation of competing or conflicting resource use, have insight into the complexity of factors that have an influence at various scales, including asymmetries in knowledge and power, and facilitate a process of multi-stakeholder dialogue aiming at negotiated outcomes. Here, academic knowledge should play a more conspicuous role.

For outsiders, *deforestation* has the connotation of environmentalists starting to protest whenever a patch of forests disappears. But can we not afford to lose any patch of forest? *Could forest loss be acceptable to a certain extent?*

It would be important to define thresholds – minimum values for the surface area and (biological) quality of the forests in a certain production area of soy, palm oil or sugarcane. The academia could play a role here. It is possible to design a system of protected areas whereby all valuable biological diversity is represented. Likewise, it is possible to make an inventory of the environmental services provided by the forests, for example in diminishing the risk of erosion and inundation, and improving water availability. There is also a social component to deforestation. Local communities use the forest for all types of

products. The academia could help to make an inventory of those products and the harvesting areas, and use a participatory approach to estimate what would be the best way to maintain the harvesting opportunities for local people.

For understanding land *tenure issues* at the local scale, a baseline study (or studies) should be made, and an agreement with communities should be made based on the baseline results. The baseline study will give an understanding of the livelihood of communities and it could help identify strategies which sustain the community in the way they want to live. Some level of transparency and accountability is needed in implementing the agreements. The delivery should be done in a transparent way, so that the study is for the community as a whole. Also help is needed on how to invest the money in the most beneficial way.

Scenario planning could be a serious option. What will or what can happen and what future do stakeholders prefer for a certain production area? Scenario planning could take into consideration all aspects of deforestation and land tenure. It could help people to change their mental map and increase their willingness to cooperate (Verdaas, pers. comm.).

The problems described in this publication are caused by forces at the international, national and local levels. Generally it will not be possible to identify one group of actors as the main cause of the problems. Then the question is: who should take the lead, who is the main problem owner? This depends on the situation and on the willingness of actors to invest money to start up a multi-stakeholder process. Donors, national governments, private companies or NGOs - all may have good reasons to try to bring stakeholders together. Knowledge institutes can provide useful information in order to feed the process of negotiation, while they can also provide capacity building and facilitate the process.

Up to now, **roundtables** have been most visible at the international level. The plea in this document is to foster links between the private sector, governments, NGOs and knowledge institutes, to deal with the issues of deforestation and land tenure not only at the international (roundtable) level, but also in the specific geographical areas (at the landscape level), to a much greater extent than in the past. Two functions of roundtables should receive more attention: (a) developing (through research) and disseminating (through training) new knowledge and tools, and piloting new approaches, and (b) financing by combining forces to aggregate their impact and create a more efficient funding vehicle than any individual body could do on its own. In these situations, the existing roundtables could be an important player and could in many cases be instrumental in promoting the necessary dialogue within a multi-stakeholder process. This should be done in the first instance at the pilot scale.

List of abbreviations and acronyms

ASC	Aquaculture Stewardship Council
AWS	Alliance for Water Stewardship
BCI	Better Cotton Initiative
CDI	Centre for Development Innovation, Wageningen UR
DPSIR	Driving forces, Pressures, States, Impacts, Responses
EIA	Environmental Impact Assessment
EU	European Union
FSC	Forest Stewardship Council
GRSB	Global Roundtable for Sustainable Beef
HCVA	High Conservation Value Area
ILO	International Labour Organization
ISEAL	International Social and Environmental Accreditation and Labelling Alliance
MSC	Marine Stewardship Council
MSP	Multi-Stakeholder Process
NE-DEED	Negotiate, Describe, Explain, Explore, Design
NTFP(s)	Non-Timber Forest Product(s)
RED	Renewable Energy Directive of the European Commission
REDD	Reduced Emissions of greenhouse gases by Deforestation and Degradation
RSPO	Roundtable on Sustainable Palm Oil
RSB	Roundtable on Sustainable Biomaterials
RSCE	Roundtable for a Sustainable Cocoa Economy
RTRS	Round Table on Responsible Soy Association
SEA	Strategic Environmental Assessment
UNICA	Brazilian Sugarcane Industry Association
Wageningen UR	Wageningen University & Research centre
WWF	World Wildlife Fund

1 Introduction

1.1 Background

The Centre for Development Innovation (CDI), Wageningen University and Research centre (WUR) has recently worked on various projects, together with colleagues from other parts of WUR, that deal with the claims that different land uses may make simultaneously on the same resources in a country (Arets 2011), (Berkum 2011). These claims can compete with each other and for reasons of ecological sustainability and socioeconomic equity, solutions have to be found that are acceptable for the stakeholders in a country, area and/or landscape.

Solidaridad has been working and lobbying for decades in order to diminish poverty among farmers in developing countries. It aims at the empowerment of farmers and fair trade via the economy and chains of custody. It set up the fair trade label Max Havelaar, which was originally established for coffee but is now in use for various commodities, including bananas, cotton and chocolate. Solidaridad also founded initiatives like UTZ certification (for coffee) and more recently it contributed significantly to roundtables for different commodities (soy, palm oil, sugar, cotton and livestock).

CDI and Solidaridad have decided to collaborate in a desk study that could be the starting point of the development of an instrument which could help to deal with two challenges in roundtable processes: deforestation and land tenure issues.

1.2 Justification

Value chains for different internationally traded commodities like soy, palm oil and sugar extend from the production area in a developing country to consumers in Europe, the USA and other economically more developed areas. These value chains are also extending to the BRIC countries (Brazil, Russia, India and China), for example. There is increasing awareness that all stakeholders in these international chains need to live a socially and economically decent life. Roundtables could be promising and useful instruments in the effort to make this possible, but up to now they have faced two major challenges:

- How to stop deforestation due to the extension of commodity production areas
- How to solve land tenure and land right issues, especially with indigenous peoples

These challenges have to do with the social, economic, institutional and ecological situation in the area of production of the commodities. There is a need to deal with these situations in the local areas. It is necessary to define the conditions and approaches under which the commodities could be produced while at the same time resolving issues around deforestation and land tenure in an ecologically acceptable way, paying due attention to issues concerning equity and fairness. Some major companies in these roundtables also consider these questions as major challenges and are eager to find solutions. The organizations participating in certification schemes and roundtables do not doubt the necessity of dealing with these issues and the principles of sustainability, fairness and equity, but the question is how to do this.

1.3 Objective of the study

The **development objective** of the project is to develop an instrument or process which – through the optimization of land use - could help solve two major challenges faced by roundtables: (1) how to stop the

deforestation caused by the extension of the production of the commodity in question, and (2) how to solve land tenure issues.

The **direct objective** is to analyse geographical areas relevant for the soy, sugarcane and palm oil roundtables and propose a first outline of an approach to start an area-based process/approach to deal with land tenure issues and deforestation. The idea is that by providing an overview of the direction(s) in which to go in dealing with the challenges, it will be possible to show that under certain conditions a well-managed process could lead to acceptable solutions.

1.4 Methodology

The cases to be studied were:

- Soy: Paraguay. The private-sector party with a possible interest in the area could be Rabobank.
- Palm oil: Kalimantan (Indonesia) and Liberia. The private-sector party with a possible interest in the area could be Sime Darby.
- Sugar: Mato Grosso do Sul (Brazil). The private-sector party with a possible interest in the area could be Shell.

For the cases, key individuals with considerable knowledge of the subject matter were interviewed using Skype (or by phone) and additional questions were asked by e-mail. Also, the available literature was studied. The important issues focused on during the interviews and the literature study included:

- The state of different natural resources, the pressures on them and the reasons for this
- The existing conflicts concerning land tenure and deforestation
- Stakeholders and their different interests and the different kinds of power they have to change the situation.

The analysis of the state of the natural resources and pressure on them is based on the DPSIR model, which is a causal framework for describing the interactions between society and the environment. This framework has been adopted by the European Environment Agency (source: Wikipedia, DPSIR [English version]). The components of this model are **D**iving forces, **P**ressures, **S**tates, **I**mpacts and **R**esponses.

The power analysis takes a rather broad-brush approach. An essential issue is the sense of urgency felt by stakeholders that the current situation is no longer acceptable and that changes will have to be made.

Because our research is based on interviews and a literature study and not on actual field visits by the researcher, it was not possible to apply the methodologies to their full extent. This is a serious limitation, of course. Therefore in the last chapter proposals are made on how to deal with deforestation and land tenure issues in more depth.

The setup of the report is as follows:

- First a description is given of the phenomenon of the roundtable and the potentially relevant roundtables for the specific commodities that are dealt with in this report.
- Then there is a brief chapter on land tenure, deforestation and the relationship between the two.
- The cases are described in the following chapters: Kalimantan in Indonesia (palm oil), Brazil (sugarcane), Paraguay (soy) and Liberia (palm oil).
- In Chapter 8 an attempt is made to synthesize the findings in the four cases.
- The last chapter deals with possible ways forward. Here, some models are proposed with possible ways of implementing them in order to deal concretely with the problems in the field.

2 Roundtables

2.1 Roundtables

Commodity roundtables institute a dialogue between civil society and industry actors geared towards achieving an effective regime of standard-setting. The attempt is to benchmark producers against sustainability standards. In recent years, a number of international standard-setting bodies, known as roundtables, have emerged to regulate primary commodity industries by devising a set of sustainability criteria which would ensure that workers, local communities and natural resources are better protected. The roundtables take their name from the fact that their membership consists of a variety of different stakeholders and, nominally at least, there is equal status between them in agenda-setting and decision-making. The one type of organization explicitly excluded from roundtable membership is state departments (although the Roundtable for a Sustainable Cocoa Economy is an exception to that rule). By maintaining *de jure* autonomy from governments, the roundtables have been able to project themselves as commercially neutral and move further and faster in agreeing the standards against which producers will be certified (Brassett 2011).

There are eleven roundtables: the Forest Stewardship Council (FSC), the Marine Stewardship Council (MSC), the Roundtable on Sustainable Palm Oil (RSPO), the Better Cotton Initiative (BCI), the Round Table on Responsible Soy Association (RTRS), Bonsucro, Roundtable on Sustainable Biomaterials (RSB), the Roundtable for a Sustainable Cocoa Economy (RSCE), the Aquaculture Stewardship Council (ASC), the Global Roundtable for Sustainable Beef (GRSB) and the Alliance for Water Stewardship (AWS). The oldest one is the Forest Stewardship Council (FSC, 1993), which was originally known as a certification or labelling body and not as a roundtable. Of the eleven roundtables launched since 1993, the WWF has been a founder member of ten. Most of the roundtables are members of the International Social and Environmental Accreditation and Labelling Alliance (ISEAL), which, among other things, prescribes certain rules as to the governance of the roundtables. Features common to almost all the roundtables include the following: (a) they represent the three main stakeholder groups of buyers, producers and civil society, in both developed and developing countries; (b) membership is open to all stakeholders subject to approval by existing members and payment of a relatively small fee; (c) significant effort has been made to engage different stakeholders through outreach meetings, with founder members travelling to a country where certification is likely to take off and holding public meetings on the process and/or conducting field tests; (d) roundtables attempt to cultivate a consensus-based approach; (e) there is a culture of devolving information gathering and legislative activities to independent experts (Brassett 2011). It is also worth mentioning that there is a practice of national interpretation of the standards, which makes the standards more context-specific for individual countries or regions.

We will present some details of the roundtables relevant for this desk study below.

2.2 Roundtable on Sustainable Palm Oil

The Roundtable on Sustainable Palm Oil was formed in 2004 in response to the urgent and pressing global call for sustainably produced palm oil, with the objective of promoting the growth and use of sustainable oil palm products through credible global standards and the engagement of stakeholders. The seat of the association is in Zurich, Switzerland, while the secretariat is currently based in Kuala Lumpur, Malaysia with a satellite office in Jakarta, Indonesia. RSPO is a not-for-profit association that unites stakeholders from seven sectors involved in the palm oil industry - oil palm producers, palm oil processors and traders, consumer goods manufacturers, retailers, banks and investors, environmental and nature conservation NGOs, and social and developmental NGOs - to develop and implement global standards for sustainable

palm oil. In April 2012, the RSPO had 617 ordinary members, 100 affiliate members and 108 supply chain associates.

Such multi-stakeholder representation is mirrored in the governance structure of the RSPO, whereby seats in the Executive Board and project-level working groups are fairly allocated to each sector. In this way, RSPO aims to put the 'roundtable philosophy' into practice by giving each stakeholder group an equal right to bring group-specific agendas to the roundtable, helping traditionally adversarial stakeholders and business competitors to work together towards a common objective, and making decisions by consensus. The vision of RSPO is that "RSPO will transform markets to make sustainable palm oil the norm". The mission of RSPO is:

- To advance the production, procurement, finance and use of sustainable palm oil products.
- To develop, implement, verify, assure and periodically review credible global standards for the entire supply chain of sustainable palm oil.
- To monitor and evaluate the economic, environmental and social impacts of the uptake of sustainable palm oil in the market.
- To engage and commit all stakeholders throughout the supply chain, including governments and consumers. (RSPO 2012)

In October 2007, RSPO approved the document *Principles and Criteria for Sustainable Palm Oil Production, Including Indicators and Guidance*. What do the RSPO principles and criteria say about **deforestation**? Criterion 5.2 states: "The status of rare, threatened or endangered species and high conservation value habitats, if any, that exist in the plantation or that could be affected by plantation or mill management, shall be identified and their conservation taken into account in management plans and operations ". This is elaborated in several indicators, which include information gathering on the following aspects: presence of protected areas, the conservation status and high conservation value habitats, the control of illegal hunting or illegal fishing, and avoiding damage to and the deterioration of applicable habitats. Criterion 7.3 states: "New plantings since November 2005 have not replaced primary forest or any area required to maintain or enhance on or more High Conservation Values". High Conservation Values (HCV) forests comprise six categories of forests, which include areas fundamental to meeting the basic needs of local communities and areas critical to local communities' traditional cultural identity. The HCV approach covers more than just forest landscapes, the more general term being High Conservation Value Area.

What do the RSPO principles say about **land tenure** issues? Criterion 6.3 stipulates the need for a mutually agreed and documented system for dealing with complaints and grievances. Criterion 6.4 states: "Any negotiations concerning compensation for loss of legal or customary rights are dealt with through a documented system that enables indigenous peoples, local communities and other stakeholders to express their views through their own representative institutions". Indicators are e.g. about the establishment of a procedure for identifying legal and customary rights and a procedure for identifying people entitled to compensation. Apart from this, it is relevant to mention the 'Free prior and informed consent' (FPIC) principle here. FPIC is the principle that a community has the right to give or withhold its consent to proposed projects that may affect the lands they customarily own, occupy or otherwise use.

From its mission and vision, the conclusion can be drawn that the RSPO is a community of change. The standards are a means to achieve change, but the RSPO also aspires to be a learning community which actively seeks to make the production of palm oil sustainable.

2.3 Round Table on Responsible Soy Association

The Round Table on Responsible Soy Association is a multi-stakeholder initiative which aims to facilitate a global dialogue on soy production that is economically viable, socially equitable and environmentally sound. It provides stakeholders and interested parties – producers, social organizations and business and industry - with the opportunity to jointly develop global solutions leading to responsible soy production. The mission of RTRS is to “Encourage current and future soybean is produced in a responsible manner to reduce social and environmental impacts while maintaining or improving the economic status for the producer,

Through:

- The development, implementation and verification of a global standard
- The commitment of the stakeholders involved in the value chain of soybean”

The vision is:

“That soy help to meet social needs, environmental and economic consequences of the present generation without compromising the resources and the welfare of future generations and allowing the construction of a better world through consensus and joint action.”

The RTRS standard for responsible soy production was developed through a consensus between producers, industry, trade and finance and civil society actors involved in the soy value chain. The RTRS standard for responsible soy production includes requirements to halt conversion of areas with a high conservation value, to promote best management practices, to ensure fair working conditions and to respect land tenure claims. A certification scheme for production and one for the chain of custody have been implemented. In early June 2011, the first farm was certified by RTRS and the Certificate Trading Platform had already facilitated several transactions between certified producers and market stakeholders (Round Table on Responsible Soy Association 2012).

What does the RTRS say about **deforestation**? One of the principles of RTRS is the expansion of soy cultivation in a responsible way. Article 4.4.1 of the RTRS Standard states that expansion of soy cultivation after May 2009 should be limited. Specifically, it should take place on land cleared of native habitat except:

- If it is in line with an RTRS–approved map and system (produced in a participatory process)
- If there is no such map available:
 - Any area already cleared for agriculture or pasture before May 2009 can be used for soy expansion, unless regenerated vegetation has reached the definition of native forest (area of native vegetation >1 hectare, canopy cover >35%, at least 10 trees per hectare taller than 10 metres).
 - There is no expansion in native forest.
 - Expansion into native habitat can take place if (a) official land-use maps indicate so, or (b) A High Conservation Value Area (HCVA) assessment is undertaken prior to clearing and there is no conversion of High Conservation Value Areas. Note: six main types of HCVA's have been recognized. These categories are the same as for the RSPO, except that RSPO refers to 'Forest areas' and RTRS simply to 'Areas'.

What does the RTRS say about **land tenure** issues? The RTRS emphasizes responsible community relations. This includes the availability of channels for communication and dialogue with local communities. It also includes Criterion 3.2, which states: “In areas with traditional land users, conflicting land uses are

avoided or resolved". This could include a comprehensive, participatory and documented community rights assessment. It could also include a compensation mechanism. Another criterion is 3.3: " a mechanism for resolving complaints and grievances is implemented and available to local communities and traditional land users".

So this roundtable is also a community of change, which uses certain standards as one tool to accomplish its objectives.

2.4 Bonsucro

Bonsucro's mission is as follows: "Bonsucro fosters the sustainability of the sugarcane sector through a metric-based certification scheme and by supporting continuous improvement for members."(www.bonsucro.com accessed 9th December 2013). Bonsucro has the following objectives:

1. To define globally applicable performance-based principles, criteria, indicators and standards for sugarcane production that take into account local conditions and circumstances, and that are based on a credible and transparent process that is focused on the key sustainability drivers in sugarcane production.
2. To promote measurable improvements in the key economic, environmental and social impacts of sugarcane production and primary processing.
3. To develop a certification system that enables producers, buyers and others involved in sugar and ethanol businesses to obtain products derived from sugarcane that have been produced according to agreed, credible, transparent and measurable criteria.
4. To support the transition of Bonsucro to an internationally accepted global platform for sugarcane and its derived products, which is financially self-sustaining and which provides a forum for continuous improvement in production efficiency and sustainability.

The certification is valid for two years (as long as 80% of the criteria listed and 100% of the essential criteria are met) and it is based on five principles (Better Sugar Cane Initiative Ltd. 2011):

1. Obey the law.
2. Respect human rights and labour standards.
3. Manage input, production and processing efficiencies to enhance sustainability.
4. Actively manage biodiversity and ecosystem services.
5. Continuously improve key areas of the business.

The Bonsucro standard was designed to conform to EU production standards. There are two additional principles for EU certification:

- EU RED (Renewable Energy Directive)
- Chain of Custody

The standard is based on a set of metric measurements that enable aggregation and a clearer demonstration of impact. The unit of certification is the sugar mill and audits are based on assessments of the mill and cane supply area. Evaluations must be carried out by accredited auditors.

As to **deforestation**, Principle 4 is relevant. One indicator is the “Percent of areas defined internationally or nationally as legally protected or classified as High Conservation Value areas planted to sugarcane after the cut-off date of 1 January 2008”.

High Conservation Value areas are defined as natural habitats where conservation/biodiversity values are considered to be of outstanding significance or critical importance based on factors such as the presence of rare or endemic species, sacred sites, or resources harvested by local residents. For implementation of the Bonsucro standard, each country is required to provide a country-specific, official interpretation of High Conservation Value that will be used for audits in that country. A cut-off date of 1 January 2008 will apply. The six High Conservation Value Areas are the same as in the RTRS standard. The indicator is designed to prevent expansion or new sugarcane development into areas of critical biodiversity (including HCVA categories 1 to 4). Note that HCVAs 5 (areas fundamental to meeting the basic needs of local communities) and 6 (areas critical to local communities’ traditional cultural identity) are excluded from this total ban on ecosystem conversion. This might seem to be problematic, but as long as the ‘Free Prior and Informed consent’ (FPIC) principle is implemented together with the HCV assessment, the company being certified is still acting in compliance with the Bonsucro standard.

Under Principle 6, which is only applicable for EU certification, one indicator is the “Percentage of land with high biodiversity value, high carbon stock or peat lands planted to sugarcane after the cut-off date of 1 January 2008”. The threshold is 0%. This is relevant for peat lands and it is questionable to what extent that is an issue in Brazil, our focus country for the sugarcane case.

Regarding **land tenure issues**, one criterion under the first principle (‘Obey the law’) is: “To demonstrate clear title to land in accordance with national practice and law”. The indicator is: “The right to use the land can be demonstrated and is not legitimately contested by local communities with demonstrable rights. Those rights can be related either to legal ownership or lease of the land or to customary rights. Legal ownership shall be the official title in the country (e.g. notary, government agency or other). Guidance for customary rights is provided in ILO conventions 169 and 117.” Criterion 5.7 is: “For greenfield expansion or new sugarcane projects, to ensure transparent, consultative and participatory processes that address cumulative and induced effects via an environmental and social impact assessment (ESIA).” Here, HCVAs 5 and 6 are also included.

Notes:

- Areas fundamental to meeting the basic needs of local communities and areas critical to local communities’ traditional cultural identity may apparently be converted as long as a transparent, consultative and participatory process takes place.
- Sugarcane producers are to be found in both Bonsucro and RSB (see below). Currently there is a bigger effort on having Bonsucro certification, mostly due to its focus on sugarcane.

2.5 Roundtable on Sustainable Biomaterials

The International Roundtable on Sustainable Biomaterials is an effort coordinated by the Energy Center of the École Polytechnique Fédérale de Lausanne (EPFL) in Lausanne (Switzerland) that brings together farmers, companies, non-government organizations, experts, governments, and inter-government agencies concerned with guaranteeing sustainability in biofuels’ processing and production.

In January 2009 the Energy Center began inviting stakeholders to join one of eleven Chambers who have elected representatives to a new Steering Board, which is the highest decision-making body of the RSB and responsible for overseeing the content and implementation of the standards. The new Steering Board replaced the previous RSB Steering Board in June of 2009.

The mission of the RSB is (Roundtable on sustainable biofuels RSB 2012):

- To provide and promote the global standard for socially, environmentally and economically sustainable production and conversion of biomass.
- To provide a global platform for multi-stakeholder dialogue and consensus building.
- To ensure that users and producers have access to credible, practical and affordable certification.
- To support continuous improvement through application of the standard.

The certification proposed by the RSB is still undergoing testing. It applies to all fuels, not only to sugarcane ethanol. With 150 members spread across seven chambers, its major distinctive feature is its participatory character. All members are consulted and any organization can contribute. The RSB was recognized as one of the means by which compliance with the EU Biofuels Mandate could be demonstrated.

RSB certificates are recognized under the EU directive under the Renewable Energy Directive (RED). RSB might not be able to capture much of the ethanol certification market in Brazil because Bonsucro has been endorsed by UNICA (the Sugarcane Industry Association – the largest organization representing the sugar and bioethanol industry in Brazil, with 146 members that account for over 50% of ethanol and 60% of sugar produced in the country). UNICA does not acknowledge that “endorsement”, but it does acknowledge that it has “selected” Bonsucro as the most suitable standard for bioethanol in Brazil for practical reasons (e.g.: fewer principles and criteria to be satisfied).

The second version of the RSB principles became effective on 1 January 2011. RSB has 12 principles:

1. Legality
2. Planning, monitoring and continuous improvement
3. Greenhouse gas emissions
4. Human and labour rights
5. Rural and social development
6. Local food security
7. Conservation
8. Soil
9. Water
10. Air
11. Use of technology, inputs and management of waste
12. Land rights

As to **deforestation**, Principle 7 is relevant: “Biofuel operations shall avoid negative impacts on biodiversity, ecosystems, and conservation values”. Several minimum requirements have been established, e.g.: “Areas that contain identified conservation values of global, regional or local importance or that serve to maintain or enhance such conservation values, shall not be converted after the 1st of January 2009, or earlier as prescribed by other relevant international standards”.

There is another criterion that states that biofuel operations should protect, restore or create buffer zones and that ecological corridors shall be protected, restored or created to minimize fragmentation of habitats.

Principle 7 has been made even stricter in the EU-RED version. No-go areas for biofuel operations have been defined, including primary forest, protected areas, natural grasslands and Ramsar sites. There are also no-conversion areas, which include wetlands, peat lands, and forested areas of more than 1 ha with

trees taller than 5 m and a canopy cover of more than 30%. Other, even more specific categories have been defined as no-conversion areas.

As to **land tenure** issues, it is worth noting that RSB has a separate principle on land rights, Principle 12: “Biofuel operations shall respect land rights and land use rights”. The minimum requirements include a participatory land rights assessment in the case of possible negative impacts on existing land (use) rights. Land under legitimate dispute should not be used for biofuel operations until settlement through a negotiated and free agreement with affected land users. Another criterion states that free, prior and informed consent should form the basis for all negotiated agreements.

2.6 Discussion

2.6.1 Debates within the NGO community

Roundtables are not undisputed. First of all, there is a debate ongoing within the NGO community. Just as an illustration, some excerpts are given from a very critical briefing paper for the 2012 meeting of the Round Table on Responsible Soy (GM Freeze, Friends of the Earth & CEO 2012):

“The RTRS is a voluntary certification scheme, established in May 2004 and formally launched in 2006 as the RTRS Association. Members include food and agribusiness giants including Cargill, Monsanto and Sainsbury’s, but also some NGOs including WWF. Negotiations on criteria were a cumbersome process that took some considerable time, and the actual certification of RTRS soya production commenced in 2011.

From the outset, there has been strong opposition by social movements and environmental organisations both in Europe and in producing countries, which has weakened the initiatives’ legitimacy. In 2011, over 25,000 people sent messages to major European and UK retailers demanding a boycott of RTRS certified soya and look for real solutions. Nevertheless, some European NGOs keep supporting the project.¹ In order to get the agribusiness multinationals in the soya supply chain to participate, the RTRS adopted a watered-down approach. That meant ignoring the GM soya issue and weakening the requirements around deforestation and pesticide application. The resulting RTRS criteria fail to address the critical issue of GM Roundup Ready (RR). They also allow deforestation of the Amazon and other valuable ecosystems like the Chaco and Cerrado, as long as the land is in an area “zoned” for agricultural use.”

“In conclusion, RTRS certified soya is a highly misleading and flawed product that will most likely be rejected by consumers. The long-term solution is not the smoke screen provided by the RTRS or other forms of soya certification but a change in direction away from highly intensive poultry and livestock towards production which is integrated into an agro-ecological approach to farming and consumption.”

Organizations like WWF and Solidaridad recognize the weaknesses of roundtables and are trying to improve them. They are actively involved in the processes around and within the roundtables and emphasize the need to cooperate with the private sector. The following excerpt comes from the WWF website (WWF 2010):

“WWF has been targeted by some other NGOs for our participation in the RTRS. Some of the criticism has been in response to the decision by the RTRS Executive Board to accept Monsanto, a global company that

¹ These organizations are WWF International and the Dutch organizations Solidaridad, Stichting Natuur en Milieu, and BothEnds.

promotes genetically modified (GM) technology, as a full member of the RTRS. These critics have accused WWF of green washing the GM soy industry and have asked WWF to end our involvement with the RTRS.

WWF does not agree with all the viewpoints presented within the RTRS, nor do we endorse the positions of all its stakeholders. However, WWF believes that by developing standards with other stakeholders, we can have a far greater impact than by refusing to participate. WWF's participation in the RTRS does not negate WWF's policy on GM organisms, nor should our participation in roundtable discussions be construed as WWF endorsing GM production simply because other members of the multi-stakeholder body happen to be active in this field."

Solidaridad largely takes the same position on this issue as WWF and emphasizes the need to cooperate with the private sector in order to improve sustainability (Solidaridad 2012):

"More and more companies work together with non-governmental organizations, like Solidaridad, to improve the social and environmental supply chains of their products. Producers, buyers and civil society organizations cooperate to improve sector sustainability performance and make sustainability mainstream. Global Round Tables play an important role in this process."

For Solidaridad, roundtables are not only certification initiatives and/or standard-setting organizations, they are also communities of change, learning communities that aim to promote improvements in sustainability. The standard-setting and certification are just one of the possible methods for achieving this.

2.6.2 Debate among academics

There is also much debate about the way roundtables function among academics. Some illustrations of this debate are given below.

(Schouten 2012) sees two shortcomings from a study of two roundtables (soy and palm oil):

- *Limited inclusiveness of stakeholders and discourses.* Although the exact degree of inclusion differs for each individual roundtable, they only include a limited range of discourses. Technical knowledge and pragmatic approaches are preferred over local knowledge and ideological or emotional styles of communication. Standards resulting from roundtable processes are a compromise between similar reformist discourses that have a specific view on the relation between people, planet and profit. Radical approaches are excluded from the deliberative process. Proposed solutions in a roundtable setting are sought *within* the current system, whereas more radical approaches suggest fundamental change of the system itself. So the dialogue is not completely unconstrained. On the other hand, the communicative process also showed many characteristics of authentic deliberation. In general, demands were adequately justified, and the debates were respectful and showed characteristics of constructive politics.
- *Limited consequentiality* (meaning that deliberations have a limited impact on collective decisions). On the one hand there was success, because the standards were indeed developed through these processes. On the other hand there were limitations: only the reformist discourse regarding sustainable development is structured and institutionalized e.g. in the standard-setting and certification. The impact of these arrangements is limited because of the voluntary nature of roundtables. One of the causes of this problem could be the lack of transmission from deliberative processes outside the roundtable setting to deliberative processes within.

(Blitzer 2012) mentions several points of criticism of ‘partnerships’, a term which also includes roundtables:

1. Partnerships promote and reflect the *increased importance of businesses*, but also of stakeholders from civil society. Businesses are able to strategically use partnerships to address concerns relevant to them and to expand their sphere of influence in sustainable development issues.
2. Partnerships reflect the *decreased importance of governments*: governments from producer countries in particular are underrepresented in partnerships. Partnerships focus on the global level and the local level, but not on the national level. Important decisions regarding production issues are often made far away from the actual country of production.
3. Partnerships represent a *managerial approach*, illustrated by the popularity of standards. However, standards are not neutral and serve to focus on particular issues while detracting attention from other issues.
4. Certain *development concerns are marginalized*, like the issue of smallholder empowerment, the costs and benefits of different certification schemes, or the implications for the poorest segment of producers. Other concerns are not addressed at all, such as the patterns of power and resource distribution underlying global agri-food chains.

However, Blitzer does not want to consider these points as an argument against the involvement of business in partnerships, but rather as a plea to deal with such tensions within partnerships. She recommends a renewed conceptualization of partnerships. There seems to be not much hope as to the involvement of governments: partnership literature shows that governments are hardly involved at all or only sporadically involved in partnerships, and mostly lack a strategic and coordinated approach to partnerships. Rather, Blitzer’s focus is on NGOs, who should bring development issues more prominently to the table. But it is unclear why Blitzer does not mention the academic world and academics as a possible partner that could highlight certain notions of development and provide more information on development issues. A plea for more involvement of the academic world in roundtables will be made in the final chapter of this report.

McCarthy, J.F., P. Gillespie and Z. Zen (2011) investigated the RSPO. They observe the following. In advanced retail markets such as Europe, the major suppliers of products with significant palm oil content are facing increased risks to their reputation due to the association with the *upstream production processes*. Banks and financial institutions with significant palm oil investments are in a similar position. Civil regulatory processes (developed by organizations like the RSPO) are increasingly being developed to solve such problems. These multi-stakeholder governance initiatives are considered to be a political settlement and institution-building project that social movements, international NGOs and companies have pursued out of concern for the large-scale social and environmental problems. Membership of the RSPO has emerged as a primary form of transnational regulation and a badge of corporate responsibility. These roundtables rely on standards rather than targets, and are characterized by *weak reporting, monitoring and enforcement mechanisms*. In the absence of an effective system to monitor and enforce compliance at the micro level, to date the RSPO’s capacity to influence micro-processes in upstream production networks remains weak.

Another approach is presented by Dentoni (2012) and is not so much a criticism as a plea to put the problems in the right perspective. Roundtables can be seen as a tool to deal with problems regarding agri-food sustainability. Dentoni sees agri-food sustainability as an example of what is termed a ‘wicked problem’. There are many examples of wicked problems, such as natural resource constraints and biodiversity loss, persistent poverty in peripheral areas, the growing obesity epidemic, the use of biotechnology in food and agriculture and the problem of how to feed current and future generations with fewer resources. Wicked problems refer to issues that are highly complex, have innumerable and

undefined causes, and are difficult to understand and frame. They result in outcomes that are either uncertain or unknowable, and often affect multiple stakeholders throughout the agri-food system and beyond. Thus, wicked problems cannot be resolved by finding the 'right answers' or 'solutions', but rather they must be *managed*.

Box 1: Functions of Global Action Networks

(Waddell 2011) dedicates a book to global, multi-stakeholder, inter-organizational change networks that he calls Global Action Networks or Multi-stakeholder Networks. The roundtables could be considered as examples of such Global Action Networks. Waddell sees various functions and connected goals for these networks:

1. Shared vision: creating events and interactions that generate shared understanding and vision.
2. System organizing: bringing together an emerging global system of diverse stakeholders to generate coherence in strategies.
3. Learning, research and capacity development: developing and disseminating new knowledge and tools with research, piloting new approaches and training.
4. Measuring/certifying: developing indices, assessments, and/or certification processes.
5. Financing: combining forces to aggregate their impact and create a more efficient funding vehicle than any individual organization could do on its own.
6. Advocating: mobilizing voices and increasing pressure upon specific stakeholders who are blocking change (actively or inactively).

We could note that function no. 3 - learning, research and capacity development - and no. 5 – financing - have received limited attention within roundtables up to now.

2.7 Conclusions

All four roundtables have standards as a way of increasing the sustainability of the production of the commodity they deal with. Their effectiveness to date is challenged by several NGOs. Academics mention several points of criticism. Roundtables and other partnerships are driven by businesses that are able to use them strategically to address concerns relevant to the businesses and to expand their sphere of influence. Such partnerships focus on the global and local levels, while giving less attention to the national level.

Others see the standards as only one instrument for improving the sustainability of agri-business. They see roundtables as 'communities of change' or 'Global Action Networks' or 'Multi-stakeholder Networks'. Such communities have other functions apart from standard-setting, like creating a shared vision, organizing the global value chain and creating coherence in strategies, learning, research and capacity development, bringing about a joint financing system, and advocacy.

Academics have put forward several points of criticism which need attention in future actions to be developed by the roundtables:

- Limited inclusiveness of stakeholders and discourses
- Limited consequentiality (meaning that deliberations have a limited impact on collective decisions)
- Increased importance of businesses and decreased importance of governments

- A managerial approach, illustrated by the popularity of standards that focus on particular issues while detracting attention from other issues
- Marginalization of certain development concerns
- A relative neglect of what is happening 'upstream in the value chain', also evident in weak reporting, monitoring and enforcement mechanisms

The issues addressed by the roundtables have to do with sustainability in agri-business, which is what is known as a 'wicked problem': highly complex, having innumerable, undefined causes, and difficult to understand and frame. It often affects multiple stakeholders throughout the agri-food system and beyond. Thus, wicked problems cannot be resolved by finding 'right answers' or 'solutions', *but rather they must be managed*. This is also true for the above-mentioned points of criticism. Stakeholders will have to work together to find a way out, including by trial and error.

Two functions of roundtables should receive more attention: (a) learning, research and capacity development - developing and disseminating new knowledge and tools with research, piloting new approaches and training, and (b) financing - joining forces to aggregate impact and create a more efficient funding vehicle than any individual organization could do on its own.

All four roundtables have criteria that deal with deforestation and land tenure issues. These criteria seem to be very general, for example "deforestation in high value conservation areas should be zero", but no intermediate steps are identified to reach that goal. In practice, the situation is very complex and it is unrealistic to expect that the target can be reached from the start. The RSB goes one step further: it also recognizes the need to work on ecological corridors.

The question is however, if a certain issue is dealt with in the criteria and indicators, under what circumstances will this lead to improvement in the field? The reality is very complex (a 'wicked problem') as will also be demonstrated in the following chapters, which deal with the situation in Kalimantan (Indonesia), Paraguay, Liberia and Brazil. So a challenge is for the partners actively involved in roundtables to also focus on the active promotion and testing of the application of their standards under field conditions.

3 Land tenure and deforestation

In this publication the focus is on two specific challenges that are faced by roundtables: land tenure and deforestation. But before looking in more detail into specific country situations, it is important to get a better understanding of the issues we are dealing with and to define certain terms.

3.1 Land tenure

As to land tenure, the following terms are important (Robinson 2011):

- *Land tenure* is the set of institutions and policies that determine how the land and its associated resources are accessed., who can benefit from these resources, for how long and under what conditions.
- The *form of land tenure* refers to the rules and norms associated with any number of entities, such as an individual, a public institution (e.g. a national park service), a private company, a group of individuals acting as a collective, a communal-property arrangement or an indigenous group. Different categories can be distinguished for forests: (a) community or customary land, (b) private land, (c) protected areas, and (d) public land.
- *Security in land tenure* is the assurance that land-based property rights will be upheld by society. However, it does not refer to the duration, marketability or the breadth of the rights over a piece of land. Furthermore, the ability of a government to expropriate land does not necessarily imply insecure tenure, as long as just compensation is secured. Formal or legal tenure is not always sufficient to impact on landholders' decision-making, but how one *perceives* tenure is what matters. This idea is contrary to the long-held assumption that land titling equals tenure security.

3.2 Deforestation

According to the Dictionary of Forestry (Dictionary of Forestry n.d.) deforestation, clearance or clearing is the removal of a forest stand where the land is put to a non-forest use. Examples of deforestation include conversion of forest land to farms, ranches or urban use.

Box 2: Deforestation rate slowly decreasing – but still high

The rate of deforestation shows signs of decreasing – but is still high. Deforestation – mainly the conversion of tropical forests to agricultural land – shows signs of decreasing in several countries but continues at a high rate in others. Around 13 million hectares of forest were converted to other uses or lost through natural causes each year in the decade 2000-2010 compared to 16 million hectares per year in the 1990s. Both Brazil and Indonesia, which had the highest net loss of forest in the 1990s, have significantly reduced their rate of loss, while in Australia, severe drought and forest fires have exacerbated the loss of forest since 2000. Large-scale planting of trees is significantly reducing the net loss of forest area globally. Afforestation and natural expansion of forests in some countries and regions have reduced the net loss of forest area significantly at the global level. The net change in forest area in the period 2000–2010 is estimated at –5.2 million hectares per year (an area about the size of Costa Rica), down from –8.3 million hectares per year in the period 1990–2000 (FAO 2010).

3.3 Relationship between land tenure and deforestation

There is a link between land tenure and deforestation. Robinson (2011) performed a comparative study of scientific literature on land tenure and deforestation for Africa, Central America and South America. Some conclusions from this study are presented here.

Form of tenure:

- Communal tenure seems to perform somewhat poorly in Africa, somewhat well in Central America and has more mixed effects in South America.
- Private land also leads to mixed outcomes, but seems to perform worse in Central America.
- Protected areas uniformly have slightly more positive results than negative results within each region.
- Public frontier land generally has negative effects on forests. The negative result reflects the cases of illegally occupied land at the forest-farm interface and encroachment into the frontier.
- So the form of tenure probably has a relationship with forest outcomes, especially for public and protected land.

Tenure security:

- Land tenure security is an important factor, and has significant positive effects on forests.
- Tenure security alone does not guarantee the preservation of forest cover. Even with secure tenure, negative cases are common, but positive outcomes are significantly more than negative ones. When tenure is insecure, a negative forest outcome is significantly more likely than a positive one.
- When tenure security is good, the effect of protected areas has a consistently positive impact on forest outcomes compared with other forms of tenure, The 'protected' class is the only form of land tenure that dictates a particular land cover, that is, that the land remains forested. All other forms of tenure assign use rights and decision-making to the landholder(s), who may or may not find it beneficial to keep a particular piece of land forested. Such decisions depend on the market situation, future payments for e.g. REDD²+ and other policies.
- Often land tenure security is mistakenly linked with particular forms of land tenure. The incorrect view is that individual forms of land tenure are more secure, while tenure granted to larger groups are assumed to be inherently weak. However this assumption is incorrect. It is an oversimplification to equate land tenure security with private property rights or the possession of land title. Legitimate communal land, public property and leased property can also be secure.

Deforestation and land tenure are both pressing issues related to the expansion of agri-commodities. The link between deforestation and land tenure is not easy to establish and depends much on the site-specific situation as to governance and natural resources management.

² REDD (Reducing Emissions from Deforestation and Forest Degradation) is a set of steps designed to use market and financial incentives in order to reduce the emissions of greenhouse gases from deforestation and forest degradation. Its objective is to reduce greenhouse gases. Solidaridad recently started a project "Back to REDD+". The project intends to demonstrate how farming can shift from being part of the problem to part of the solution to deforestation and climate change. The project aims to increase revenue streams to finance the transition towards climate-smart agriculture (CSA), provide technical assistance for CSA and reduce greenhouse gas emissions in coffee, tea, cocoa farms and supply chains. The main projected outcomes are (a) building carbon stocks, (b) building capacity, and (c) building knowledge (Solidaridad 2013). This is an initiative for coffee, tea and cocoa. It would be interesting to see if a comparable initiative is also possible for sugarcane, oil palm and soy.

3.4 Deficiencies in land tenure not the only cause of deforestation

Land tenure is inextricably linked to many socioeconomic and governance factors, so it is difficult to disentangle tenure from other direct and indirect causes of deforestation. Local factors play a crucial role. Land tenure and land tenure security are not, in and of themselves, perfect safeguards for forests (Robinson 2011). An interesting illustration of this idea is given by Gutiérrez-Vélez (2011). Two models of oil palm expansion were compared in the Peruvian Amazon. The first, defined as high-yielding expansion, is typically operated by private companies. These companies have access to sufficient capital and technology to invest in infrastructure and agricultural inputs and to apply farming techniques aimed towards optimization of yields over relatively large areas. Low-yielding plantations are usually owned by smallholders that operate either individually or as cooperative associations. Owners have restricted access to capital and land that limits expansion and the full application of technology to maximize yields. The result is smaller plantations with relatively low productivity. Expanding high-yield oil palm plantations minimizes the total land required for a given amount of production compared to low-yield expansion. However, the expansion by high-yield oil palm plantations between 2000 and 2010 was at the expense of a greater area of forest (in absolute terms) than low-yield cultivation.

The reasons for this phenomenon are not very clear. The example could suggest that high-yield agriculture can be effective in sparing forests only if coupled with incentives for agricultural expansion into land that has already been cleared or other measures to avoid deforestation. Other factors probably also play a role, like the availability of capital to invest in new land, the level of mechanization etc. This is just one example to show the complex relationship between land tenure and deforestation.

3.5 Conclusions

This publication does not have the intention of dealing extensively with the relationship between land tenure and deforestation.

The general conclusion of this chapter is that land tenure is inextricably linked to many socioeconomic and governance factors, so it is difficult to disentangle tenure from other direct and indirect causes of deforestation. Local factors play a crucial role. Well-organized land tenure and land tenure security are not, in and of themselves, perfect safeguards for forest conservation or maintenance, but they are often extremely important for farmers and communities, not only in securing their livelihood but also because the land is often part of the cultural identity of farmers and communities.

4 Kalimantan: oil palm plantations

4.1 Pressures on natural resources

4.1.1 Existing natural and semi-natural ecosystems

WWF has described the importance of the flora and fauna of Kalimantan, the Indonesian part of the island of Borneo (WWF 2009). Kalimantan is complex geologically and topographically. While it has the largest expanses of intact lowland rainforest in South-eastern Asia, it also has a number of moderately high mountain peaks. Because of this broad habitat diversity, Kalimantan is among the most species-rich regions in the world for such groups as primates, hornbills, orchids, figs and palms, and home to the last truly widespread population of orang-utans. Kalimantan is the place with the greatest diversity of *Dipterocarpaceae*, a very important family of trees, both ecologically and commercially; Kalimantan's dipterocarps make up the biggest proportion of Indonesia's enormous timber production. Rattans, another commercially valuable plant group, also feature prominently in Kalimantan.

The swamps reflect the condition of the underground hydrology and are interconnected with other ecosystems. Additionally they have a unique biota and are extremely important to water birds, particularly migratory species.

4.1.2 Pressures

The expansion of oil plantations is by far the largest factor influencing land use change and hydrology. Oil palm is a boom crop in Indonesia. From 1980 to 2009, there has been a ten-fold increase in oil palm production to 45.1 million tonnes, while its main competitor, soybean, increased by only 2.7 times during the same period (Gillespie 2011). Many plantations occupy former marshland forests, lowlands, which have soils with peat. Some areas are more developed, with better access, good roads and infrastructure. Other areas have less potential, with bad soil, areas with steep slopes and uplands. In Central and West Kalimantan there is much investment going on. But the best quality sites have already been handed out. West Kalimantan has large wetland areas with large, deep lakes, with much peat. There are national parks, e.g. Danau Sentarum. There is a ring of many oil palm plantations around that ecosystem.

4.1.3 Drivers

The drivers of ecosystem change include the following:

- Oil palm plantations bring companies, the Indonesian state and district governments substantial income, so there is a tremendous desire to be involved in palm oil. There is also a switch from smallholders with indigenous crops to oil palm plantations because it is so profitable.
- The profit from timber exploitation has also been an important driver of change in ecosystems.
- The combination of logging and the establishment of oil palm plantations is a very profitable combination.

4.1.4 Impact of pressures on ecosystems and people

The impacts of ecosystem change are many, including the following:

- Some habitats are to be found in protected areas, but they have become extremely vulnerable through degradation. The rapidity with which logging and forest conversion have advanced in the last 20 years, together with the present high levels of threats from unconstrained exploitation, fires

and road-building make the protection of the remaining areas of high biodiversity and endemism in Kalimantan a top conservation priority (WWF 2009).

- Draining the peat soils causes much emission of carbon dioxide, so the environmental costs are significant. Plantations and roads are influencing the hydrology etc.

4.1.5 The government's response

Decentralization is an important aspect of the governance situation in Indonesia. After the Suharto government (in power until 1998), the mandate to concede concessions partly shifted from the central level to the district level. This means that if an organization wants to develop an oil palm plantation, the permission to clear the forest and the approval of the Environmental Impact Assessment will have to come from the central level but other decisions can be taken at the local level. Decisions taken at the local level can be contrary to national rules and regulations. This is confusing.

As to the efforts of the government to conserve biodiversity, the following remarks can be made. There are a number of habitat types that have been little explored, particularly those at higher altitudes. Many of these montane or sub-montane habitats are unique and are poorly represented in existing protected areas. Additionally, some of the expansive habitats, such as lowland rainforests, are also poorly protected. Kalimantan suffers from inadequate representation of important habitats in protected areas. Lowland evergreen forests, which were originally the most extensive habitats, are extremely poorly represented. Freshwater swamps are also very underrepresented in protected areas. Peat swamp forests are extensive on Kalimantan (44,130 km²), but less than 0.5% of this habitat is in a conservation area. Heath forests (kerangas) are also poorly represented. In Kalimantan only 1.4% of the original 80,760 km² is in conservation areas, and in no single area are they well represented (WWF 2009). So this means that the government has not taken proper action to conserve biodiversity.

See also the section below on land tenure conflicts, which shows that the response of the government towards land tenure issues does not seem very adequate.

4.2 Land tenure conflicts

4.2.1 Existing land tenure conflicts

In Ketapang district (West Kalimantan) in the period 1999-2009, 70% of the land area was licensed for use by corporate plantation developers. The remaining 30% of the district's land area consists of either mountainous land or swamp land along the coast (Zakaria 2009). In Ketapang district, where RSPO members like Sime Darby and Cargill are reported to be active, the land conflict situation has been described as follows (Zakaria 2009). The district government has issued 39 oil palm permits that fully or partially overlap with some 400,000 hectares of protected forest land. This will result in biodiversity loss, deforestation, peat land drainage and carbon emissions. Local communities discover that the land on which they depend has been allocated to oil palm companies only once the bulldozers move into their lands. At the end of 2008, there were at least 20 major land conflicts. Conflicts include (Zakaria 2009):

- Land development by companies without communities' consent
- Double issuance of oil palm concessions for the same area
- The resale of smallholder plots that are still subject to loan schemes
- Failure of plantation companies to develop legally required local development projects such as oil palm smallholdings or hand them over in a timely fashion
- The denial of the customary land rights of Ketapang's indigenous communities (approximately 400,000 people) by the local government

4.2.2 Existing legal framework is to the advantage of plantation companies

Gillespie (2011) states that existing laws place some, but not all, smallholders at the agricultural frontier at a disadvantage from the beginning in their negotiations with plantation companies. The law enables what are termed 'derasah' payments to be given by plantation companies to local landowners in exchange for areas of land, which can then be converted to company-owned oil palm plantations at a minimal price and with local landowners generally lacking full information about land ownership. The lack of clear explanations acknowledging 'derasah' in both national and district legislation enables the conflicting interpretations to be used to a plantation company's advantage when convincing local landowners to release land for plantation expansion. Besides, Law No. 18 on Plantations outlines severe punishments for those people potentially disrupting plantation business. Such legislation makes it difficult for local landowners, and later smallholders, to find legitimate space in which to complain and defend their rights in a legitimate way. Law No. 18 also fails to clarify the confusion at the community level surrounding a series of critical plantation issues such as land tenure, ownership and plantation duration, which perpetuates the pro-plantation bias. Other laws are also very much to the advantage of plantation companies. These examples demonstrate the ways in which plantation legislation leads to outcomes that are to the advantage of plantation companies at the expense of smallholders.

4.2.3 Permit process for new oil palm plantations

Indonesian law requires companies to obtain a series of permits and supporting documents in a predefined order before they may commence major activities on the ground. The basic order that applies to the oil palm sector is: Land Survey Permit > Plantation Business Permit (IUP) > Location Permit (IL) > Land Use Right license (HGU). In addition, when applying for each permit, plantation companies are required to present various items of supporting documentation. For example, an application for a Plantation Business Permit must be accompanied by a recommendation letter from the Governor for the company's Environmental Impact Assessment (EIA). If the proposed concession area overlaps with the permanent forest estate (forest land), the company must attach the approval letter for forest land release from the Ministry of Forestry. However, in practice this licensing order is not always followed, or permits are issued without the required supporting documents. This has happened in Ketapang District, as well as many other districts in Indonesia. In general, three to five years are considered standard for the completion of the full permit process, but in Ketapang companies could progress from a Survey Permit to a Location Permit within six months. A subsidiary of the RSPO member First Resources, PT Fangiono Agro Plantation, obtained its Location Permit in merely six weeks (Zakaria 2009). This suggests a procedure that is too quick to be thorough. The result is that there are many oil palm plantations overlapping with protected forest land and much oil palm plantation expansion without the prior approval of an Environmental Impact Assessment.

4.3 Stakeholders and power

4.3.1 Stakeholder analysis

The **government** faces challenges implementing the rule of law. There is a general lack of governance, a lack of professional capacities within the governmental services and a lack of oversight. Local governments are very constrained in their capacities. There is a lack of investment in personnel, particularly upstream in the oil palm value chain: in remote places the government is not sufficiently represented to make the difference.

The Indonesian oil palm association has four branches in Kalimantan (Gapki 2012): Kalimantan Barat (31 members), Kalimantan Selatan (41 members), Kalimantan Tengah (65 members) and Kalimantan Timur

(135 members). On its website (<http://www.gapki.or.id/>) there is no indication that social and ecological sustainability play any role.

Private Indonesian companies. There are 29 companies in West Kalimantan and not one is interested in becoming a member of the RSPO. So RSPO is very limited in its power to bring about changes. The question is, why should Indonesian companies join since there are no incentives (e.g. premiums) to do so? However palm oil estate managers are aware of the fact that it is often not the agricultural factors in plantations that are most critical to their business but the social and participatory aspects that are increasingly the most complex for estate managers (and district governments) to manage (Gillespie 2012).

Most **NGOs** play the advocacy role. Their arguments are not based on academic findings and they do not show much interest in long-term solutions. There is no longer term view on how to mitigate the effect of oil-palm expansion.

Local communities and smallholders. Generally they are in a weak position as the legal framework is to the advantage of big palm oil companies. The outcomes for smallholders, workers and local communities can vary considerably depending on the specific oil palm company (Gillespie 2011), and there are examples of communities both benefitting and being disadvantaged by a plantation's incursion into a given area. Often the outcome appears dependent on the corporate governance principles of the plantation itself.

Many of the ongoing plantation-smallholder issues have an important governance component, for example (Gillespie 2012):

- A lack of clear written agreements outlining plantation-smallholder arrangements
- Enduring land ownership disagreements between plantations and rural communities, and between local communities themselves
- Increases in the pollution of local rivers from mill effluent and run-off
- The development of corrupt patron-client relations between officials and plantations
- The breakdown of traditional social structures and the introduction of new inequalities into rural communities.

Various national and international companies are members of the RSPO, but they are not in the majority and their influence is limited.

International consumers. Could they play a role by e.g. paying for premium palm oil products?

4.3.2 Sense of urgency

Is there a sense of urgency that the current situation is no longer acceptable? First of all, the government is weak. When the attitude of both NGOs and private companies is taken into consideration, the answer to that question is rather doubtful. There is a need for trusted relationships, but this takes time and patience. In Indonesia, criticism of such an important crop as palm oil is a very sensitive subject.

5 Brazil: sugarcane in Mato Grosso do Sul

5.1 Pressures on natural resources

5.1.1 Existing natural and semi-natural ecosystems

In Mato Grosso do Sul we find two important biomes or groups of ecosystems: the Cerrado (savannahs) and the Pantanal (wetlands), of which the Cerrado was originally the most extensive in terms of surface area.

For information about the Pantanal ecosystem, see the box.

According to WWF-Brazil (www.wwf.org.br) the **Cerrado** is the second vegetation formation of South America and it occupies a quarter of the Brazilian territory and small portions of Bolivia and Paraguay. The Cerrado is recognized as a region with the savannahs richest in life (or biodiversity) in the world. It is an important source of water with many natural beauties and cultures. Its characteristic sparse vegetation with low trees, with twisted branches, falsely suggests the idea of a monotonous vegetation of low value. But contrary to this, the Cerrado is a source of beautiful cultures and landscapes with high touristic and economic potential. It has already lost half of its original area. Only 2.2% of the Brazilian savannah is legally protected in Brazil.

The Cerrado can vary from dense grassland to almost closed woodland. The average temperature is 25°C. Wildfires can occasionally occur during the dry hot season, with temperatures above 40°C (Doorn 2010).

Box 3: The Pantanal ecosystem

The Pantanal is located in the heart of South America. It is situated in a depression of the upper Paraguay River that extends between the shield of Central Brazil and its transition zone to the foothills of the Andes. The upper Paraguay River covers 500,000 km². As a flat surface, it covers almost 210,000 km², of which 70% is located in Brazil (in Mato Grosso and Mato Grosso do Sul), 20% in Bolivia and 10% in Paraguay. The Pantanal is a wetland with annual flooding in the wet season. The biodiversity of the Pantanal is influenced by five biomes (groups of ecosystems): the Atlantic Forest, the Cerrado, the Chaco, Amazonia and the Dry Chiquitano Forest (<http://www.ecoa.org.br>). The Pantanal is both beautiful and important for the conservation of biodiversity. It is also called 'queen of the waters' and it is an immense freshwater reserve important for the supply of water, stabilization of climate and soil conservation. The Pantanal is the largest wetland in the world. It occupies part of the states of Mato Grosso and Mato Grosso do Sul and it extends to Bolivia and Paraguay. It has a rich biodiversity with at least 4700 plant and vertebrate species: 3500 plant species (trees, water and terrestrial vegetation), 325 fish species, 53 amphibians, 98 reptiles, 656 bird species and 159 mammals (www.wwf.org.br). It was declared as a national heritage site by the Constitution of 1988, and World Heritage Site and Biosphere Reserve by UNESCO in 2000 (<http://whc.unesco.org/en/list/999>). The Pantanal is part of the largest system of wetlands in the world: the Paraguay Paraná System (<http://www.riosvivos.org.br>)

Until the 1960s there was limited agricultural activity. However, because of urban and industrial development, agriculture started to intensify, occupying increasing amounts of territory. At present, more than 70% of the Cerrado has been modified (Doorn 2010). Large-scale deforestation is taking place in the Cerrado for the production of soy. The Brazilian Ministry of Environment announced recently that Baixa Grande do Ribeiro and 51 other cities in five states have been put on the list of municipalities responsible for the most deforestation of the Cerrado, and will therefore be the object of vigilance and measures for recovering degraded areas (<http://www.riosvivos.org.br>).

Over 80% of sugarcane production in Brazil is located within the 88 million hectares of the Paraná River region (ECOA, Mater Natura, 4 Cantos do Mundo and Reporter Brasil n.d.).

5.1.2 Pressures

Pressures on the Cerrado include the following:

- Firstly there is the expansion of sugarcane plantations into existing agricultural land. The region with the biggest expansion in sugarcane plantations is the Centre-West, comprising the states of Mato Grosso, Mato Grosso do Sul and Goiás. Projections for the sugarcane area in Brazil suggest that it will reach 11.7 million ha in 2018, from 7.8 million ha in 2008.
- Milieudefensie (2011) states that indigenous areas – consisting of farm land, rivers, forests and gardens - are being occupied by sugarcane companies.
- The Cerrado ecosystem is also heavily influenced by the expansion of soy fields.
- With the new forest code (2012), more deforestation and loss of biodiversity within private properties can be expected.

Some researchers state that the expansion of grains and sugarcane will be fully compensated by the reduction in pasture area (Zuurbier 2008), but – even if this were true – there could be a negative effect on the environment outside the sugarcane production area. ECOA, Mater Natura, Cantos do Mundo and Reporter Brasil (n.d.) state that there is the possibility of cattle activities being transferred to the Amazon and other sensitive regions (an example of indirect land use change).

The ecosystems in the Cerrado are the watersheds which feed the Pantanal. The growing agricultural expansion is threatening the productivity of the Pantanal because it is eliminating the sources of recharge (natural forests which act as protection, as well as tributaries) in the Upper Watershed. On the other hand, the chemicals used in agriculture cause considerable contamination in bodies of water and are transported to the sedimentation plain and distributed throughout the system by the flood pulses. (WWF 2013)

The most important natural rhythm in the Pantanal is the cycle of droughts and inundations. The animals and plants are adapted to these extreme circumstances. All types of management that interfere with this cycle, like the construction of dykes, drainage canals and land use change, fundamentally influence the system. In this way, the fragile balance of the Pantanal is put at risk (Doorn 2010). Until recently, small dams for irrigation, water consumption or the production of energy were not considered to be harmful. However, there are plans for 100 electricity plants around the Paraguay River. This is threatening for biodiversity, and would limit the migration of fish species. This would also endanger the livelihood of people living near the rivers who depend partially on fishing for their livelihood (Ecoa 2012).

5.1.3 Drivers behind the pressures

There are various drivers behind these developments:

- The national demand for ethanol is big and still growing. Blending ethanol with petrol (gasoline) is very common in Brazil. The policy to promote it started in the 1970s because of the oil crisis. It got a new impulse in 1994 as a consequence of the 1992 Conference in Rio and agreements to reduce greenhouse gases. There are 45,000 petrol stations with ethanol in Brazil. In the past decade the Flex-car, which uses a mix of petrol and ethanol, was introduced and the demand grew considerably as a result.
- More foreign investment. The US market for ethanol is increasing and this is why foreigners are investing in ethanol in Brazil. Shell and Cosan have established a joint venture under the name Raízen; this was the biggest such transaction in the sector in Brazil. The aim is to turn ethanol into an international commodity (whereas it is now still mainly a national commodity).
- The area of the Paraná River basin is flat, with good availability of water, good soil and it is close to consumer centres.
- There are good transport facilities, so this all facilitates economic and agricultural development. Extensive pipelines for the transport of ethanol and biodiesel are planned. Such pipelines can easily reach 1100 km (ECOА, Mater Natura, 4 Cantos do Mundo and Reporter Brasil n.d.).

5.1.4 Impacts on the ecosystem services and people

Notwithstanding the existing legal framework, ecosystem services are affected by the pressures on the ecosystems:

- There is air pollution caused by burning sugarcane. During the sugarcane harvest, there is heavy smoke and hot air waves that cause health problems to the surrounding communities. The burning of 7th the debris goes beyond farm limits and the fires also destroy conservation and riparian areas (ECOА, Mater Natura, 4 Cantos do Mundo and Reporter Brasil n.d., 20). In the future, burning will be prohibited.
- In some cases there used to be more rotation of crops, and monocultures could affect soil quality on the long run. This is an issue under debate:
 - In Brazil there are soils that have been producing sugarcane for more than 200 years, with ever-increasing yields and soil carbon content. Soil erosion in sugarcane fields is lower than for soybean, maize and other crops. Recent sugarcane expansion in Brazil has mostly involved less fertile soil (pasture lands), and resulted in an increase of organic matter and nutrient levels compared with previous land use patterns (Zuurbier 2008, 126).
 - This is true for the northeast of Brazil, but not necessarily for modern production on a large scale. Currently the production of sugarcane is expanding into high fertility soil (A. Faria, pers. comm.).
- There is also soil compaction. Heavy machines repeatedly go over plots and affect soil fertility.
- Because of recent and past deforestation, there is less water available at certain times during the year.
- The monocultures of soybeans, sugarcane and livestock breeding are the main threats for biodiversity. Habitat fragmentation is a key problem. Since the infertile soils are used too intensively, soil erosion and overexploitation of natural resources are major problems. Also illegal hunting and the limited number of protected areas are impeding the conservation of biodiversity (Doorn 2010).
- There is soil pollution due to vinasse, a liquid residue from ethanol production. This could also result in the pollution of ground water.

- There is also a reported effect on water quality. It not always possible to test the water quality because land owners do not allow the testing. Many dead animals are found near sugarcane production areas. The current method of sugarcane production may diminish water quality and availability in some places, due to changes in the course of small rivers and contamination by agrochemicals (ECOA, Mater Natura, 4 Cantos do Mundo and Reporter Brasil n.d.).

5.1.5 The government's response

The Brazilian environmental legal framework is complex and one of the most stringent and advanced in the world. Brazil has a wide range of federal and state laws regarding environmental protection, aiming at combining social and economic development with environmental conservation, which the ethanol business needs to comply with. This also implies Environmental Impact Assessment and Environmental Licensing, especially for the implementation of new products. There are also several voluntary environmental protocols, which in the case of the State of Sao Paulo deal with issues like the conservation of soil and water resources, the protection of forests, the recovery of riparian corridors and watersheds, the reduction of greenhouse emissions and improvement in the use of agrochemicals and fertilizers. The challenge is to end sugarcane burning by 2014, from a previous deadline of 2021 (Zuurbier 2008, 117-118).

Conservation of biodiversity remains an issue. In Sao Paulo State, the sugarcane area increased from 7% to 19% of the State territory in the period 1983-2007. However, native forest also increased from 5% to 11% in the same period, showing that it is (to a certain extent) possible to recover biodiversity in intensive agricultural systems (Zuurbier 2008, 129) . This approach could also be pursued in other states, but one should take into consideration that Sao Paulo State is the richest state in Brazil.

Socioeconomic and ecological zoning is of great importance for the planning of human activities in Brazil. Directions for use are defined based on an integrated analysis for each of the zoning areas. The process of defining the appropriate zones is organized through thematic seminars and public meetings. Four main categories have been defined: (a) productive areas, (b) areas that need more adequate management systems, (c) areas that need specific types of management with high biotic potentials and (d) protected areas (Doorn 2010).

One measure to be mentioned is that companies will pay more tax on water in order to reduce their consumption of water and encourage them to use it more efficiently. Part of the tax will be used to restore natural areas.

Challenges include the following:

- The agro-ecological zones planning system is used as guideline for investment by the national bank, but it is not an obligation for international and national private investors.
- The land use planning for Mato Grosso do Sul did not include any protected areas for Cerrado vegetation, so NGOs are opposing these plans.
- The challenge remains to really focus on the local level. At that level, knowledge and capacities are missing to implement the laws and voluntary agreements and protocols. Local actions need to interact more with the global ones.

5.2 Existing land tenure conflicts

Many traditional inhabitants do not have a certificate of ownership of their land. Big investments are going on, for example land acquisition (or grabbing) by foreign companies. The Guarani Indians of Mato Grosso do Sul live trapped in a situation of exploitation, unfair imprisonment, malnutrition, prejudice, murder and

assassination, and have the highest suicide rate of South America. The root of all these problems is a severe lack of land and the denial of their collective land ownership rights. New sugarcane plantations and alcohol distilleries are reported to be located on ancestral land claimed by the Guarani (Survival 2010).

Local people do not have the documentation, but they have lived there for 100 years or more. Big farms push people out, offering a low price. Children are moving to the city to get a better life, and that is a reason for the older generation to sell the land.

The government tries to legalize the existing rights, but still many people do not have legal documents, especially native Indians. The government is dealing with the process of legalization, but it is going (too) slowly. A complicating factor is the lack of knowledge on the side of the small landowners. If people go to the land registry office, this office takes action, but if people do not go, the registration is not arranged and problems may arise later on.

Corruption is a big issue in many sectors of society and for land registration it is a reality. In Brazil there is the so called 'Grilagem' or land grabber (the illegal occupation of public lands by the use of fake documents that appear to be genuine).

5.3 Stakeholders and power

5.3.1 Stakeholders

We can distinguish the following important stakeholders:

- **Government.** Apart from its regulatory function, the government owns the BNDES Bank (Banco Nacional de Desenvolvimento Economico e Social) which invests in new technologies, for example the second generation biomass production with gasification of ethanol and electrification. The government wants to cooperate with companies to make ethanol more efficient. New Brazilian policies emphasize the role of Brazil as a major player in biofuel policies and clean energy. The government has established partnerships with developing countries in e.g. Portuguese-speaking Africa (Mozambique, Angola) in an effort to make ethanol an international commodity.
- **International companies.** Two types of companies are active: oil companies and companies for grains and soy. They can provide money to improve the efficiency of ethanol production. There is a huge influx of international companies that want to invest, for example Asian companies and European companies (e.g. Shell). Also, second generation technology is being introduced. The first generation was to use the juice, not the leaves. In the second generation, cellulose is broken down to produce alcohol. The aging of the sugarcane crops causes a 20% decrease in production, because sugarcane plants have to be replaced every six to eight years. The BNDES Bank had an investment of 4 billion Brazilian reais (1.6 billion euros) planned for 2012 for the recuperation of sugarcane plantations. International companies are also being invited to invest in this renewal.
- **National companies.** They establish partnerships with international companies and they own the plantations. Big companies are stronger so therefore national companies establish partnerships with big international companies. The potential for increased production is big: production is currently 6000 litres of sugarcane juice per ha but could increase to 10,000 litres per ha.
- **Civil society (NGOs).** NGOs want to play an important role in organizing participatory processes and debates on environmental and social issues in sugarcane expansion (ECOA, Mater Natura, 4 Cantos do Mundo and Reporter Brasil n.d.). Their challenge is to make the local people heard. Some public consultation should be organized on environmental and social standards. Communication and information should be improved. Influence in discussions is increasing, but still

only a small group is participating. The link with the local situation has to be established. NGOs aim to represent the local community as to environmental and social issues.

- **Sugarcane workers.** They are represented by rural workers' unions. Mechanization is a threat to them because it leads to a 90% reduction in the workforce on sugarcane plantations. At present, approximately 1 million people work as sugarcane cutters. But with new methods of mechanization, only 10% of them will be needed. So sugarcane labourers should receive capacity building so that they can change to different work. An agreement has been made that the companies will help people to some extent to get another job. There are continuous negotiations about working conditions and wages. The education of workers is an issue for reaching sustainable growth in ethanol. The private sector and the government have agreed to ban slave labour.
- **Banks.** Most of the investments are made by national banks. However international ones are also active (e.g. Rabobank). The international companies work through these international banks. Rabobank is a partner of the National Sugarcane Producers Association (UNICA) and the BNDES Bank. Together, they decide in which areas to invest.
- **Local unorganized smallholders.** Indigenous groups sometimes work as sugarcane workers. One of their problems is the loss of their culture. They are not well represented in the rapidly changing physical and socioeconomic environment.
- **Indigenous groups.** There is pressure on indigenous areas. International involvement may complicate the situation. For example, in August 2010 Royal Dutch Shell and the Brazilian sugar and ethanol producer Cosan S.A. signed agreements to form a joint venture in Brazil. This joint venture is reported to be extending its production of sugar/ethanol rapidly and it is alleged to be involved in obtaining sugarcane from the new occupiers of indigenous lands, while also providing bad labour conditions for sugarcane workers (Milieudefensie - Friends of the Earth Netherlands 2011). Because of the rapid changes, indigenous groups are losing their language and culture.

5.3.2 Sense of urgency

There is a generally felt sense of urgency to make things better. This implies better planning and dealing with the negative impacts of activities. There is a general idea among stakeholders that the situation needs to be improved.

However there are still challenges:

- International companies should be more sensitive about what local communities say about the impacts of their actions. They should create ways and means for effective communication between themselves and the local communities.
- Universities in Europe and Brazil could tackle the knowledge transfer and capacity building of local organizations. Furthermore, those organizations could be trained to act as 'watchdogs' and monitor the impacts *in situ*.
- There is a need to find ways to create this bridge between the international discussions and the local actions/impacts.

6 Paraguay: soy production

6.1 Pressures on natural resources

6.1.1 Original ecosystems

Before the soy fields came, the land was originally covered with forest: the Atlantic Forest of the Alto Paraná. This ecosystem can be found in Argentina, Brazil and Paraguay. Of the original 7.5-8 million ha there is still approximately 1.7 million ha left, but this remaining forest is fragmented. Atlantic Forest can still be found in the Región Oriental in the departments Amambay, Canindeyú, Alto Paraná, Itapúa, Paraguari, Caaguazú, San Pedro, Concepción and Caazapá y Guairá. Although the forest is fragmented the remaining forests are an extremely important habitat for many plant and animal species. There are, for example, the jaguar, puma and ocelot, tapir, peccary and different monkey species. There are at least 400 bird species, one of which is the most powerful eagle, the harpy eagle. Among the flora, the variety of tree species is worth mentioning. These species include the national tree of Paraguay, the labacho (*Tabebuia* sp.). (source: www.wwf.org.py).

Deforestation reached a peak in 1986 (289,000 ha) and was still 110,000 ha/year in 2001. But since then it has dropped sharply, and varied between 6000 ha and 10,000 ha per year in the period from 2006 to 2010. According to WWF-Paraguay, in Paraguay Law N° 3.139/06, and Law N° 2.524/04 prohibit activities involving the transformation and conversion of surface areas with forest cover in the eastern region. These laws have reduced the deforestation rates, but there is still some deforestation going on (www.wwf.org.py).

Regarding water flows, the chemical quality still seems to be good. There may be contamination in some places, but only for a specific producer in a specific situation; it is not a general problem.

Regarding land tenure, there are almost no public (=government owned) areas, except for the protected areas. Almost all land is privately owned.

6.1.2 Pressures

There are the following pressures on the natural ecosystems:

- There are now almost 3 million ha of soy. According to the Paraguayan Chamber for Exporters and Traders in Cereals and Oil Seeds (<http://capeco.org.py/>) the area grew from 1,050,000 ha in 1997 to 2,870,539 ha in 2011, so the area almost tripled in 14 years. During this period the production per ha increased from 2639 to 2917 kg/ha (+10.5%). About 92% of the soy production is transgenic. Small, medium and large producers all use transgenic soy and generally consider this as very positive, because it produces better yields and consequently gives a better income.
- The deforestation took place to enable extensive cattle breeding, but now the former cattle fields have been converted into soy fields. Soy is said to be up to three times more profitable than cattle breeding. The cultivation of soy produces approximately \$400 per ha, extensive cattle breeding \$130 per ha. The main pressure leading to the land conversion is the market, the demand for protein. The pressure to gain money is high. Increasing numbers of international companies are entering the country. Ten companies have extensive production areas.
- The growing of soy has also resulted in the movement of extensive cattle breeding to another ecosystem: the Chaco, a dry forest type. Chaco is now disappearing at a rate of some 200,000 ha

a year. In Argentina, the same ecosystem (Chaco) is now being replaced by soy cultivation. This may also happen in Paraguay.

- There is one company working with FSC certification, the rest are not working with a sustainability label.
- Land erosion is not a big issue. The erosion is more or less under control. There is run-off from fields and there are sediments in the water flows, leading to sedimentation in lower areas. However, sedimentation used to be more severe 15 years ago. The no-tillage technology (i.e. direct sowing without ploughing the land first) was introduced for soy with help of the German Agency for Technical Cooperation (GTZ, now GIZ) in 1993 (Semino 2006).

6.1.3 What are the drivers of changes?

- The market and international demand are the most important drivers. In 2010, the three most important final destinations for the export of soy grain were the European Union (59%), Turkey (12%) and Russia (11%). In 2009 the three most important countries for export were the EU (36%), Russia (16%) and Argentina (12%). The remarkable difference between the two consecutive years is due to a change in regulations in Argentina. There are four major trading companies: Cargill, ADM, Dreyfus and Bunge. Some cooperatives have their own port, silos and export logistics facilities.
- The internal demand from the six million inhabitants is not a major driver.

6.1.4 What is the impact for ecosystems and the people depending on them?

- Small-scale fisheries and NTFP gathering cannot be sustainable because the forests are only small patches, the surface areas are too small.
- The micro-climate may be influenced, but no detailed studies with quantification are available.
- Cultural services are also being lost, but no quantification is available; this is a feeling that people have. So there is a need to assess these ecosystem values and the loss of people's livelihood in order to gain insight in the actual impact on the ground.

6.1.5 The government's response

- Governance: the official regulations are good, but the corruption and the lack of law enforcement are fundamental problems. This has a history going back at least 50 years. The corruption is evident from the fact that there is more land on paper than there is in reality. There are forest policies, but they are implemented with a high degree of corruption.
- Protected areas have been established but without allocating the resources for their management.
- The government has been busy improving the land register for the last 20 years and there is still much to be done! In fact progress is slow.

6.2 Land tenure issues

Legal framework

- The 1970 law prescribes that 25% of land that is private property should remain natural forest. This is not happening in practice because the penalties are very low. It is more profitable to convert the forest and pay the penalty than to obey the law.

Land administration

- The land registers are not good and contain many errors. This is a crucial problem.

Policies, strategies and land use planning

- There is a plan for the natural protected areas. This plan is not being implemented.

- There is no proper land use plan for the private protected forests (the 25% of the land that is private property).
- There is no clarity as to land tenure. The situation as to land registry is very unstable.

The land is highly concentrated in a few hands. In Paraguay, currently less than 2% of the population owns 70% of the land (Semino 2006). The expansion of mechanized agriculture is now said to be one of the main causes of land conflict, and consequently one of the main reasons for the increasing number of landless peasants. These peasants lack resources (financial, technical, infrastructure and organizational). The peasants do not get adequate support to increase their incomes, neither do they have access to health and education. As a response to the increasingly critical situation of landless peasants, peasant organizations have organized protests like road blockages, land occupations and active resistance to pesticide spraying. This has also resulted in retaliations from the police and military: many cases of violence against peasants have been reported, at least in the period 2004-2006 (Semino 2006).

Box 4: Recent report about land tenure tensions in Paraguay near the border with Brazil

“The struggle of the landless in this area has been going on for a long time. Recently Lugo’s government has sought to legislate on the border lands that are being destroyed by multinationals, mainly Brazilian. Then the government sent the military to the border to place boundary markers and inspect title deeds. There are many doubts about how, in a very short time – about 10 years – those border lands passed into the hands of foreigners; and they are the best lands! Those expanses are dedicated to the cultivation of transgenic soy, a monoculture for export. They have destroyed mountains, they have dried up streams and drained swamps, they have poisoned rivers with indiscriminate use of agro-chemicals. This is a very serious situation that is taking place across the country, but mainly in the border area, where a kind of patriotic spirit is rising because what the people see in those areas no longer looks like Paraguay. The campesinos feel they are the owners of the land and they react.” (Cirio 2012)

The tensions between Brazilian land owners and landless people in Paraguay have also been reported by a Chilean TV station and information website. The president of the Permanent Commission of the Paraguayan Parliament is said to have warned about the risks of violence in the southeast of the country, where peasants are reclaiming land from soy producers of Brazilian origin. Since mid-2011, members of a new group of landless people, the National League of ‘Carperos’, have been camping in a stretch near the border with Brazil, where producers of Brazilian origin, called ‘brasiguayos’, cultivate soy. (Terra 2012).

6.3 Stakeholder analysis: the power to change things

6.3.1 Stakeholders

It was not possible to make an adequate description of the stakeholders based on the information obtained during this study. We can only list them:

- Landless peasants.
- Big companies: there are some 45 big companies and they account for approximately 30% of the total production and. These are companies with more than 1000 ha of soy.

- Large cooperatives: they account for some 40% of the soy production. There are approximately 15 in total, of which 5 are particularly important. The most important (Cooperative Colonias Unidas) has 120,000 ha in production and has some 2500 'socios' (members).
- Small producers, which are grouped into two organizations: Asociación Paraguaya de Soja (APS) and Coordinadora Agrícola de Paraguay (CAP). They represent the remaining 30% of the total production. There are some 25,000 small producers who have between 30 and 200 ha of soy in production. If this group is empowered and is able to take part in stakeholder negotiations, their position could be considerably improved.
- In the value chain there are many more actors: traders, transporters, sowers, sellers of agrochemicals, people working in ports, banks, and sellers of fuel and agricultural machinery. Most of these actors only think about increasing the cultivated area in order to cope with the increasing demand at the global level.

The people who criticize soy and its production in Paraguay generally mention the following issues:

1. The large producers are alleged not to comply with the environmental and social legislation. This seems to be true and is due to the state's lack of capacity for enforcing laws.
2. The soy producers are said to be responsible for the extensive deforestation in the eastern region (the Atlantic Forest). This is only partly true as soy was planted on fields used for cattle breeding.
3. The large producers drive out the peasant communities in order to extend their fields, buying properties next to their own land. The reason why small peasants sell their land is because of lack of opportunities. They do not have the technology, access to credit, land titles or access to markets. They have been abandoned and in such circumstances the option to sell the property seems very attractive, although probably in the long run it does not solve any structural problems.
4. Producers are alleged to use agrochemicals excessively and pollute the environment. This also seems to be true. An important factor here is that the state does not have the capacity to enforce the law. However, the price of these agrochemicals is so high that this is an incentive to use them as efficiently as possible.
5. Although legally accepted, transgenic soy is very value laden. Criticism is often connected to terms like 'imperialism', 'Monsanto'.
6. Soy producers are alleged to pay little tax. They do indeed pay little direct tax. This is a legal problem because the current systems permits this situation. But when considering the whole soy value chain, their contribution to the economy is big.

6.3.2 Sense of urgency among stakeholders

Most stakeholders in the value chain are enthusiastic about the global increase in demand for soy. Their sense of urgency would come most of all from the need to avoid problems for themselves like the threats of invasions and certain opposition from some peasant organizations.

However, the soy sector has a bad reputation and this is also a perfect excuse to defend quite ideological standpoints. There seems to be an urgent need to analyse the matter from a neutral perspective, without taking a political or dogmatic position. Soy as such is not bad as long as it is produced in a socially, ecologically and economically sustainable way. This can be achieved at larger and smaller scales. It is important to accept that various options are possible. These options depend on the local situation: the Chaco is not the same as the Atlantic Forest and the communities living there are different. Solutions are not only black or white, there is a lot in between.

The situation seems to be very tense in Paraguay with a lot of polarized opinions. It is not so clear if the different stakeholders believe that they will have to look for solutions together with the other stakeholders – whether they like them or not. There could be a need for neutral and informed facilitation.

7 Liberia: oil palm plantations

7.1 Pressure on natural resources

7.1.1 Semi-natural ecosystems

Liberia lies within the Guinean Moist Forests Ecoregion (see http://wwf.panda.org/about_our_earth/ecoregions/guinean_moist_forests.cfm). This ecoregion is made up of:

- The Western Guinean lowland forests that extend from Guinea and Sierra Leone through Liberia and south-eastern Côte d'Ivoire as far as the Sassandra River
- Guinean montane forests found at higher elevations in the highlands of central Guinea, northern Sierra Leone, and eastern Côte d'Ivoire
- The Eastern Guinean forests that extend east from the Sassandra River through Côte d'Ivoire and Ghana to western Togo, with a few isolated enclaves further inland in the highlands of central Togo and Benin

The Guinean moist forests are greatly influenced by the dry winds from the Sahara and the cool currents of the Atlantic, creating a climate that is more seasonal (including over 200 cm of rainfall) than the Congolian forests of Central Africa. Many plants and animals found here are also found in the Congolian forests, revealing that these forests may have been connected in the past. Temperatures vary little, giving the region a perfect greenhouse climate. The diversity of life inhabiting these forests is great. Scientists have documented extraordinary diversity in some parts of this eco-region. For example, in addition to over 2000 species of vascular plants recorded, more than 500 new species have been discovered on Mount Nimba, many of them endemic.

Selected species include the chimpanzee (*Pan troglodytes*), leopard (*Panthera pardus*), Cassin's hawk eagle (*Spizaetus africanus*), Pygmy hippopotamus (*Hexaprotodon liberiensis*), West African hinged tortoise (*Kinixys erosa*), Ogilby's duiker (*Cephalophus ogilbyi*), Mount Nimba otter shrew (*Micropotamogale lamottei*), and the golden cat (*Profelis aurata*). Bird species include endemics such as the Gola malimbe (*Malimbus ballmanni*), black-capped rufous warbler (*Bathmocercus cerviniventris*), little green woodpecker (*Campethera maculosa*), and the Rufous fishing owl (*Scotopelia ussher*).

7.1.2 Pressures

The forests have been severely reduced by logging, fires, clearing for agriculture, and mining activities. Intensive hunting coupled with a shrinking habitat has significantly reduced wildlife populations.

There is water pollution in the vicinity of mining concessions. In the area where Sime Darby operates, marshland is being reclaimed for conversion into palm oil plantations. It is not in the interest of local communities, because they use the marshland for rice production throughout the year. There are many valuable medicinal plants and forest areas in the area where Sime Darby has operations. There is a medicinal plants inventory being prepared as a result of a recent SEA carried out by FFI (Fauna & Flora International) on behalf of Sime Darby. There seems to be a clash of interests: medicinal plants and forested areas versus oil palm.

7.1.3 Impacts on people

What is the impact on the services that semi-natural ecosystems provide? There are all types of issues at stake: health issues, people being deprived of the means to live and people being impoverished. Non-

timber forest products are less readily available. Artisanal logging is less of an option for local people, despite the fact that there is a forestry law and a communities' rights law which give local people access to such resources. Artisanal logging is for construction purposes and for furniture. There are also 'Sacred Forests': Sime Darby is said to have invaded some ancestral areas in Cape Mount County. However, this argument might also be being used to emphasize indigenous land rights. Whatever the case, the argument is often used.

7.1.4 The government's response

NGOs have built much capacity among people who are not benefiting from the new post-war (1989-2003) situation, so there is much increased awareness and involvement in advocating land rights and land use rights. This new tendency has claimed the attention of the government and it has reacted. The government put in place commissions to harmonize land ownership with a mandate for five years (2009-2014, see <http://www.lc.gov.lr>). In the past, concessions were handed out without the participation of local communities. Now the government looks for mutual participation (community involvement) in decision-making.

In the case of Sime Darby, the government did make some efforts towards consultation to a certain degree, but more conflicts arose when Sime Darby extended its working area. The had to acknowledge some gaps in the arrangements, and it urged the communities to become involved to find a solution. Sime Darby is reported to know now that it has to go to the communities first, before establishing more plantations. It will take a process of negotiating to find the land fit for palm oil without harming the needs of the communities.

7.2 Land tenure

7.2.1 History

In Liberia the land tenure issues are closely connected with the history of the country. Until the founding of the country in 1822, land tenure was based on customary rights. Indigenous peoples occupied the land. Returning groups of freed slaves set up a government. They occupied the coastal area with easy access and they used this limited area along the coast. They pushed the indigenous groups back into the hinterland. So a situation arose in which the hinterland belonged to indigenous peoples and the coastal land to the returning slaves. The hinterland was far larger in area than the coastal land. The coastal land gradually became full and people from these areas moved into the hinterland. Traditionally, there was communal land ownership in the hinterland. The sale or purchase of land as a commodity was alien to the indigenous people. People could use the land for agriculture and domestic livelihood etc. The demand for land grew and then the settler government established its jurisdiction by annulling all land transfers by traditional authorities in 1850 and conferring authority for the transfer of public land on the president of the Republic of Liberia. The government allows the communal system to continue in rural areas, but will exercise authority in cases where documentation exists. Unless a land document is signed by the president, it is not legal and there is no perpetual ownership. But there are still areas which have traditional land ownership, without an official certificate signed by the president. People still claim that these are their lands, although there is no official certificate. In short, there are currently two land tenure systems in Liberia -the statutory land tenure system (with official deeds signed by the president) and the customary land tenure system (with traditional tribal certificates and claims by local people because of longstanding use).

The situation concerning customary land ownership has deteriorated in the past few decades. In the 1960s and 1970s the distinction between tribal land and public land ended and public land was uniformly

entrenched as state property. A new forestry law in 2000 removed natural rights of jurisdiction and benefit from the traditional owners in the hinterland. The forests became the property of the Republic in 2000; this was further elaborated in the reform law of 2006 (Alden Wily 2007)

Then after the civil war, in some instances the big companies came in. The government accepts them because they bring value. But concessions are handed out and activities are started without involving the communities and without doing any baseline studies to understand the issues in the area. The companies often base their interventions just on raw estimations, and then the problems begin.

7.2.2 Current situation concerning land tenure: the Sime Darby case

In some places where the palm oil company Sime Darby has a proposed production area, (eg. Bopolu), much of the land is covered by deeds signed by past presidents and giving it to the local populations (Barclay, Tubman and Doe). The following can be found on the company's website:

"Sime Darby Plantation through its fully owned subsidiary, Sime Darby Plantation (Liberia) Inc. has a concession area of 220,000 hectares of land, spread out across the Grand Cape Mount, Bomi, Bong and Gbarpolu counties, to be developed into oil palm and rubber plantations in Liberia. Sime Darby's involvement in Liberia began in 1977 when Kumpulan Guthrie provided technical and management expertise to the government-owned Liberian Rubber Processing Corporation. In 1980, Kumpulan Guthrie acquired BF Goodrich's concession area. In 1981, Guthrie Plantations Inc. was incorporated to develop 20,000 acres of concession land into a rubber plantation. From 1989 to 1996, Guthrie Plantations Inc. had to abandon its rubber operations due to civil war in Liberia. The company returned to Liberia in 1997 when the socio-political situation in the country stabilized. In 2001, Guthrie Plantations Inc. had to suspend its rubber operations once again when civil war erupted. The second civil war ended in 2003. In November 2007, the new and enlarged Sime Darby Group entered Liberia in 2008 and successfully renewed the terms and conditions of the old concession agreement with the Government of Liberia. In 2009, Sime Darby through its subsidiary, Sime Darby Plantation, signed a 63-year concession agreement with the Government of Liberia for 220,000 hectares of land to be developed into oil palm and rubber plantations. A new company, Sime Darby Plantation (Liberia) Inc, was set up to manage the oil palm and rubber plantations.

The concession area is spread out in 4 counties: Grand Cape Mount, Bomi, Bong and Gbarpolu. Under the concession agreement, Sime Darby Plantation (Liberia) Inc. will work with smallholders to develop an additional 44,000 hectares under an Outgrowers' Scheme. This scheme is designed to assist smallholders and local communities, a programme that is similar to Malaysia's extremely successful Felदा programme. In accordance with its standard operating procedures, Sime Darby Plantation (Liberia) Inc. will undertake Social & Environmental Impact Assessments (SEIA) before any development begins. In addition, the Company will also employ its best practices in Liberia such as maintaining riparian buffer zones between water bodies and planted areas. The establishment of such areas is in compliance with recognised agricultural best practices." (Sime Darby 2012)

Sime Darby now occupies land in an area where just 20-30,000 ha is available legally. The aforementioned rubber plantation used to be on the site. However, Sime Darby has increased its demands for land. The other areas are occupied by local communities, with customary rights or deeds signed by the president. The Sime Darby case is just one example of a broader issue. The concession holders have papers signed by the government so they think they have the right to establish oil palm plantations. But local people resist; they do not allow the company to work in some areas. This is a big issue creating confusion in Liberia. Crops, vegetation, forest land, farmland - all of this is at stake.

An additional complication is that demarcations and boundaries have changed over time. There are new local communities, districts and counties etc. Sometimes traditional means of demarcation are used. The

number of boundary issues has increased due to the civil war and the reforming of communities. The result is that there are also conflicts between communities. It is only once you have settled the local issues that you can start to negotiate between a company and the local communities.

Big concessions have both positive and negative impacts. The impact on employment is positive, but taking over land that is traditionally the main source of livelihood for communities has a negative impact. There is also population growth. After the war in Liberia, the population has grown more rapidly from 2.5 million to an estimated 4 million at present (according to the CIA, www.cia.gov). The scarcity and demand for land due to population growth has become a major source of conflict in the country. This is compounded by the demands for large-scale land acquisition for investments in oil palm and mining, iron ore, logging and rubber (Firestone).

7.2.3 Need for research and reliable data

A complicating factor is that there is a lack of reliable data on land tenure. In an inception report for a land tenure registration study, the following was observed (Marquardt 2011):

“The current situation in the deeds registry has not improved. In fact, it has probably gotten much worse to the point that there is a total lack of trust with the system. Many records were destroyed during the years of turmoil. Many transactions have occurred with little reference to existing documents or previous transactions, leading to a situation of parcels being subdivided and sold with no accompanying adjustment to the mother deed. Many fraudulent documents have entered the system with little ability. The overall result of this situation is that there exist seemingly valid yet conflicting documents, as well as many fraudulent documents registered with land-related Government institutions. It is clear that the people are totally dissatisfied with the deed registration system and there is a growing pressure to replace the existing system with an alternative title registration system.”

The above-mentioned need for data is a direct task for the government and its institutions that manage the deed registration system. However, there are also other needs for data and research, which could be provided by academic institutions:

- Up to now, companies have not wanted to invest in baseline studies which look for example at endangered animals, plants, biodiversity or customary rights. However, baseline studies are vital in preparing the ground.
- Another issue that needs study is: what happens to people who sell their land to companies? Many people depend on subsistence farming. What are their alternatives for their livelihood? If the concessions come in, how do the people survive on a sustainable basis? You can give compensation in money for the land that you buy from the local people, but then they no longer have a means of livelihood. They use the money and then become poorer. This is a scenario that frequently occurs. So there is a need to study alternative scenarios.

7.3 Stakeholder analysis: the power to change things

7.3.1 Stakeholders

An important question is: who are the stakeholders in the area and what kind of power do they possess which could be used to change the situation for the better (and what kinds of power might they have to obstruct such a process)?

The following stakeholders can be identified for the Liberian situation around oil palm plantations:

1. **Government.** The government owns the land in the country, according to the law. It can grant concessions. But citizens have legal and traditional rights to the land. There is a need for the government to work in a neutral way.
2. **Big companies.** Sime Darby was very frustrated and probably felt powerless in moving on with their investment plans. However, big companies have some power: the power of money. They have money but they believe that they have an agreement with the government, which is in their view sufficient to start the plantations. However, that should just be the beginning. Engagement with the community is crucial and costs investment in terms of money, efforts and attitude. There is a need for engagement at the community level, a mutual relationship. Companies could (and should) invest much time in engagement, in understanding the long-term benefits and the long-term results, with the community as an integral part of the effort. The starting point should be a baseline study, which companies have not yet decided to incorporate in their investment plans.
3. **Communities.** They are opposing the power of the concessions (big companies), but are not directly opposing the government. It should be stressed that communities are very heterogeneous as to the division of power and distribution of benefits. Within the communities there are (at least) three groups:
 - a. Traditional elders, the ones who traditionally take the decisions in the communities. If they are not consulted about the occupation of the land by companies, they have much power and everybody in the community will support them.
 - b. Young people, who are an up and coming group. They now often play a central part in the community. They are the successors to the land and they are opposing the decisions made by the elders, because the elders are selling the land, and the young people claim that they are not able to participate in the decision-making process. Young people are claiming more power; they want the elders to consult them about decisions concerning the land. Apart from a kind of moral power (they are the successors to the land), young people generally have a better education. Some of them are literate. Those who go to school are expected to stand up for the community. The literacy issue becomes crucial. There are the customary rights, but you need to be able to read and write to negotiate effectively.
 - c. Women (mothers), who have played an active role in building peace in the country (see e.g. www.womenscampaigninternational.org/countries/liberia/). They have a long history (since the mid-1990s) in trying to influence the process of peace negotiations through parallel negotiation and mediation (Popovic 2009). This is an ability that could be useful again in solving the problems between the government, big companies and communities.
4. **Advocating NGOs.** They would like to see the situation changed.
5. **International donors.** They are supporting the NGOs; they fund them. Governments, the EU and UN agencies work together with NGOs to solve issues relating to land tenure.

7.3.2 Sense of urgency for change

A vital question is whether there is a sense of urgency among stakeholders. Do the most important stakeholders wish to change the situation or are they (more or less) happy with the current situation (or is the current situation acceptable to them)?

- Sime Darby has invested money. They want something to happen.
- The government also feels urgency: it made agreements with the big companies and wants investment and the creation of employment. The government also wants a good reputation among investors as the country's recovery depends partly on outside investments.

- Communities also want something. They want to become engaged but do not see all the consequences. Therefore communities need to be prepared to enter into an agreement.

Apart from this there is the need to take action on the broader land tenure problem. This report recommends restoring legal recognition of their collective title to the customary land holders. There is the community rights law, but this mostly emphasizes the rights of citizens to shares of the revenues generated from forests products in their area by logging companies. There is also a plea to actively help all communities clarify the boundaries of their respective communal domains and entrench these in registered collective entitlements (Alden Wily 2007). Also, any new registration effort must include a substantial public education component. Institutional reform is needed, combined with land records roundtables or workshops (Marquardt 2011). There is an urgent need to merge statutory and customary land administration systems and to strengthen the land rights of the poor.

8 Synthesis of the findings in the four cases

8.1 Existing ecosystems and threats

8.1.1 State of ecosystems

As to existing ecosystems and threats to these ecosystems, the following can be concluded:

- Kalimantan. This is among the most species-rich regions in the world. Many ecosystems are threatened by deforestation. The expansion of palm oil plantations has been the most important land use change. There was a ten-fold increase in oil-palm production between 1980 and 2009.
- Brazil. Both the Cerrado and the Pantanal are globally important ecosystems. The Cerrado (a dry vegetation type) has already lost more than half of its original size. In the Cerrado large-scale deforestation is taking place for soy (the relation between deforestation and sugarcane production seems less obvious). The Pantanal, the other important ecosystem in the sugarcane production area, is the largest wetland in the world. It is a World Heritage Site.
- Paraguay: The soy fields were originally covered with Atlantic Forest. These forests are the habitat for many species of animals. Of the original 7.5-8 million ha there is still approximately 1.7 million ha left. There has been little deforestation of Atlantic Forest since 2006. Deforestation in Paraguay took place for extensive cattle breeding but now these areas have been converted into much more profitable soy fields. Extensive cattle breeding now takes place in another ecosystem: the Chaco, a dry forest type.
- Liberia. The important natural ecosystem is the Guinean Moist Forest. The diversity in life inhabiting these forests is great, with important animal and plant species. The forests have been severely reduced by logging, clearing for agriculture, and mining activities.

8.1.2 Occurrence of deforestation

The conclusion is that the studied production areas for sugarcane, soy and palm oil originally contained important habitats for biodiversity conservation, and still do to some extent. Deforestation is still going on. Deforestation has to be considered at the national level, since 'leakage' may take place from one region (or ecosystem) to another. For example, in Paraguay land use is changing from extensive cattle breeding to soy, but in its turn cattle breeding may move to other areas.

8.1.3 Drivers of deforestation

The international demand for soy, sugarcane (ethanol) and palm oil are important drivers for deforestation. For example, the combination of deforestation (logging) with the establishment of oil-palm plantations is extremely profitable. The international demand is sometimes accompanied by strong national demand for the internationally traded commodity, as is the case with ethanol in Brazil. Deforestation is also caused by other drivers, like mining.

8.1.4 Impact of the change in ecosystems on people

Deforestation has considerable impact on the degree of biodiversity as a matter of course. But as ecosystems degrade or disappear, there is also an impact on the services the ecosystems provide for humankind at different levels, for example:

- In Kalimantan, the deforestation and planting of oil palm results in degradation of peat soils, resulting in emission of carbon dioxide. This is an impact on the global scale, affecting us all.
- In Brazil, burning sugarcane debris causes air pollution and health problems, There is also soil and water pollution due to vinasse, a liquid residue of ethanol production. Monocultures could also affect soil quality in the long term.
- Deforestation results in fewer opportunities for local people in Paraguay and Liberia to collect non-timber forest products, or to earn their living through small-scale fisheries. There may be a loss of traditional sacred and/or culturally important sites in the forest.

8.1.5 The governments' responses

With exception of Brazil, the governmental responses to threats on ecosystems and ecosystem services can be considered inadequate:

- In Kalimantan, the government at various administrative levels is generally described as weak. In general, no adequate measures are taken to halt or reduce deforestation.
- In Paraguay, the implementation of forest policies suffers from corruption. Protected areas have not been established. In late June 2012, the elected president was dismissed by parliament. This was also accompanied by violence in the field. The situation is unclear but at the very least it can be concluded that the governmental response is not adequate.
- In Liberia, the government is working seriously on land tenure issues, a very pressing issue which also affects the status of biodiversity in the country. But there are no reports on its specific efforts for the conservation of biodiversity.
- In Brazil the picture is different. There are cases where an increase in the sugarcane area has not resulted in a loss of native forests. Likewise, the environmental legal framework in Brazil is complex, stringent and advanced. However, there are differences from one state to another, the richer states generally having a better level of organization.

8.2 Land tenure conflicts

The picture as to land tenure in the four cases can be characterized as gloomy:

- In Kalimantan, there are many conflicts concerning land tenure. The existing legal framework is very much to the advantage of the plantation companies. A comparable situation exists as to the process of obtaining permits for new oil palm plantations. Many oil palm plantations overlap with protected forest land.
- In Brazil, many traditional inhabitants do not have a certificate of ownership of their land. Indigenous peoples in particular suffer from this situation. The government is dealing with the process of legalization, but the pace is (too) slow.
- In Paraguay, there is no clarity as to land tenure. For example, the situation concerning the land registry is very unstable. The land is highly concentrated in a few hands only. There is tension between different groups.
- In Liberia, land tenure issues have very deep historical roots, starting from the period when freed slaves from the USA occupied lands near the Liberian coast. In the hinterland, where palm oil companies want to establish plantations, there are traditional rights to land recognized by presidential deeds and traditional lands without such deeds. The situation is extremely complicated. A complicating factor is that there is a lack of reliable data on land tenure.

8.3 Stakeholders

In the optimization of land use, there should be a deliberate effort to change something, to make a transition towards a more suitable and sustainable arrangement. Avelino (2009) defines power as the ability of actors to mobilize resources to achieve a certain goal. Power is an ability that lies with actors and is exercised by actors (and not by structures or institutions). Power is also the capacity to affect outcomes. The critical question is whether stakeholders have sufficient power to make a change.

The stakeholder analysis for the four cases needs a deeper study. Within the framework of this study it was not possible for the author to speak with representatives of the stakeholders. In the literature that was consulted, there was not much information that could serve to as the basis for a stakeholder analysis. The information that is presented is based on observations made by the source contacts and some research on the internet. The following categories of stakeholders are found in all four cases:

- The government, generally described as 'weak', not capable of implementing the rules it has set and suffering from corruption. The exception is Brazil.
- Private companies, both national and international. Although there are international roundtable processes, this does not mean that the companies involved act in a concerted way.
- Local communities (sometimes indigenous groups) and smallholders. They generally have a weak position.
- Civil society (or NGOs). They provide help to local communities and labourers, but this is not enough to improve their marginal position. The NGOs also play a role in advocacy.
- Labourers without land, for example the sugarcane labourers in Brazil.
- Banks that provide loans for investment in plantations and processing facilities. In Brazil their role seems clear, in Kalimantan, for example, their role does not seem clear.
- International consumers. They are generally not really in the picture. However, theoretically they could demand more socially and environmentally sustainable production.

Two categories are absent in the list:

1. *Roundtables*. Although several NGOs and private companies are members of roundtables, the roundtables as such are not in the picture as an actor in the regions studied. In Chapter 2 we concluded that two functions of roundtables should receive more attention: (a) learning, research and capacity development by developing and disseminating new knowledge and tools with research, piloting new approaches and training, and (b) financing by combining forces to aggregate the impact and create a more efficient funding vehicle than any individual organization could do on its own.
2. *Academic institutions and independent, neutral facilitators*.
 - In the case of Brazil, the possible role of knowledge institutes (universities and institutes for research, capacity building and facilitation) has been mentioned.
 - The Liberian case clearly showed that there is a need for reliable data on land tenure (registry). Apart from that, the need was mentioned for knowledge about what happens to small farmers who sell their land to big companies, and more importantly, what alternatives for development can be offered. Also baseline information is needed on areas that will be partly converted into plantations.
 - In Paraguay, there is a need for neutral facilitation, but it is not clear if stakeholders would be prepared to accept facilitation. Whatever the case may be, neutral facilitation also requires reliable data and scientific information.

This publication advocates a more conspicuous role for roundtables and for knowledge institutes, see also the next chapter.

8.4 Sense of urgency

Do the stakeholders feel a sense of urgency that the current situation is no longer acceptable?

- In the case of Kalimantan, it is very questionable whether this is the case. There is a lack of trust between different stakeholders. Besides, palm oil generates much income for Indonesia, so the economic interests are considerable.
- In Brazil, there is a certain sense of urgency that the situation needs improvement. Better communication is an important prerequisite.
- The situation in Paraguay seems very tense, with protests, land occupation, the replacement of the country's president and violence. In principle there is a need for the various groups to talk constructively with each other. The neutrality of any potential facilitator for discussions seems to be an important issue. One important question in the current situation is: who has sufficient convening power (and the willingness) to do this?
- In Liberia, both the government and international companies want a change, because agreements have been made and the situation is now in a deadlock. There is a need for a better understanding of the livelihood of local communities. Land tenure issues and traditional rights have to be addressed with more speed and urgency. There is an urgent need to merge the statutory and customary land administration systems and to strengthen the land rights of the poor.

The provisional conclusion is that the sense of urgency seems to be stronger in Liberia and Brazil, while more doubt exists as to Kalimantan and Paraguay. The hypothesis is that if such a sense of urgency is lacking, efforts to change the situation will be fruitless.

9 The way forward

9.1 There is only a case if there is a sense of urgency

As was already mentioned in Chapter 2, in this publication roundtables are seen as a tool for dealing with problems regarding agri-food sustainability. Dentoni (2012) sees agri-food sustainability as an example of what is termed a 'wicked problem'. Both the *land tenure* situation and *deforestation* seem also to be problems that have the characteristics of a wicked problem (Woodhill 2011):

- Complex, interconnected biophysical and social factors
- Uncertain consequences
- Causes and effects and costs and benefits separated over space and time
- Multiple stakeholders at different scales
- Issues that are value laden
- Powerful vested interests
- Coordination across political boundaries
- Action that is required at multiple scales

MSPs (Multi-Stakeholder Processes) are useful instruments in such a situation. In MSPs, different actors embrace different world views based on different beliefs and cultural backgrounds. Recognizing this is extremely important for the success of the MSP. If the world view or paradigm of one group or a limited number of groups is dominant in a change process, then other groups may feel excluded, and often are excluded in practice. Therefore, there should be space for several world views to be included in the process. For such processes, Wielenga (in Bodegom 2010) recognizes four possible paradigms with different roles for knowledge (which also – but not exclusively – includes academic knowledge):

1. Paradigm 1: The sector is like the *works of a clock*, it just follows the expert. This is knowledge as truth. This paradigm supposes that there is only one truth, and that is the scientific one. Experts tell the sector what this truth is and the sector follows.
2. Paradigm 2: The sector is a *market/jungle*. This is knowledge as power/product. This paradigm supposes that every actor needs to look after their own interests. If you need to interact with others, you go to the market, even to buy knowledge. If you do not have purchasing power, you cannot get knowledge.
3. Paradigm 3: The sector is a *village*, where we agree on concerted action. This is knowledge as a construct. This paradigm is often very popular among people who want to promote multi-stakeholder processes. But the weakness is that people who have power (political and/or economic) do not always see sufficient reason to agree on concerted action.
4. Paradigm 4: The sector is a *living organism*, where we should maintain connections. Connectivity is vital. This is knowledge as responsive capacity.

Only if the fourth paradigm is chosen, will there be a need to keep in contact, a need not to exclude others and to learn from each other, because the different 'tissues' of the organism depend on each other. In that fourth paradigm, it also becomes very important to increase *trust* between the different stakeholders in the sector. Paradigm 4 is the one most likely to result in sustainable change, but it will only work if major stakeholders believe in the vision of the living organism and mutual dependence.

We could also describe the above in the words of Faysse in (Gillespie 2012): "The prerequisites for an MSP process are that: (i) stakeholders accept their interdependencies; (ii) they are willing to communicate and learn from each other; (iii) they are willing to actively tackle the problems discussed; and (iv) each

participant is interested in reaching a negotiated agreement. These four prerequisites can also be summarised as: there is *a sense of urgency* among stakeholders.”

That sense of urgency is stronger in Liberia and Brazil, while there is much more doubt about the sense of urgency in Kalimantan and Paraguay. In the areas where the sense of urgency seems to be doubtful, awareness has to be raised and/or advocacy is needed first before an effective process of negotiation and joint planning can be started.

9.2 The direction: upstream in the value chain

There are several challenges when undertaking efforts to do more to tackle deforestation, land tenure issues and other problems in the commodity producing regions (McCarthy, J.F., P. Gillespie and Z. Zen 2011):

- The focus is still on the development and implementation of principles and criteria. The challenge is to **develop the regulatory capacity to reach upstream** into remote rural contexts where the problems emerge.
- Civic regulatory knowledge and practice on its own tends to be methodologically blind to the complex, embedded, socioeconomic relations and practices that considerably influence the local outcome of the roundtable process. These underlying problems may be addressed by reconsidering state policy and plantation business models, agribusiness investment patterns and donor policy. **New governance and accountability relations need to be developed in remote areas.**
- Certification is a market instrument and the market demand for certified products is limited to demand from Europe. The majority of oil palm businesses in Kalimantan are integrated into the production networks that supply India and China. In these production networks, there is no incentive to change practices. There is also a need **to cooperate with ‘southern’ actors**, especially in the growing markets of India and China.
- It remains uncertain whether regulatory processes like the RSPO really can be transformed into lasting institutional change. **Structural reforms** - structural changes in society and company power - will only take place if they are sustained by incentives (positive or negative), such as the fear of losing private investments or access to markets.
- The key challenges are the **large differences in power** between parties, differences in knowledge regarding legal understandings, differences in negotiation skills and the lack of accountability. This is especially true upstream in the production chain, in remote places.

The direction is clear: upstream in the value chain, in the rural areas where the sugarcane, palm oil and soy are produced. This view is very much in line with the outcomes of a 2013 online debate initiated by The Broker in cooperation with the Dutch Food and Business Knowledge Forum (Quack 2013):

“To achieve maximum impact on food and nutrition security, knowledge and research policy should focus on local agriculture and food sectors. This means including small-scale farmers in regional food chains as well as making investments in the food system work for the rural poor by taking into account local environmental and cultural values.”

9.3 Landscape approach

Land tenure issues and deforestation occur in a tangible, visible landscape. A landscape approach is needed in order to deal with these problems effectively. Why take the landscape as the focal point? Because both deforestation and land tenure have many spatial aspects. Adopting a landscape perspective offers the opportunity to cross administrative and political boundaries, allowing for broader groups of

actors to engage in spatial decision-making (C. v. Oosten 2012). Fig 1 shows two different ways of looking at the landscape: as space and as a place where multi-scale networks meet. Of course, one important network is the value chain of soy, palm oil or sugarcane, which most certainly must not be neglected! But there are more, including governance-related networks that need to be considered if a solution to these spatial problems is to be found. So a value chain approach should be combined with a landscape (spatial) approach.

The landscape level should be perceived from a systems perspective, with ample attention being paid to the complexity and uncertainty of landscape-level approaches. For more information, see e.g.: www.ideastransformlandscapes.org .

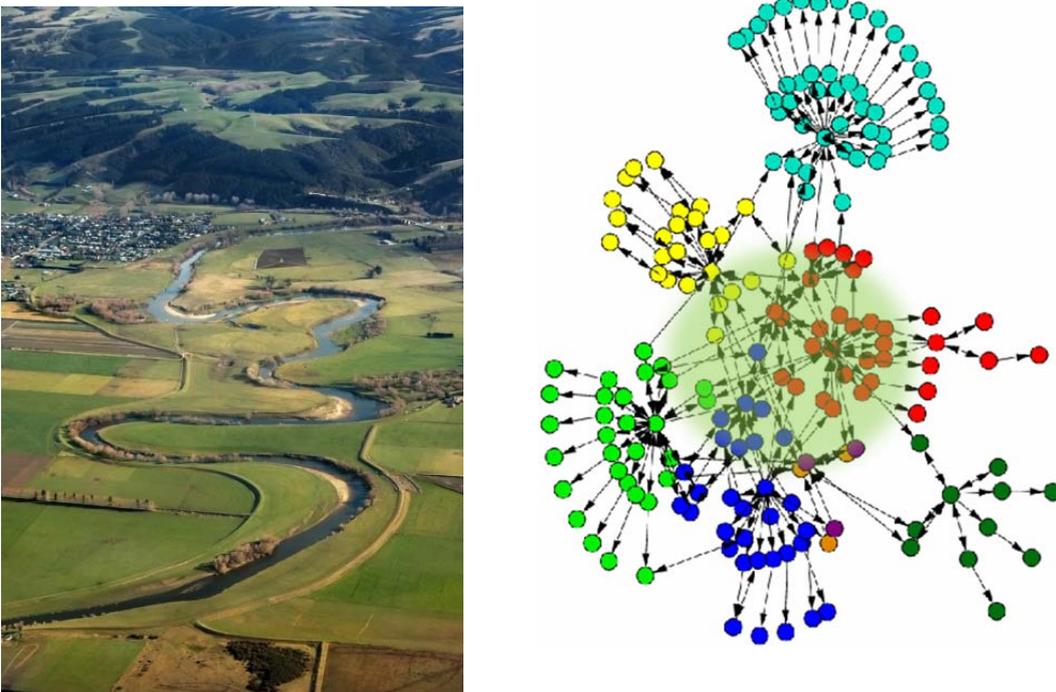


Figure 1: Landscape as a space and landscape as multi-scale networks. The right-hand side of the figure shows a green space in the centre which represents the specific landscape and the networks inside. But almost all networks (including commodity value chains) have extensions towards spaces outside the specific landscape (Courtesy of Cora van Oosten)

MSPs in a landscape approach are different from MSPs in the commodity supply chain approach. The commodity supply chain approach takes the supply chain as the focal point while the landscape approach takes the landscape as the focal point. This is a crucial difference. A landscape approach is necessary in order to deal with deforestation and land tenure issues as a supplement to a value chain approach. See the following figure.

There is one difficult issue in applying a landscape approach: how to demarcate a certain landscape. How big is it, and where does another landscape start? There is no final answer to this question. Stakeholders have to decide on the delimitation of the area. Some points for consideration are:

- Natural delimitations, like the boundaries of a watershed
- The boundaries of a production area of a certain commodity

- Having an area with a size that makes effective intervention possible (not too big so that actions become too diluted, but also not too small, because the area may become insignificant in the eyes of stakeholders)

Box 5: Landscape and landscape governance

'Good' forest landscape governance implies the restored connectivity of patches of natural and human-influenced vegetation, the multi-functionality of landscape elements and bio-cultural diversity, leading to the greater resilience of forested landscapes. A hindrance is that politico-administrative structures do not tally with the socio-ecological reality of forested landscapes. This leads to institutional frameworks that do not serve the objectives as they have been defined by landscape actors. So there is an urgent need to reconnect governance to the specific dynamics of landscapes. New institutional arrangements (new objectives, rules of the game and new resources to implement them) have to be made between the various stakeholders in the specific landscape. How these arrangements emerge and what their impact is on forested landscapes, is still largely unknown. It is society itself that has to learn (C. v. Oosten 2013). For a landscape learning site see also: (<http://forestlandscaperestoration.ning.com/>).

9.4 Multi-Stakeholder Processes

Deforestation and land tenure issues are 'wicked problems'. MSPs are useful instruments for tackling wicked problems. In order to solve these problems, or at least make them manageable, MSPs are necessary at two levels:

1. The roundtables at the international level and roundtables as a process (in fact a specific type of multi-stakeholder process) have been dealt with extensively in the previous chapters. The general picture is that, although they are useful at the international level in setting standards, to date they have failed to reach the upstream levels.
2. The multi-stakeholder processes at the local level (upstream in the value chain). For that purpose, Multi-Stakeholder Processes at the local and regional levels are proposed.

The roundtable process at the international level is well underway and outside the scope of this publication. Here we focus on the level upstream in the value chain. Provisions have to be made for the two levels to be interlinked and for a flow of relevant information between the two processes.

MSPs are developed around seven MSP Principles (Woodhill 2011):

1. *Working with complexity*: create MSPs around the recognition that human systems are complex and processes are dynamic and often unpredictable.
2. *Fostering collective learning*: stakeholders should be enabled to learn together from their collective experience.
3. *Reinventing institutions*: institutions should be changed. Institutions are 'the rules of the game', which may be formal or informal.
4. *Shifting power*: social change involves understanding, working with and shifting power structures related to political influence, economic wealth, cultural status and personal influence.
5. *Dealing with conflict*: conflict is an inevitable and normal part of any MSP. Understanding, exposing and dealing with conflict is essential for MSPs to be effective.
6. *Enabling effective communication*: underlying an effective MSP is the capacity for people to communicate with each other in an open, respectful, honest, emphatic and critical way.

7. *Promoting collaborative leadership*: different types of leaders have to be recognized - political, traditional, informal etc. These leaders have to promote cooperation.

When we present these principles to participants in courses at our institute (CDI), Principle 4, **Shifting power**, often proves to be the most controversial. But indeed, without a shift or rearrangement of power between stakeholders, no sustainable solution is possible. For example, more transparency and accountability is needed in land deals and exploitation titles involving international companies and the government in developing countries. There are several challenges with a direct link to power issues. One challenge is to have local communities effectively benefit from international investments. Another challenge is to effectively involve those groups most affected by changes in land or resource allocation and use in decision-making (Klaver 2011). A variety of tools are available for analysing power relations together with stakeholders, (Brouwer 2012).

Box 6: MSPs only effective with sufficient financial support and balanced representation

A recent study in the Democratic Republic of Congo on the effectiveness of agricultural and rural management councils shows that support-generating capacity is the major factor explaining the effectiveness of the platforms. An increase of \$1000 in support to a platform results in a 77% increase in its effectiveness. Other important factors affecting the effectiveness include:

- An increase in participation
- A decrease in the overrepresentation of male members
- An increase in coordination
- A decrease in power imbalance.

These results are also consistent with the findings in the literature suggesting that financial support is extremely important for participatory and multi-stakeholder platforms, especially in the early stages of setup and implementation. Strengthening capacity to mobilize resources among members and external partners should be among the top priorities. General, broad-based multi-stakeholder platforms have a tendency to take on many different activities and functions and sometimes to deviate towards other unplanned activities, but given limited resources and efforts, the focus should always be on the specific goals and objectives set and what the platforms are meant to do, rather than on spreading their resources too thinly (Badibanga 2013).

An MSP consists of the following phases (Woodhill 2011):

Initiating

- Clarify the reasons for an MSP.
- Undertake initial situation analysis(stakeholders, issues, institutions, power and politics).
- Establish an interim steering body.
- Build stakeholder support.
- Establish the scope, mandate and stakeholder expectations.
- Outline the process, time frame, institutional requirements and resources needs.

Adaptive planning

- Build stakeholders' understanding of each other's values, motivations, concerns and interests.
- Generate visions for the future (theories of change).
- Identify issues, problems and opportunities.
- Examine future scenarios and feasible options.

- Make decisions and agree on key strategies.
- Set objectives and identify actions, time frames and responsibilities.
- Document and communicate planning outcomes.

Collaborative action

- Develop integrated initiatives and detailed action plans.
- Secure resources and technical support.
- Develop the capacity of stakeholders.
- Establish required management structures and procedures.
- Manage the implementation process.
- Maintain stakeholder commitment.

These three phases are like a circle with the fourth phase in the middle:

Reflective monitoring

- Create a learning culture and environment.
- Define success criteria (performance questions and indicators).
- Develop and implement monitoring mechanisms. Monitoring mechanisms are very useful for dealing with complexity. When a situation is complex, there is a need to speak clear language to stakeholders. Otherwise certain groups may lose track. Speaking clear language involves not taking certain assumptions for granted. If this is done, there is a need to monitor whether these assumptions are really true.
- Review and evaluate progress and identify lessons.
- Feed lessons learned back into strategies and implementation procedures.

Monitoring and adaptation should take place during all the phases.

9.5 Theory of change as a supporting approach

A wealth of instruments and tools is available for initiating and facilitating a MSP (see <http://portals.wi.wur.nl/msp/>). Some approaches might be very helpful when developing an MSP at the local and regional levels. Among these is the ‘theory of change’. The key is to find out how change could take place effectively. For this it is useful to consider the possible theories of change. The ingredients for developing a theory of change include the formulation of a vision of success, development of outcome pathways, articulation of assumptions and consideration of the context and role of other actors, testing the logic and relevance of the theory and consulting stakeholders (<http://www.hivos.net/toc>). An example is the following. Roundtables are in want of a solution to deforestation and land tenure issues. For each of these problems, stakeholders could define various strategies together, each with their projected results, which in combination should lead to the solution of the problem. Assumptions should be critically reviewed by the stakeholders:

- Cause and effect relations: do certain actions/activities really lead to the effects that have been described?
- Another level of assumptions is that a certain impact (e.g. ‘deforestation halted’) can be reached by summing the results of the different strategies. Here an important question is: are the different strategies and their results really enough to achieve the desired impact?

It is not certain that stakeholders can reach an agreement about one theory of change for a certain problem. If so, there is also the possibility of defining more than one theory of change. Through monitoring and evaluation later on, it is possible to verify which theory of change gives the best representation of how

change is actually happening (pers. comm. J. Brouwers). The methodology of the theory of change probably works best at the local or landscape level in multi-stakeholder processes at that level. Each situation has its specific features which need specific strategies. If the aggregation level of a problem is too high, certain assumptions will only be true in part for the situations on the ground, and then the methodology will probably lead mainly to confusion.

9.6 Science and knowledge input: the NE-DEED process cycle

In order to successfully develop a multi-stakeholder process at the landscape level, practitioners, policy-makers and other actors in the landscape have to be able to correctly analyse a concrete situation of competing or conflicting resource use, have insight in the complexity of factors with influence at various scales, including asymmetries in knowledge and power, and facilitate a process of multi-stakeholder dialogue aiming at negotiated outcomes. To this end, the NE-DEED research cycle was developed by (Giller 2008) at Wageningen University. See also figure 2.

It is composed of the following phases:

- Describe: resource dynamics, historical evolution, biophysical, economic, political and social drivers.
- Explain: understand the process, investigate interactions, carry out experimentation/modelling, make interpretations with stakeholders, understand power and influence.
- Explore: trade-offs and choices, alternative resources, changing processes and scenario analysis.
- Design: set out newly explored concepts/approaches/resources, design opportunities.
- Negotiate: based on information obtained in the other phases, informed negotiation can take place.

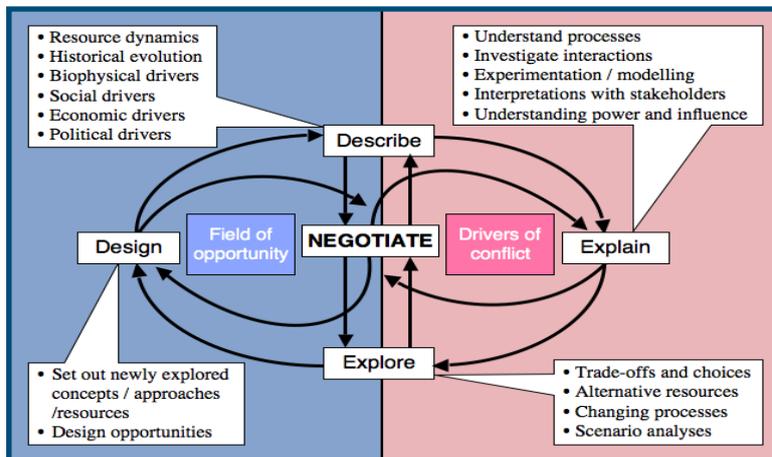


Figure 2: The NE-DEED model (source: Giller 2008). See text for explanation.

For each of these phases, different instruments have been developed. Many instruments combine the first three phases (describe, explain & explore, see the CDI internal document).

- Describe, explain & explore:
 - Scientific models
 - DPSIR methodology: qualitative description of drivers, pressures, state of natural and productive (agricultural) (eco)systems, impact of the ecosystems and responses from the government
 - Value chain analysis

- Participatory action research, a means of finding out how local actors perceive deforestation and land tenure issues, while considering these within the context of the livelihood systems of the local stakeholders
- Negotiate:
 - International value chain roundtables
 - Multi-stakeholder approaches
- Design/interventions: see section 9.7

For the concrete situation in the production areas of soy, palm oil and sugarcane the **Describe, explain & explore phases** would, for example, mean the following:

1. For outsiders, deforestation has the connotation of environmentalists starting to protest whenever a patch of forests disappears. But can we not lose any forest? *Could forest loss be acceptable to a certain extent?*
 - a. It would be important to define thresholds – minimum values of forest surface area and quality in a certain production area of soy, palm oil or sugarcane. Science could play a role here. It is possible to design a system of protected areas whereby all valuable biological diversity is represented. A rule of thumb could be that for any specific ecosystem, about 10% of the original surface area would need to be protected and that there needs to be corridors between protected areas so that plants and animals can move between them. Once this is achieved, from an ecological point of view there would probably be a sustainable situation. The remaining surface area needs to be used in a sustainable way, but in principle it can be used for crop production.
 - b. Likewise, it is possible to make an inventory of the environmental services of the forests, for example in diminishing the risk of erosion and inundation, and improving water availability. Here we enter the landscape approach: how should we furnish the landscape so that these environmental services are optimized while at the same time also keeping crop production areas?
 - c. There is also a social component to deforestation. Local communities use the forest for all types of products. Science could help to make an inventory of those products, the harvesting areas and in a participatory way estimate what would be the best way to maintain the harvesting possibilities for local people. This would need mapping and analysing competing claims from a multiple-stakeholder perspective, to understand the environmental degradation and marginalization as linked to stakeholders' interests, relationships and underlying power dynamics (Arets 2011):
2. Understanding *land tenure issues* at the local scale. A baseline study (or studies) should be performed, and an agreement with communities should be made based on the baseline. The baseline serves to understand the livelihood of communities and it could help identify strategies which sustain the communities in the way they want to live. Some level of transparency and accountability is needed in implementing the agreements. The delivery should be done in a transparent way, so that it is for the community as a whole. Help should also be given on how to invest the money in the most beneficial way (Saa, pers. comment).
3. *Scenario planning* could be a serious option. What will or what can happen and what future do stakeholders prefer for a certain production area? Scenario planning could take into consideration all aspects of deforestation and land tenure. Scenario planning could help people to change their mental map and it could increase their willingness to cooperate (Verdaas, pers. comm.).

9.7 Implementing concrete interventions

Ultimately the describe, explain & explore phases should provide input for the MSP, which is a forum for negotiations. The MSP should lead to concrete interventions in the struggle against deforestation, land tenure issues and other issues that the stakeholders deem necessary:

- *Regulatory approaches.* This includes land use planning, land tenure regulations, changes to laws and the better implementation of laws etc. As stated earlier, new governance and accountability relations need to be developed in remote areas. Likewise, the regulatory capacity to reach upstream has to be developed. Regulatory approaches can be developed by governments at different levels, but can also be a joint effort involving many stakeholders, like the further development upstream of the roundtables' certification schemes, or other arrangements between stakeholders.
- *Market incentives:* All types of incentives can be considered. This could include incentives for the production of sustainable soy, palm oil and sugarcane, but also capacity building for producer groups. As suggested in Chapter 3, high-yield agriculture can be effective in sparing forests only if coupled with incentives for agricultural expansion into lands that have already been cleared rather than existing forests.
- *Innovation of production systems,* of resource use and of social and economic arrangements (organization). This could include the introduction of improved crop varieties or varieties which serve multiple purposes.
- *Capacity building* for the different stakeholders in order to improve their functioning and the functioning of the production system in relation to the landscape system. This should include interventions that promote a change of culture, transparency, solidarity, accountability and awareness raising.

Concrete interventions have to be identified and agreed on during the MSP by the major stakeholders.

In order to maintain a good multi-stakeholder process during this implementation phase, the following actions are necessary (see 'Collaborative Action' in the previous section): (a) develop integrated initiatives and detailed action plans, (b) secure resources and technical support, (c) establish the required management structures and procedures, (d) manage the implementation process and (e) maintain stakeholder commitment.

9.8 But who takes the lead?

"Problems of competing claims are caused by forces at international, national and local level. Generally it will not be possible to identify one group of actors as the main cause of the problems. In order to solve the problems probably actions at different levels will be necessary. This implies the involvement of many actors. Then the question is: Who should take the lead, who is the main problem owner?" (Arets 2011)

MSPs are often started by governments and frequently supported (financially) by donors. This is a model that may become outdated in a not so distant future:

- **Donors** invest funds in poor countries. But a country like Brazil cannot be called 'poor', although certain regions and certain groups within society may be characterized as 'poor'. Also Paraguay is not on the country list of many donors. So probably the role of donors will be limited in processes like this.
- **National governments** in producing countries also have a role to play. The causes of the problems of deforestation and conflicts concerning land tenure include deficient legal frameworks, the deficient implementation of laws and the lack of law enforcement. These issues need

improvement but the most likely way of achieving that is to generate pressure from stakeholders, so that governments will make the necessary changes. This seems to be the case in Paraguay and Kalimantan. There is more awareness and willingness to change the situation within the governments of Brazil and Liberia. They might be prepared to take the lead, but there too, problems are very complex and cannot be solved by a few straightforward, simple measures. In other words: they also need the stakeholders to define the problem and look for mutually acceptable solutions.

When it comes to promoting sustainability, the **private sector** (in cooperation with NGOs) often takes the lead. A recent survey of Dutch companies working in international trade supply chains (not only soy, palm oil or sugarcane/ethanol) showed that the companies saw the following connections between their company and biodiversity (Overbeek 2012):

1. Dependence on natural resources, like crops
2. Dependence on specific ecosystem services, like the provision of clean water
3. The establishment of the company in vulnerable areas or the creation of partly natural areas for the production of the raw material
4. The importance of public opinion, more specifically NGOs and the government
5. Certification of suppliers upstream in the value chain

Dependence on natural raw materials and public opinion are the aspects mentioned most often. The above five reasons (or motivations) only refer to biodiversity, while this report deals with deforestation, which has a direct link with biodiversity, and land tenure issues, which is not directly linked to biodiversity. It is important to find out what could be the exact motivations causing the private sector to get involved in issues like land tenure and deforestation at the local level in the production areas of soy, palm oil and sugarcane. Ultimately they are a key actor in the possible improvement of the situation as to deforestation and land tenure issues.

Civil society can represent disadvantaged groups or represent the interests of nature, both in producer countries and in consumer countries. International NGOs can play an important role in putting the issue on the agenda of companies, because of their knowledge of the situation in production areas and their relations with local stakeholders (Overbeek 2012). In the cases described in this document, the focus is on knowledge of deforestation and land tenure issues. Another role of NGOs is to stress the communities-of-change character of the roundtables, the role of roundtables as learning communities that aim to promote improvements in sustainability, bringing development issues to the table – in brief: to stress the role of roundtables as something more than standard-setting organisations. Yet another role is, together with knowledge institutes, to give credibility to the negotiation process as seen by outside groups. And last but not least, NGOs have a role as a countervailing power or watchdog preventing the excessive influence of private companies or governments.

Knowledge institutes can provide useful information as input for the process of negotiation; they can also provide capacity building and facilitation for the process. They also have an important role in feeding and facilitating the necessary societal learning processes (C. v. Oosten 2013). In addition, (Dentoni 2012) sees a role for science in dealing with ‘wicked problems’, of which deforestation and land tenure issues are certainly examples. The main question that remains open for future research is: what combination of formal and informal engagement within and across multi-stakeholder processes can help in tackling wicked problems and contribute to value creation for both society in general and specific organizations? According to (Dentoni 2012) this should be done through ‘community action research’ in which researchers, practitioners and managers are involved.

Up to now, **roundtables** have been most visible at the international level. This document advocates fostering linkages between the private sector, governments, NGOs and knowledge institutes, not only to deal with the issues of deforestation and land tenure at the international (roundtable) level, but to do so to a much greater extent in specific geographical areas (at the landscape level). As was concluded in Chapter 2, two functions of roundtables should receive more attention: (a) learning, research and capacity development by developing and disseminating new knowledge and tools with research, piloting new approaches, training, and (b) financing by combining forces to aggregate their impact and create a more efficient funding vehicle than any individual organization could do on its own. In these situations, the existing roundtables could be an important player and could in many cases be instrumental in promoting the necessary dialogue within the multi-stakeholder process. This should be done in the first instance in *pilot schemes*.

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The value chains for different internationally traded commodities like soy, palm oil and sugar extend from the production areas in developing countries to consumers in Europe, the USA and other economically more developed areas. There is increasing awareness that all the stakeholders in these international chains need to live a socially and economically decent life. Roundtables could be promising and useful instruments for making this possible, but up to now they have faced two major challenges: (1) how to stop deforestation due to the extension of the commodity production areas, and (2) how to resolve land tenure and land rights issues, especially involving indigenous peoples. This report describes the situation in Paraguay (soy), Kalimantan in Indonesia (oil palm), Liberia (oil palm) and Brazil (sugarcane). It describes several approaches for dealing with deforestation and land tenure issues with the involvement of relevant stakeholders, especially in the production areas, and including the roundtables.

More information: www.wageningenUR.nl/cdi

