



Social sustainability of EU-approved voluntary schemes for biofuels

Implications for rural livelihoods

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Working Paper 75

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Laura German, L. and Schoneveld, G. 2011 Social sustainability of EU-approved voluntary schemes for biofuels: Implications for rural livelihoods. Working Paper 75. CIFOR, Bogor, Indonesia

Cover photo by Agus Andrianto/CIFOR

Oil palm worker, Papua, Indonesia

This report has been produced with the financial assistance of the European Union, under a project entitled, 'Bioenergy, sustainability and trade-offs: Can we avoid deforestation while promoting bioenergy?' The objective of the project is to contribute to sustainable bioenergy development that benefits local people in developing countries, minimises negative impacts on local environments and rural livelihoods, and contributes to global climate change mitigation. The project aims to achieve this by producing and communicating policy relevant analyses that can inform government, corporate and civil society decision-making related to bioenergy development and its effects on forests and livelihoods. The project is managed by CIFOR and implemented in collaboration with the Council on Scientific and Industrial Research (South Africa), Joanneum Research (Austria), the Universidad Nacional Autónoma de México and the Stockholm Environment Institute. The views expressed herein can in no way be taken to reflect the official opinion of the European Union.

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Any views expressed in this publication are those of the authors. They do not necessarily represent the views of CIFOR, the authors' institutions or the financial sponsors of this publication.

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Abbreviations

2BSvs	Biomass Biofuels Sustainability Voluntary Scheme
AU	African Union
AfDB	African Development Bank
EA	Environmental Assessment
EC	European Commission
EU RED	European Union Renewable Energy Directive
EIA	Environmental Impact Assessment
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
FNR	Fachagentur Nachwachsende Rohstoffe (Agency for Renewable Resources, Germany)
FPIC	Free, prior and informed consent
GHG	Greenhouse gas
GRI	Global Reporting Initiative
IIED	International Institute for Environment and Development
IFPRI	International Food Policy Research Institute
ILO	International Labour Organization
ISCC	International Sustainability and Carbon Certification
ISO	International Organization for Standardization
NEAP	National Environmental Action Plan
NREAP	National Renewable Energy Action Plan
RAI	Responsible Agricultural Investment
RBSA	Abengoa RED Bioenergy Sustainability Assurance
RESA	Rapid Environmental Impact Assessment
RSB	Roundtable on Sustainable Biofuels
RTRS	Round Table on Responsible Soy Association
SETAC	The Society of Environmental Toxicology and Chemistry
UNCTAD	UN Conference on Trade and Development
UNECA	UN Economic Commission for Africa
UNEP	UN Environment Programme
UN-MDG	UN Millennium Development Goals
USDA	United States Department of Agriculture
WCED	World Commission on Environment and Development

Abstract

The rapid expansion of biofuel production and consumption in response to global climate mitigation commitments and fuel security concerns has raised concerns over the social and environmental sustainability of biofuel feedstock production, processing and trade. The European Union has thus balanced the commitment to biofuels as one of the options for meeting its renewable energy targets for the transport sector with a set of sustainability criteria for economic operators supplying biofuels to its member states. Seven voluntary 'EU sustainability schemes' for biofuels were approved in July 2011 as a means to verify compliance. While mandated sustainability criteria of the EU Renewable Energy Directive (EU RED) have a strong environmental focus, a number of these voluntary schemes have

social sustainability as a significant component of their requirements for achieving certification. As several of these voluntary schemes are incipient, thereby limiting evidence on their effectiveness in practice, we have undertaken a comparative analysis of the substantive content or 'scope' of these schemes and the likely procedural effectiveness of the same. Findings show that some schemes have considerable coverage of social sustainability concerns. At the same time, three factors are likely to undermine the achievement of social sustainability through these schemes and the EU sustainability policies lending credibility to them: poor coverage of some critical social sustainability components, the presence of schemes lacking any social sustainability requirements and gaps in procedural rules.

1. Introduction

Recent years have witnessed rapid growth in demand for biofuels in the global transport sector. This trend is driven in large part by increasing concerns over global warming and by the growing economic imperative to reduce the dependency on external fossil fuels, a concern amplified by the more recent instability in the global oil markets.

The commercial production of biofuels is not a new phenomenon or a product of recent technological advances. The domestic blending of biofuels for use in the transportation sector has, for example, been part of initiatives to diversify the energy matrix since the energy crises in the 1970s in countries such as Brazil and the United States. Yet with need for long-term fiscal support, lack of political resolve has until recently inhibited sector development in most parts of the world.

In recent years, as part of a reinvigorated commitment to the renewable energy economy, a significant number of predominantly industrialised countries have adopted measures to promote domestic biofuel uptake. One of the most significant and comprehensive of initiatives to promote the incorporation of renewable energy sources (including biofuels), is Directive 2009/28/EC adopted by the European Parliament on 23 April 2009, commonly referred to as the EU Renewable Energy Directive (RED).¹ As proposed in the Renewable Energy Roadmap of 2007, the EU RED mandates that 20% of the EU's energy consumption consists of renewable sources by 2020. As part of the EU RED, all member states are required to derive 10% of energy in the transportation sector from renewable energy sources by 2020; it's anticipated that most, but not all, will be derived from biofuels.

To minimise the negative environmental impacts of biofuel production and ensure compliance with the Kyoto Protocol, the EU RED promulgates a set of biofuel sustainability criteria with which economic

operators must comply for biofuels to contribute towards the 2020 target.² One way for operators to gain access to this policy-induced market opportunity is to certify their operations under one of the 'voluntary schemes' approved by the EC.

As the first and most progressive regulatory innovation of its kind, the adoption of the biofuel sustainability criteria throughout the EU is an important incentive for biofuel producers to adopt environmentally responsible production practices. With the EU projected to become the largest importer of biofuels by 2020 – with anticipated annual imports of 15.9 billion litres compared to 10.8 billion litres by the United States (OECD/FAO 2010, Bowyer 2010) – the sustainability criteria are likely to have significant long-term global relevance. Yet with so much attention given to environmental dimensions of sustainability, what are the likely consequences for social sustainability?

Although the EU RED generates new trade and investment opportunities for developing countries with abundant agroecologically suitable land, it also carries a host of socio-economic risks. Biofuel feedstock plantations could infringe on poorly protected (e.g. customary) rights to land and resources, leading to the displacement of traditional land-use systems (German *et al.* 2011). They could also displace or divert food crops to the fuel sector, inducing food price inflation and/or supply constraints (FAO 2008), or lead to the abuse of international labour rights in countries with weak regulations and poor enforcement (de Schutter 2009). Against this background, this paper assesses the social dimensions of the first seven biofuel sustainability schemes approved by the European Commission (EC) for verifying compliance of economic operators with EU RED sustainability criteria. By so doing, we highlight the extent to which a push towards environmental sustainability could undermine, rather than advance, the very rural development aims justifying the sector's expansion in the global South.

1 The adoption of the EU RED effectively amends and repeals Directive 2001/77/EC on the promotion of electricity produced from renewable energy sources and Directive 2003/30/EC on the promotion of the use of biofuel or other renewable fuels for transport.

2 While biofuels are technically renewable, the cultivation of biofuel feedstock has been widely criticised for driving the conversion of land with high biodiversity and carbon stocks – contributing to some biofuels actually having a negative greenhouse gas (GHG) balance (Fargione *et al.* 2008, Koh and Wilcove 2008, Lapola *et al.* 2010, Plevin *et al.* 2010).

2. Sustainability schemes for biofuels under the Renewable Energy Directive of the EU

2.1 Biofuels/bioliquids and the Renewable Energy Directive (RED)

The RED's overarching objective is to ensure that at least 20% of the EU's gross final consumption of energy in 2020 consists of renewable energy. Incorporation targets differ by member state to account for country-specific capacities to adopt renewable sources; Sweden's target, for example, is 49%, while Malta's is only 10% (EC 2009, Annex 1A). However, the EC has mandated each member state to ensure the share of energy from renewable sources in all forms of transport in 2020 is at least 10% of final consumption (EC 2009, Article 3[4]). Each member state must develop National Renewable Energy Action Plans (NREAPs) to specify how it will reach these targets.

Although the transportation sector can use various renewable energy sources to achieve this target, conventional biofuels³ are anticipated to contribute the lion's share (88%) by 2020 (Bowyer 2010). Between 2010 and 2020, in large part due to this mandate, demand for biofuels in the EU is expected to increase by an estimated 230% to 38.3 billion litres. In aggregate, external (non-EU) sources are expected to provide 41.5% of this demand (calculated from Bowyer 2010). In practice, however, this percentage could be higher: the NREAPs are unclear whether import figures refer exclusively to imported biofuels or also imported feedstocks that are processed into biofuels domestically.

According to Atanasiu (2010), large European oil-consuming economies anticipate high levels of dependency on imported biofuels by 2020, including Denmark (100% dependency), the United Kingdom (87.7%), Ireland (70%), Greece (67%), the Netherlands (61.8%) and Germany (58.7%).

3 Conventional or first-generation biofuels are produced primarily from agricultural feedstocks, such as oil seed, starch and sugar crops. Second-generation biofuels, on the other hand, are derived from ligno-cellulosic materials through biomass-to-liquid conversion technologies.

While NREAPs do not specify how bioliquids⁴ are expected to be sourced, sourcing patterns are not likely to differ significantly from sourcing patterns for biofuels. On the basis of consumption projections reported in NREAPs, the ratio of biofuel to bioliquid consumption is estimated to be 5:1 by 2020. With biofuels only recognised as a fuel to be used in transport, the transportation sector is expected to be the primary source of demand for biomass fuels.

2.2 Sustainability criteria for biofuels/bioliquids

To guarantee the use of biofuels/bioliquids contributes to reducing greenhouse gas emissions – one of the key underlying objectives of the EU RED – Article 17 of the EU RED puts forth a set of sustainability criteria. Biofuels/bioliquids that fail to meet these criteria are not excluded from use; however, only those fulfilling these criteria count towards the 2020 renewable energy target and are eligible for financial support. The sustainability criteria apply irrespective of where the feedstocks are cultivated.

The sustainability criteria can be summarised as follows:

1. Greenhouse gas (GHG) emission savings from biofuel/bioliquids consumption should be at least 35%, increasing to 50% by 2017. Installations that commence production after 1 January 2018 are required to reduce emissions by 60%.
2. Biofuels/bioliquids cannot be produced from raw materials obtained from land with high biodiversity value. This includes land that in or after January 2008 had the following status: (a) primary forest, (b) designated as natural protected area, and (c) highly biodiverse grassland.

4 As per EU RED definitions, 'bioliquids' are liquid fuels produced from biomass and used for non-transport purposes (e.g. electricity and heating). Biofuels, on the other hand, are defined as liquid or gaseous fuel produced from biomass used exclusively for transportation purposes.

3. Biofuels/bioliquids cannot be produced from raw materials obtained from land with high carbon stock. This includes land that in or after January 2008 had the following status: (a) wetlands saturated either permanently or for a 'significant part of the year', (b) forest land with trees higher than 5 metres and a canopy cover of more than 30% (or capable of achieving these values), and (c) forested land with a canopy cover of between 10 and 30%, unless it can be proven that GHG emission reduction targets can still be achieved following conversion.
4. Peatlands cannot be converted unless it can be demonstrated that it does not involve draining previously undrained soil.
5. The cultivation of agricultural raw materials should conform to the minimum requirements of good agro-environmental practices as specified in Council Regulations (EC) No 73/2009 – relating only to EU farmers.
3. Convention concerning the Application of the Principles of the Right to Organise and to Bargain Collectively (No 98).
4. Convention concerning Equal Remuneration of Men and Women Workers for Work of Equal Value (No 100).
5. Convention concerning the Abolition of Forced Labour (No 105).
6. Convention concerning Discrimination in Respect of Employment and Occupation (No 111).
7. Convention concerning Minimum Age for Admission to Employment (No 138).
8. Convention concerning the Prohibition and Immediate Action for the Elimination of the Worst Forms of Child Labour (No 182).

Social sustainability in the RED is left to a mechanism in which,

The Commission shall, every two years, report to the European Parliament and the Council on the impact on social sustainability in the Community and in third countries of increased demand for biofuel, on the impact of Community biofuel policy on the availability of foodstuffs at affordable prices, in particular for people living in developing countries, and wider development issues. Reports shall address the respect of land-use rights (EC 2009: 38).

These reports, the first of which is to be submitted in 2012, must also state whether member states and third countries 'that are a significant source of raw material for biofuel consumed within the Community' have ratified and implemented the following International Labour Organization (ILO) conventions⁵:

1. Convention concerning Forced or Compulsory Labour (No 29).
2. Convention concerning Freedom of Association and Protection of the Right to Organise (No 87).

⁵ The ILO Convention on indigenous and tribal peoples is not included in the list.

Corrective action is envisioned 'in particular if evidence shows that biofuel production has a significant impact on food prices' (EC 2009: 28). Nothing within the Directive itself currently holds operators accountable to social sustainability. However, this reporting mechanism is likely to create incentives for operators and the sustainability initiatives to which they subscribe to be attentive to internationally recognised labour standards and the impacts of operations on food prices. In 2011, the EC is planning to develop an additional set of 'non-mandatory' criteria of unknown scope to complement those already in operation (EC 2011a).

2.3 Verification of compliance

To ensure sustainability criteria are fulfilled, member states require economic operators to provide proof of compliance.⁶ Operators can do this in one of three ways:⁷

1. **By gaining certification under a 'voluntary scheme' approved by the EC.** A voluntary scheme can, but is not required to, apply to specific feedstocks or areas and any type of organisation can promote it (e.g. government, private sector, multi-stakeholder body). An

⁶ Economic operators include any organisation responsible for one or more steps in the chain-of-custody (e.g. cultivation, processing, distribution).

⁷ This includes only sustainability criteria one to four. For criterion five, member states are expected to use existing control systems for ensuring farmers meet the requirements.

approved voluntary scheme is recognised in all member states.

2. **Providing data to relevant national authorities through a 'national system' of compliance, which each member state is required to develop.** Biofuels/bioliquids approved under a national system are normally only recognised in that country (EC 2011b).
3. **By fulfilling terms specified in relevant 'bilateral or multilateral agreements' with third countries concluded by the EC.** EC decisions to this effect would apply to all member states.

The EC expects that the vast majority of biofuels consumed will be certified through voluntary schemes (USDA 2011). On 19 July 2011, the EC officially approved the first seven voluntary schemes, which had met the minimum requirements.⁸ Another 18 schemes are still pending approval (EC 2011b). As of yet, no decisions on bilateral or multilateral agreements have been made. That said, according to the USDA (2011), the United States made advances to the EC regarding an agreement that would recognise US environmental protection laws. Furthermore, with most member states falling behind on transposing the EU RED into national legislation, few national schemes have, to date, become operational.

The recently approved voluntary schemes are, therefore, currently the most pertinent to putting approved sustainability criteria into operation. The approved voluntary schemes are valid for no more than five years; extensions are subject to a new decision by the EC. Should conclusive evidence show that a scheme fails to follow the agreed set of rules,

the EC may prematurely revoke the recognition of the scheme for the purpose of the EU RED.

2.4 Approved voluntary schemes for biofuels/bioliquids

A variety of different organisations have contributed to the development of voluntary schemes approved by the EC (Table 1). These range from single-actor renewable energy enterprises to industry consortia and multi-stakeholder associations involving representatives from various interest groups (e.g. non-government organisations, research institutions, government and industry). Three of the schemes apply to all types of biofuels, regardless of origin; three target exclusively the ethanol sector (two of which pertain only to sugarcane); and one targets soybean-based biodiesel.

Commercial biofuel companies promote two of the ethanol schemes, principally to ensure company supplies meet the RED sustainability criteria and are thereby recognised and marketable throughout the EU. The majority of approved schemes, however, were developed through non-profit multi-stakeholder associations (typically as roundtables). A number of these schemes (RTRS, RSB and Bonsucro) are RED customizations of existing certification systems that have a geographic and/or sectoral orientation beyond the EU biofuel market. However, these core underlying certification schemes are still works in progress; to date, none have achieved widespread industry acceptance or critical mass.

⁸ Besides strict adherence to the RED sustainability criteria, requirements relate, among others, to the quality of the verification system (e.g. auditability, independence) and a reliable 'mass balance system' (e.g. chain of custody). For more information, see EC 2010/C 160/01.

Table 1. Overview of approved voluntary schemes for biofuels/bioliquids

Name	Type of promoter	Location	Feedstock	Geographic focus	Description
Abengoa RED Bioenergy Sustainability Assurance (RBSA)	Commercial enterprise	Spain	All ethanol feedstocks	Global	Abengoa is one of Spain's largest multi-nationals, with a strong emphasis on the renewable energy sector. Its bioenergy subsidiary is the largest biofuel producer in Europe. The RBSA was developed specifically to ensure that ethanol from Abengoa complies with the RED.
Biomass Biofuels Sustainability Voluntary Scheme (2BSVs)	Industry consortium	France	All	Global	The 2BSVs was developed by a consortium of French biofuel companies and associations specifically for the RED. The scheme is being implemented by the certification body Bureau Veritas.
Bonsucro EU Production Standard	Multi-stakeholder association	United Kingdom	Sugarcane	Global	Previously known as the Better Sugar Initiative (BSI), Bonsucro is a roundtable association initiated in 2005 to reduce the environmental and social impact of sugarcane cultivation. Their EU production standard complements Bonsucro's existing certification scheme.
Greenenergy Brazilian Ethanol Verification Program	Commercial enterprise	United Kingdom	Sugarcane	Brazil	Greenenergy, a private fuel supply company, is the principal biofuel supplier in the UK. The majority of its ethanol supplies are sourced from Brazilian sugarcane-based ethanol. Approval of its sustainability criteria, developed with support from ProForest, has enabled the company to gain access to all EU markets.
International Sustainability and Carbon Certification (ISCC)	Multi-stakeholder association	Germany	All	Global	The ISCC was developed through a multi-stakeholder approach, with financial support from the Agency for Renewable Resources (FNR). The ISCC was accredited under the German Biomass Law in early 2010, the first certification system of its kind to be recognized by a Member State.
Roundtable on Sustainable Biofuels (RSB)	Multi-stakeholder association	Switzerland	All	Global	The RSB was formed in 2006 and is currently coordinated by the Energy Center at the École Polytechnique Fédérale de Lausanne (EPFL). With members from a large variety of interest groups, the RSB is seeking to develop a globally recognized biofuel certification system.
Round Table for Responsible Soy (RTRS) EU RED	Multi-stakeholder association	Argentina	Soybean	Global	The RTRS was established in 2006 in Zurich, with its Secretariat now located in Buenos Aires. The RTRS EU RED complements its existing scheme, focusing largely on soy-based biodiesel from Brazil and Argentina.

Source: Compiled from individual websites

3. Conceptual framework and methodology

3.1 Conceptual framework

A precise definition of social sustainability that is both comprehensive and operational is difficult to find (Foot and Ross 2004). Much of the recent attention on social dimensions of sustainability derive from the Brundtland Commission's definition of sustainable development – namely, 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs' (WCED, 1987: 8). Key to this concept is an emphasis on inter- and intra-generational equity.

Subsequent efforts to define social sustainability and socially responsible investment cover a broad and unwieldy set of components – from the development assistance community's emphasis on poverty reduction to the international community's emphasis on human, labour and indigenous rights and the private sector's orientation towards socially responsible investment and sustainable product life cycles (ILO 1989, 1998, UN 2007b, Benoît and Vickery-Niederman 2010, FAO *et al.* 2010). The last of these – which operationalises social sustainability according to key stakeholder groups – includes issues as diverse as labour and human rights, community involvement and development, technology and human resource development, consumer concerns and product responsibility, impacts on value chain actors and competitors, societal impacts, transparent reporting and economic performance (UNEP/SETAC [no date], ISO 2010, GRI 2011).

Translation of these wider principles of social sustainability into a normative framework for use by corporations to gain social legitimacy has inevitably simplified responsibilities for often complex social and economic impacts. For the sake of analytical simplicity, we too employ a simplified conceptual framework for evaluating the voluntary schemes treated in this paper. This conceptual framework focuses exclusively on local impacts in producer countries.

Our framework draws on social sustainability parameters derived from internationally recognised standards for labour (e.g. aforementioned ILO conventions) and development-based displacement (UN 2007a), as well as key documents from known authorities on issues related to agricultural investment, food security and land tenure and acquisition (EC 2004, AU 2009, BMZ 2009, de Schutter 2009, FAO 2009, FAO *et al.* 2010, Taylor and Bending 2009, Liversage 2011).

This approach leaves important social sustainability dimensions such as value chain and societal impacts (e.g. economic multipliers, revenue generation, corruption, transparency) beyond the scope of analysis. However, it enables systematic treatment of the key social sustainability parameters treated by the sustainability schemes that are the subject of analysis. To bridge this gap, we touch on wider social sustainability implications in the discussion and conclusions. Key parameters in the analytical framework and their scope are summarised below.

Labour rights

Biofuel investments may uphold or undermine domestic and international labour laws depending on the practices employed in the hiring of agricultural labourers. These include the following:

- The protection (or not) of workers' rights to organise and collectively bargain for improved conditions.
- The practice (or not) of compulsory or child labour and discrimination in hiring.
- The (often exploitative) systems used to provide advances on or deduct from wages, and the conditions of hire (whether seasonal or full-time, temporary or permanent, with or without formal contract) (de Schutter 2009).
- The practices employed by outgrowers with which companies have entered into contract. This may occur through the duration of contracts,

the extent to which the conditions of loans or terms of payment are made transparent in the contracts, or the extent to which child or forced labour is employed on these farms (German *et al.* in press).

The key authority on labour rights is the ILO, whose Declaration on Fundamental Principles and Rights at Work provides the basic guidelines for protecting the human rights of agricultural labourers. The Declaration contains four core principles, backed up by their respective conventions:

1. Freedom of association and the effective recognition of the right to collective bargaining (Conventions 87 and 98).
2. Elimination of all forms of forced or compulsory labour (Conventions 29 and 105).
3. Effective abolition of child labour (Conventions 138 and 182).
4. Elimination of discrimination in respect of employment and occupation (conventions 100 and 111) (ILO 1998).

The ILO Convention concerning Occupational Safety and Health and the Working Environment also outlines key principles for worker health and safety (ILO 1981).

Land and resource rights

Biofuel feedstock production, processing and trade may affect local land and resource rights in two ways: through the direct acquisition of titled or untitled (often customary) land and resources by biofuel investors, and by shaping which local rights are recognised in the process of negotiating access (BMZ 2009, Cotula *et al.* 2009, German *et al.* 2011).

Land and resource rights may also be affected by restricting existing rights (e.g. through agreements between investors and small-scale producers that place restrictions on use or employ land as collateral for loans); through off-site environmental effects; or through indirect effects on local land markets (BMZ 2009, de Schutter 2009, German *et al.* 2010).

The main social sustainability principle put forward by various authorities is the need to recognise and respect local land rights, both formal and informal.

BMZ (2009), FAO (2009) and FAO *et al.* (2009) recognise a number of key steps in the process of recognising local and customary land rights in the context of large-scale land acquisitions. These include the following:

- Identification and documentation of all existing ownership and use rights.
- Voluntary, fair, informed and transparent negotiations with all affected land users to agree whether rights are to be transferred to investors, which rights, how this is to be done and on what conditions.
- Fair compensation for all foregone rights.
- Establishment of independent grievance mechanisms for negatively affected parties to raise concerns.

Most authorities endorse the need to recognise all existing use and ownership rights, both statutory and customary, primary and secondary, formal and informal, individual and collective (EC 2004, AU/ AfDB/UNECA 2009, de Schutter 2009, FAO 2009, Taylor and Bending 2009, FAO *et al.* 2010). The right to self-determination espoused in international human rights law includes the right to freely pursue one's economic, social and cultural development without outside interference and the principle that no people may be deprived of its own means of subsistence (de Schutter 2009). This, in turn, lends support to free, prior and informed consent (FPIC) as the basis for land negotiations and suggests the need to ensure livelihood reconstruction in the context of land loss.

This view is further supported by FAO Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests (FAO 2009). These guidelines recognise the principle of FPIC, the need for effective consultation with all members of a community and decision-making processes free of intimidation. They further support the notion that agreements should be periodically reviewable (thus enabling learning); understood by all; gender-sensitive; and that indigenous people and other vulnerable groups should be provided with information and support so they can participate effectively. While most authorities stress the unacceptability of involuntary displacement, several recognise its inevitability under certain circumstances

in which it is deemed to be in the public interest, aligned with national and international law and countered through full compensation and livelihood rehabilitation (de Schutter 2009, UN 2007a).

Food security

Biofuel feedstock production, processing and trade may contribute to food insecurity through two key pathways:

- Through increased food prices, which may in turn result from large volumes of food crops being shifted into bioethanol and biodiesel production; increased overall demand for feedstock with multiple end-uses; and the impact of these two processes on supply-demand imbalances for substitute foods (Rosegrant 2008).
- Large-scale land acquisitions for biofuel production can displace local food production and productive resources essential to rural livelihoods and purchasing power. They can also divert scarce productive resources (e.g. land, water, labour) from food to biofuel production (BMZ 2009, FAO *et al.* 2010).

These same processes can divert food from the domestic to export markets, thereby increasing the dependency of producer countries on international markets to achieve food security (BMZ 2009, de Schutter 2009, FAO *et al.* 2010).

The principles for Responsible Agricultural Investment (RAI) suggest that potential adverse effects on food availability, access, utilisation or stability should be countered for 'local' and 'directly affected' populations. This could be done by ensuring equivalent access to food, considering local dietary preferences, increasing purchasing power through opportunities for outgrower involvement in feedstock production and off-farm employment, avoiding the diversion of productive crop land away from food production, and adoption of strategies to reduce instability of supply – for example by preventing the export of large volumes of food when specific market conditions occur (FAO *et al.* 2010).

According to the UN Special Rapporteur on the Right to Food, investors should be required to ensure that a minimum proportion of crops produced are

sold on local markets (with levels adjusted to the prices of food commodities on international markets) and encouraged to establish labour-intensive farming systems (de Schutter 2009). BMZ, on the other hand, focuses on the need to ensure transparency in contract negotiations through documentation (e.g. of goals, conditions, permitted uses, amount and use of revenues), posting and monitoring (of adherence to agreements and impacts). BMZ also emphasises respect for the human right to food; international standards related to the environment, labour, forced displacement and indigenous land rights; and commitments enshrined in international trade and investment agreements.

Livelihood impacts and contributions to rural development

Biofuel investments may create a host of positive and negative, intended and unintended impacts, as highlighted in the above sections. They may also contribute to rural development through the provision of social services and infrastructure; through the provision of capital, technical support or market opportunities to assist smallholder farmers in overcoming barriers to market entry; through re-investment of land rents to support local economic development; or through benefit-sharing arrangements with local communities (de Schutter 2009, FAO *et al.* 2010, Vermeulen and Cotula 2010).

International and national standards on social impacts are generally addressed through widely accepted standards related to environmental and social impact assessments, promulgated by the World Bank (World Bank 1991, 1999). While most of the aforementioned authorities stress the need to comply with national and international laws, it is only the Principles for Responsible Agricultural Investment that explicitly address the need to identify and mitigate social impacts – requiring that 'relevant social issues and risks, as well as strategies to mitigate these and increase social benefits, are identified during project preparation and adequately addressed by ... investors' (FAO *et al.* 2010:16).

There is no explicit linkage between EC-RED sustainability criteria and adherence to Environmental and Social Impact Assessment

(ESIA) practices. Still, those standards requiring the identification and mitigation of social impacts and/or compliance with national laws (most of which require projects to carry out EIAs) would have EIAs or ESIA as a key feature in efforts to mitigate negative impacts on rural livelihoods. The breadth and quality of indicators and their effective enforcement, however, is critically important for these processes to effectively contribute to mitigating the social risks of biofuel investments.

FAO's Voluntary Guidelines are perhaps the least ambitious in regards to investor contributions to rural livelihoods. They emphasise the principle of 'doing no harm' (e.g. through displacement and dispossession of rights, violations of human rights or undermining food security), while also making positive contributions to rural and urban development, employment creation and livelihood diversification.

Other authorities emphasise going beyond generating improvements to local livelihoods to ensure 'fair sharing of benefits' (BMZ 2009, Taylor and Bending 2009), 'durable shared value' and 'social sustainability' (FAO *et al.* 2010). The notion of fair sharing of benefits includes opportunities to benefit from growing economic rents, either by the state on behalf of the poor or directly by the poor themselves (BMZ 2009, Taylor and Bending 2009).

While alternative business models are also emphasised, these are not panaceas; they are often subject to similar power imbalances as large-scale plantations. The concept of 'durable shared value' includes both the need to ensure investments are economically viable (to ensure up-front livelihoods costs are countered by future benefits) and the need for investments to generate tangible benefits for affected communities, the wider project area and host country (FAO *et al.* 2010). 'Social sustainability', on the other hand, emphasises the need to generate

desirable *social* and *distributional* impacts (e.g. employment, technology spillovers, provision of public goods, 'considering the interests of vulnerable groups and women'), in addition to avoiding increased vulnerability.

Cross-cutting principles

These same authorities also mention a number of cross-cutting principles as fundamental to managing the social impacts of investments. These include a focus on ensuring transparency in: processes for accessing land; making associated investments; monitoring impacts; and in the use of revenue derived from land transactions (de Schutter 2009, Taylor and Bending 2009, FAO *et al.* 2010). They also emphasise general processes for strengthening community-investor relations, ensuring local participation and providing means for recourse – in particular the need to draw on the principles and practices of FPIC (Taylor and Bending 2009, FAO *et al.* 2010).

3.2 Methodology for assessing scope and procedural effectiveness

We assessed the different voluntary standards based on both scope and on procedural effectiveness. Scope here refers to the breadth and depth of treatment of the different concerns raised in the framework. We devised a set of codes to rank the social scope of each standard based on the above framework.

As evidence for effectiveness in practice is limited, this was assessed based on: (i) the extent to which key provisions in the scope of the standard are binding; (ii) conditionalities employed in the application of the different principles and criteria; and (iii) the extent to which assessments of performance are likely to be independent.

The operational effectiveness of the standard in enhancing social standards associated with biofuel investments is assumed to result from a combination of both scope and procedural effectiveness.

4. Treatment of social sustainability by approved voluntary schemes

This section evaluates the scope of the different sustainability schemes, along with their likely procedural effectiveness.

4.1 Scope of treatment

On the basis of scope alone, the Roundtable on Sustainable Biofuels (RSB) standard clearly has the largest number of social sustainability components (Table 2). Its scope relative to the other standards, and vis-à-vis key components of the conceptual framework, suggests it constitutes a 'Tier I' scheme from a social sustainability standpoint.

The next tier of standards, which incorporate some social sustainability criteria but with less breadth than the RSB, includes Bonsucro, Greenergy, International Sustainability and Carbon Certification (ISCC) and the Round Table on Responsible Soy Association (RTRS).

The lowest tier, including Biomass Biofuels Sustainability Voluntary Scheme (2BSvs) and Abengoa RED Bioenergy Sustainability Assurance (RBSA), lacks any social sustainability criteria. We include the lowest tier in the analysis nevertheless as an illustration of the social risks associated with feedstock and biofuels that otherwise comply with EU 'sustainability' criteria.

Cross-cutting issues

In terms of cross-cutting components of these schemes, we observed some key differences among Tier 1 and 2 standards.

Bonsucro, ISCC and RSB all make compliance with national laws and regulations and international agreements a general requirement for operators. Greenergy, on the other hand, only requires legal compliance with those laws relating to the sustainability criteria covered by its standard; RTRS only requires compliance with national and sub-national laws.

Procedures for community consultation, communication and participation also vary according to the extent to which they acknowledge and specify the diversity of local stakeholders, the comprehensiveness of the consultation process (e.g. over what, the process to be used and whether decisions must be reached by consensus) and the independence of verification procedures (e.g. as reported by whom).

The RSB makes gender-sensitive free, prior and informed consent (FPIC) the basis for all stakeholder consultation. It also chooses consensus as the method for reaching decisions with affected stakeholders. In addition, the standard has a tool for stakeholder identification, specifies stakeholders to be consulted (including 'locally-affected stakeholders', 'local leaders', 'representatives of community and indigenous peoples'), and requires a stakeholder analysis as part of the impact assessment process.

Bonsucro requires 'transparent, consultative and participatory processes with all relevant stakeholders,' as measured through two factors: the presence of a recognised grievance and dispute resolution process and at least 90% of meetings having led to agreements through consensus-based decision-making. Other than stating that the process should be gender-sensitive and include indigenous people, it provides little clarity on who should be consulted or what constitutes a 'stakeholder'.

The Greenergy standard requires that operators have procedures to 'consult and communicate with local populations and interest groups' on activities that may negatively affect their statutory or customary 'rights, property, resources or livelihoods'. It is thus in essence reduced to a social impact assessment and mitigation process. Furthermore, indicators and means of verification are restricted to the presence of company policies and procedures on consultation; lists of communities and interest groups; records of consultations and the actions taken as a result of input from interest groups; and documentation of

Table 2. Social components of biofuel certification programmes qualifying for EC-RED

Parameter	Components	Bonsucro	Greenenergy	ISCC	RBSA	RSB	RTRS	2BSvs
Cross-cutting	Compliance with national and sub-national laws	■	■	■	—	■	■	—
	Compliance with international laws and agreements	■	—	■	—	■	—	—
	Procedures for local consultation, communication and participation	■	■/■	■	—	■ ¹	■	—
Labour rights	Grievance and dispute resolution mechanism in place	■	—	■	—	■	■	—
	Transparency mechanisms	■	—	—	—	■	—	—
	Compliance with national labour laws	■	■	■	—	■	■	—
	Minimum age and child labour	■	■	■	—	■	■	—
	Occupational health, safety and emergency response	■	■	■	—	■	■	—
	Right to organize and collectively bargain	■	■	■	—	■	■	—
	Non-discrimination and equal opportunity	■	■	■	—	■	■	—
	Prohibitions on forced and bonded labour	■	■	■	—	■	■	—
	Gender equity in wages	—	■	■	—	■	■	—
	All workers have a contract	■	■	■	—	—	■	—
	Fair/legal/negotiated wage (full- and part-time)	■	■	■	—	■	■	—
	Maximum working hours and overtime	(■)	(■)	■	—	■	■	—
	Nature and permanence of jobs created	—	—	—	—	■ ²	—	—
	Coercion, abuse, harassment and intimidation	—	—	—	—	■	■	—
	Workers informed of labour rights	—	■	—	—	—	■	—
	Safeguards against indebtedness	—	■	—	—	—	■	—
	Mechanisms for staff representation	—	—	■	—	—	—	—
	Fair contract farming policies/practices	—	—	■	—	—	—	—
	Social services for employees	—	—	■	—	—	—	—

continued on next page

Table 2. Continued

Parameter	Components	Bonsucro	Greenenergy	ISCC	RBSA	RSB	RTRS	2BSVs
Land and resource rights	Proof of legal ownership or lease	■	■	■	—	—	■	—
	Proof that land tenure is not under dispute	■	—	—	—	■	—	—
	Prohibition of involuntary land acquisition/resettlement	—	(+)	—	—	■	—	—
	FPIC as the basis for decision-making on the relinquishment of rights by all land owners and users	—	■	—	—	■	■	—
	Identification of customary land and resource rights	—	■	(+)	—	■	■	—
	Identification of potential impacts on customary rights, property and resources	(+)	■	—	—	■	—	—
	Livelihood baselines for affected land users	—	—	—	—	■	—	—
	Mitigation of negative effects on rights, land and resources	(+)	■	■	—	■	—	—
	Compensation for lost assets (land, crops, economic trees, 'improvements')	—	—	—	—	■	■	—
	Compensation for loss of access rights to common property resources	—	—	—	—	—	—	—
Food security	Livelihood reconstruction for land/resource-losing households	—	—	—	—	■	—	—
	Proof of effectiveness of compensation, livelihood reconstruction and impact mitigation efforts	—	—	—	—	■	—	—
	Assessment of risks to food security	—	■ ³	—	—	■	—	—
	Food security baseline	—	—	—	—	■ ⁴	—	—
	Mitigation of food security impacts	—	(+)	■	—	■	—	—
	Enhancement of local food security	—	—	—	—	■ ⁴	—	—
	Providing opportunities for employees to carry out household-level food production	—	—	—	—	■ ⁵	—	—
	Setting aside land in estates for local food production	—	—	—	—	■ ⁵	—	—
	Proof of effectiveness of food security impact mitigation efforts	—	—	—	—	■	—	—

Table 2. Continued

Parameter	Components	Bonsucro	Greenenergy	ISCC	RBSA	RSB	RTRS	2BSvs
Livelihood impacts and rural development	Mechanisms for ensuring the economic viability of the investment	(+)	—	—	—	■	—	—
	Social impact assessment	■	■	■	—	■ ⁶	(+)	—
	Mitigation of negative socio-economic impacts	■	■	■	—	■ ⁶	■	—
	Investment in durable shared value (e.g. profit sharing, smallholder business models)	—	—	—	—	■ ⁷	—	—
	Improvements in socio-economic status	—	—	—	—	■ ²	—	—
	Special programmes benefiting vulnerable groups	—	—	—	—	■ ²	—	—
	Preferential employment practices	—	—	—	—	■ ²	—	—
	Preferential goods and service provision	—	—	—	—	—	■	—
	Skills training and/or support to extension	■	—	—	—	■ ²	■	—
	Mitigation of negative effects of mechanization	—	—	—	—	■ ²	—	—
	Contributions to social services and infrastructure	—	—	—	—	■ ⁷	—	—

1 The RSB standard makes free, prior and informed consent the 'basis for all stakeholder engagement and consultation processes' (Principle 2, Criterion b).

2 Applicability restricted to 'regions of poverty'.

3 Through a livelihood impact assessment lens.

4 Applicability restricted to 'regions of food insecurity' and within these regions to 'directly affected stakeholders'.

5 Optional – one of several possible means to comply with Criterion 6b in 'regions of food insecurity'.

6 For the RSB standard, a screening process to identify social risks and an environmental and social management plan are required for all operators. An Environmental and Social Impact Assessment or Rapid Environmental and Social Assessment are also required in cases where the screening process identifies significant risks.

7 One of several options for operators working in a 'region of poverty'.

Note: The size of the squares indicates how comprehensive the standard is, relative to the above framework and to other schemes; the brackets indicate social dimensions that could be addressed indirectly, through other activities.

■ = high, ■ = moderate, ■ = low

Sources: RSB (2010a, 2010b, 2011a), RTRS (2010, 2011a), Abengoa Bioenergy (2011), 2BSVS (2011), Bonsucro (2011), Greenenergy (2011a), ISCC (2011b)

plans *or* actions to mitigate negative impacts. The standard is limited in three ways: its specification of who should be consulted (with gender conspicuously ignored), its mode of consultation ('consultation and communication' rather than consent), and in regards to outcomes that should be achieved.

The ISCC standard does little to ensure effective community relations outside of the following: a complaint form or mechanism for affected communities and a commitment to engage in a continued dialogue around issues highlighted in a social impact assessment.

The RTRS standard requires evidence of communication channels and dialogue, but restricts this to matters relating to soy farming and its impacts. Furthermore, it does not go beyond 'the community' in specifying who should be involved. And like ISCC, a grievance mechanism must exist but does not need to be considered legitimate by all involved parties.

The RSB standard goes the furthest in specifying which stakeholders must be considered under different principles and indicators. Yet loopholes exist in all standards in ensuring effective consultation (and consent/consensus) of all affected households – exposing the process to deficiencies in coverage and representation.

Transparency commitments are limited for all standards. RSB and Bonsucro require transparency in the context of social impact assessment, and Bonsucro professes a commitment to information disclosure on operators' social performance to stakeholders. While Bonsucro also mentions this as a value to be upheld within stakeholder engagement processes, it is absent in indicators for evaluating the performance of these processes.

Labour rights

Those standards which cover labour rights all require compliance with national labour laws and international conventions related to child labour; non-discrimination; occupational health and safety; the right to organise and collectively bargain; and forced labour. This relatively strong and even treatment of the fundamental labour standards is

likely in response to the EC-RED's intention to monitor producer-country compliance with these same conventions. Interestingly, only the RSB standard commits to gender equity in wages, with Greenergy, ISCC and RTRS committing to non-discrimination in the form of equal pay for work of equal value (in line with ILO Convention 100).

All other labour-related commitments of operators fall outside the realm of EC-RED monitoring commitments.

Regarding wages, the Bonsucro, Greenergy, RSB and RTRS standards require that all workers, irrespective of status (migrant, seasonal, contract), receive at least the minimum wage (or, in the case of Greenergy, the higher of the minimum wage and industry standard). In addition to requiring the national or industry minimum wage, the ISCC requires wages to be sufficient to meet basic needs of personnel and to provide some discretionary income. While only the ISCC, RSB and RTRS have explicit commitments to maximum working hours, commitments to compliance with national labour laws in the Bonsucro and Greenergy standard would presumably achieve this indirectly. Only the ISCC specifies that overtime must be paid at premium rates.

Regarding the provision of social services for employees, the ISCC requires that operators provide primary schools for children of employees but leaves other services at the discretion of the operator. Aside from requiring that workers' basic needs are met, Greenergy only requires adequate and accessible (physically and financially) medical care without specifying who provides or pays for it. Other standards make no such commitments.

Notable gaps in labour requirements for most standards include job quality, safeguards against debt bondage to employers and contract farming practices. While the RSB standard commits to year-round or long-term job creation, this only applies to 'regions of poverty' and is one of several options at the discretion of operators.

Greenergy and RTRS partially address the risk of debt bondage, either by ensuring that housing and other benefits are not 'automatically deducted' from wages as an in-kind payment (Greenergy) or

by ensuring salary is not deducted ‘for disciplinary purposes’ (RTRS). ISCC is the only standard to commit explicitly to ‘fair’ and ‘transparent’ contract farming arrangements, though what these terms mean is unclear. None of the standards include requirements for those sourcing from non-contracted smallholders.

Land and resource rights

Of those standards that address customary land rights in one way or another, most do so in a very restricted way.

Bonsucro, ISCC and RTRS require that operators show proof of legal ownership or lease. Additional requirements include the following: proof that land is not under dispute (Bonsucro), a commitment to mitigate negative impacts on ‘rights, land and resources’ (ISCC), and compensation for customary rights in cases of disputed use rights (RTRS).

Greenery, ISCC and RSB standards each make the identification and mitigation of impacts on customary rights, property and resources an explicit requirement. However, the Greenery and ISCC standards have little teeth in this regard: the former requires only that ‘plans are in place to manage potential impacts on legal and customary rights...’ and the latter demands documentation of ‘regular meetings with communities...with listed risks and/or impacts and evidence of ... negotiations or resolution processes.’ The social impact assessment processes required by Bonsucro could achieve this indirectly; however, the limited scope of social criteria in national environmental impact assessment processes in many countries is likely to undermine the effectiveness of this mechanism in practice.

Customary rights protections may also be achieved by prohibiting involuntary displacement, a criterion made explicit only in the RSB standard. For Greenery, this is implicit and indirect – achieved through the evidence it requires from operators of negotiated agreements (documented agreements between local people and the government or minutes of negotiations with investor). While the Bonsucro standard also requires ‘transparency and participatory consultation’ for new projects or expansion, the literature suggests this cannot be assumed to preclude

involuntary displacement for a number of reasons. These include the tendency for political manipulation by government or industry and deference of local people to government and chiefly authority (German *et al.* 2011).

Customary rights protection can also be strengthened by requiring operators to identify customary land and resource rights and through adequate consultation and compensation of all land users affected by land acquisition.

Both Greenery and RSB standards require that operators identify and document legal and customary rights, while RTRS only requires this in cases of disputed use rights. The ISCC standard only specifies that operators ‘must identify existing land rights,’ without clarifying whether this includes both statutory and customary rights.

RSB also goes the furthest in requiring FPIC as the basis for all negotiations, compensation for lost assets, livelihood reconstruction of all affected households and mechanisms (livelihood baselines, monitoring) to assess the effectiveness of impact mitigation and livelihood reconstruction efforts.

All standards fail to protect and compensate adequately for loss of access to common property resources. While the RSB standard requires compensation for ‘minor forest products’, operator ‘minimum requirements’ and compliance indicators (what their performance is ultimately measured against) make no mention of this.

Food security

Regarding food security impacts, the RSB standard is the most comprehensive in scope. However, the ISCC standard has the strongest commitment to mitigate food security impacts, expressing a commitment to neither ‘displace staple crops’ nor ‘impair local food security/prices’. In areas designated as ‘regions of food insecurity’, the RSB standard requires food security baselines, proof of the effectiveness of impact mitigation efforts and efforts to *enhance* food security. For Greenery, food security impacts are not treated explicitly but may emerge through mandated local consultation and impact assessment and mitigation processes.

Livelihood impacts and rural development

Those standards encompassing livelihood impacts and rural development considerations most commonly address this through social impact assessment and mitigation strategies.

While the Bonsucro standard requires mitigation of negative social impacts, the effectiveness rests on the scope of ‘recognised ESIA’ processes – including national legislation, where present. If national legislation fails to cover a broad range of social criteria and indicators, these processes may be highly ineffective in mitigating negative social impacts.

The ISCC standard also requires impact mitigation, stating that, ‘all impacts for surrounding ... communities, users and land owners ‘must be’ taken into account and sufficiently compensated for’. However, the description that follows only requires documentation of regular meetings with communities to highlight the risks, impacts and resolution processes.

The RTRS standard only requires a ‘review process’ to ‘identify where improvement is desirable’. Indicators to monitor performance are at the discretion of economic operators and no local participation is mandated.

RSB and Greenergy go the furthest in this regard, requiring the assessment and mitigation of all negative local socio-economic impacts. RSB has a separate set of comprehensive methodologies for carrying out various types of impact assessments. However, as these are not considered normative, they do not serve as the basis for verification of compliance. It therefore seems that, across the board, operators have significant leeway in determining what impact mitigation activities will be carried out.

Rural and social development may also be furthered through mechanisms to ensure the economic viability of the enterprise (to enhance the likelihood of generating long-term economic spillovers to local communities); skills training, extension and special programmes to foster local economic development; preferential employment to negatively affected stakeholders; value- or profit-sharing initiatives; and/or the provision of social services and infrastructure.

Only the RSB standard includes a serious commitment to long-term economic viability; it requires operators to prepare a comprehensive economic viability analysis and conduct continuous monitoring and improvement of their operations.

While Bonsucro commits to ‘economic sustainability’ at the level of criteria, this only boils down to monitoring the value added per tonne of cane produced; as an *ex-post* measure, this is unlikely to be effective as a safeguard against risky investments.

And with the exception of Bonsucro’s commitment to supporting research and extension (with unspecified allocations between them), it is only RSB that extends into the other domains of rural and social development – albeit only partially and conditionally (with several commitments being one of multiple options for operators working in regions of poverty).

4.2 Procedural effectiveness

The principles, criteria and indicators go a long way in helping assess the extent to which negative socio-economic impacts will be effectively mitigated and the potential of the industry as an engine of rural development will be realised. However, the conditions under which these requirements come into effect and mechanisms for ensuring compliance are also critical. This section explores the likely procedural effectiveness of social sustainability provisions through a wider look at the procedural rules governing the application of each standard. This assessment can only be made for five out of the seven standards, since neither the RSBA nor the 2BSvs standard incorporate any social sustainability criteria.

The RSB represents the most far-reaching standard in terms of the scope of treatment of social indicators. The RSB standard also makes compliance with EU RED *additional* to the requirements of the existing standard, thereby ensuring emphasis on environmental criteria does not undermine the social requirements of the standard. However, a number of requirements do not apply to all operators. For example, procedural rules specify who must comply with environmental and social impact

assessments and with Principles 5 and 6 (rural and social development, food security); this subjects the standard's effectiveness to related decision rules and processes.

First, all operators must conduct a screening process to determine the necessary scope of work to ensure compliance with the RSB standard, but subsequent steps are conditional upon the findings of the screening.⁹ With the economic operators themselves responsible for conducting the screening, the main limitation is lack of independence and specialised expertise in the identification of impacts.

Secondly, it is only for operations located in a 'region of poverty' or 'region of food insecurity' that specialist impact assessments must be carried out and operators must contribute to local social and economic development (Principle 5, criteria a and b) or enhance the local food security of directly affected stakeholders (Principle 6, criterion b). Thus, it becomes fundamental to come up with an effective and unambiguous definition of these regions – an extremely complex task.¹⁰

A final factor influencing compliance with key social provisions in Table 2 is the tendency to provide operators with options for how they will comply, such as ways to improve the socio-economic status of affected stakeholders (criterion 5a). On the one

hand, this may enhance flexibility so as to help adapt interventions to local circumstances. On the other, it may also give operators incentive to opt for the least-cost option and thus undermine the spirit of negotiated agreements.

Procedural effectiveness under the ISCC standard is best evaluated through a look at the minimum set of requirements and the auditing process. ISCC's 'System Basics' only refers to four 'sustainability requirements' (ISCC, 2011c), which map exclusively onto its environmental criteria. However, reference is made here and elsewhere (ISCC, 2011a) to a full set of social and environmental sustainability criteria outlined in 'ISCC 202: Sustainability Requirements for the Production of Biomass' (ISCC 2011b). While this suggests the need for compliance with all criteria, the ISCC standard classifies criteria according to their importance or 'relevance' into 'major musts' and 'minor musts'. For all major musts, compliance is mandatory. For minor musts, only 60% of criteria need to be fulfilled for a successful audit. Nine of the 12 indicators relating to safe working conditions (Principle 3) are classified as minor musts, as are 15 out of 20 indicators on human, labour, and land rights (Principle 4). Indicators classified as 'minor musts' include such fundamental issues as negative social impact mitigation and compensation; the requirement that biomass production does not impair food security; fair and transparent contract farming arrangements; complaint mechanisms and conflict medication; and a host of labour criteria (Box 1).

Further weaknesses in ensuring compliance with the ISCC standard relate to the auditing process. Countries that have ratified the relevant ILO Conventions are assumed to have fulfilled the social requirements in Principle 4 unless the auditor concludes differently in his/her risk assessment (ISCC 2011b). Thus, the only social criteria requiring explicit monitoring are those in Principles 3 (safe working conditions and plant protection product handling) and 5 (compliance with national and international laws, proof of land ownership/lease).

Despite these shortcomings, the quality requirements for auditors are considerably more stringent than for the other schemes. For example, they detail specifically who is suitably qualified to perform different types of assessments. Moreover, unlike the

9 Should the screening tool indicate that any impacts are likely to be significant, operators may be required to carry out an Environmental and Social Impact Assessment (ESIA), a Rapid Environmental Impact Assessment (RESA) and/or any number of specialist impact assessments. The screening tool is therefore critical to the effective management of social and environmental impacts. Its effectiveness in identifying major impacts associated with large-scale plantations is likely to be enhanced by the fact that specialist impact assessments are triggered when operators answer 'yes' to any one of multiple questions to screen for possible impacts; and each specialist impact assessment is subject to a subsequent audit (RSB 2011b). Furthermore, all operators are required to develop an Environmental and Social Management Plan (ESMP) through stakeholder consultation; this outlines strategies to mitigate negative impacts and to manage and monitor environmental and social risks, irrespective of screening outcomes.

10 A set of independent technical experts is developing maps to avoid ambiguities in the identification of these regions, based on a combination of FAO data on the prevalence of undernourishment, UN-MDG data on the percentage of the total population living below the national poverty line, measures of income inequality (the Gini index) and the IFPRI global hunger index.

Box 1. Labour criteria considered 'minor musts' in the ISCC standard

- Presence of health, safety and hygiene policy and procedures
- First Aid kits at all permanent sites and in the vicinity of fieldwork
- Clear identification of potential hazards
- All workers received adequate health and safety training, are informed of identified risks
- Clean food storage areas and designated dining areas, hand washing facilities and drinking water
- On site living quarters are habitable and have the basic services and facilities
- The accident procedure posted within 10 meters of chemical storage facilities
- Facilities to deal with accidental operator contamination
- Person responsible for workers' health, safety and good social practice and elected individual(s) have knowledge of or access to national labour regulations/collective bargaining agreements
- Regular two-way communication meetings between management and employees
- Democratically elected worker representative to represent the interests of staff to management
- All employees are provided with fair legal contracts
- Presence of a time recording system to show daily working time and overtime for all employees
- Working hours and breaks comply with legal regulations and/or collective bargaining agreements
- Other forms of social benefits are offered by the employer to employees, their families and/or community

RSB, the ISCC has put in place clear procedures and guidelines to support small-scale producers in obtaining 'group certification' (e.g. certification of an organised group of producers from similar production systems). This is an important contribution to reduce the economic and technical barriers small-scale operators often experience in seeking certification.

Analysis of the likely procedural effectiveness of Greenergy's social criteria reveals other concerns. There are minor loopholes within the auditing process in terms of permitted minor non-compliances (involving temporary or unusual lapse of limited impact and for which corrective action has been taken). However, the most significant concern lies in a statement about minimum requirements – namely:

In practice, the introduction of the RED requirements means that the new minimum requirement for compliance only covers aspects of the standard related to land-use change (impacting on biodiversity and carbon), ... which are covered in Criterion 1.1, 2.1, 2.2 and 2.3 in the Greenergy standard. (Greenergy, 2011b: 2)

While it remains to be seen how this will be interpreted in practice, the statement appears to wipe away all social sustainability criteria of the initial standard as originally applied to gain access to the UK market.

Like the RSB, the RTRS makes EU RED sustainability requirements additional to the existing standard (RTRS 2011b). As with Greenergy, there are minor loopholes within the auditing process in terms of permitted minor non-compliances or 'non-conformities'. However, all of these must be addressed in a timely manner to avoid escalation to a major non-conformity and loss of certification. In general, the standard's procedural aspects do not seem to water down the overall effectiveness as determined by its scope. The RTRS is the only other scheme besides the ISCC to have put in place comprehensive procedures and guidelines for group certification.

Several documents posted on the EU RED website for Bonsucro are not legible, undermining the possibility of a complete evaluation of procedural effectiveness. Still, the Bonsucro website provides a limited basis for evaluation. To obtain a Bonsucro EU certificate, operators must comply with only 80% of the indicators in Principles 1 to 5 (covering all social dimensions of the standard) and section 7 (chain

of custody requirements), and comply fully with section 6 (mandatory environmental requirements under EC RED).¹¹ As with the ISCC standard, there are concerns this could provide incentives to comply with the 'easiest' or lowest cost indicators, thus marginalising indicators of more critical relevance to rights protections and rural livelihoods.

A number of cross-cutting observations should also be made. Experiences with National Environmental Impact Assessments (NEIAs) point to some of the inherent limitations in the use of normative guidelines to mitigate social and environmental risks. One study (World Bank 1996) pointed to a number of limitations of both Environmental Assessments (EAs) for Bank-financed projects and National Environmental Action Plans (NEAPs). These include the following:

- Problems of timing (the EA coming too late in the process to influence project design, reducing its scope to one of impact mitigation).
- Emphasis on comprehensiveness over systematic treatment of major threats.
- Inconsistencies in evaluations of risk level.
- Insufficient integration of EA provisions into project implementation.

- Insufficient supervision to detect impacts emerging through project evolution.
- Limited local ownership of the process.

Where these inherent deficiencies meet with a culture of approval, this can relegate the environmental assessment process to a mere formality.

Similar limitations may influence the effectiveness of voluntary schemes in ensuring effective mitigation of social risks and meaningful contributions to economic development. Much also rests on the factors below (Eba'a Atyi and Simula 2002; Klooster 2006; Rametsteiner and Simula 2003):

- Attitudes and competence of the operator.
- Financial viability of the operation.
- Ability to strike an effective balance between specification and flexibility to adapt to local circumstances.
- Ability of more powerful actors to shape processes and outcomes.
- Audit quality – including the ability of what are often very brief (one- to two-day) audits to capture non-compliances.

¹¹ http://www.bonsucro.com/standard/eu_verification.html (15 Aug 2011).

5. Discussion and conclusions: Implications of EU RED for the social sustainability of biofuels

On the basis of the scope of the evaluated standards, two out of the seven approved voluntary schemes (Abengoa and 2BSvs) take a minimum compliance approach with EU RED and are devoid of any commitment to social sustainability. Both of these standards are global in scope and collectively cover all biofuel feedstocks. In theory, then, they could enable a situation in which all biofuels complying with member state commitments to renewable energy lack any social sustainability.¹²

Considering that another 18 schemes are pending approval, there are likely to be additional avenues for socially unsustainable projects to gain certification and, thereby, legitimise their practices. Most EU member states have national legal frameworks with strong safeguards that effectively guarantee the social sustainability of *domestically* produced biofuels; the same cannot be said about biofuels imported from countries with weak governance systems unable to offset these certification gaps. This effectively places the climate mitigation interests of developed countries as the sole metric for evaluating the performance of feedstock sourced from the global South – in essence, ignoring the national aspirations enshrined in domestic policies that place social and economic development at the forefront.

This threat cannot be overstated: at least 41.5% of EU biofuel consumption in 2020 is anticipated to be derived from imports, most of this from developing countries. For example, historically, the soybean sector in Latin America and the oil palm sector in Southeast Asia (and more recently the jatropha sector in Africa) have been fraught with social conflict. On the basis of current and projected EU consumption patterns, biodiesel derived from these feedstocks is likely to constitute the bulk of imports in the long run (Bowyer 2010, USDA 2011). Proactive efforts are needed to lobby for the inclusion of developing-country aspirations within EC RED sustainability

criteria through the incorporation of additional compliance criteria emphasizing social and economic development and by mandating compliance with national laws.

Among those schemes that set the bar higher, commitments to rural development, smallholder business models and generating durable shared-value are conspicuously weak. With the exception of the RSB (which goes far beyond mitigating negative impacts)¹³, the main emphasis is on mitigating negative socio-economic impacts. This places all but one of these standards in stark contrast to the ambitious claims about the industry's potential to stimulate to local economic development in producer countries. Unfortunately, due to its comprehensiveness (and associated cost and complexity), the RSB is likely to attract only those companies that are already largely compliant with its principles and which can therefore benefit from related reputational gains at limited cost.

A second key observation is that, in practice, the procedural rules put forward by the various schemes (e.g. for assessing who must comply, and with which social criteria) are likely to further undermine their effectiveness in achieving social sustainability.

For standards such as Bonsucro, Greenergy, RSB and RTRS that existed prior to EU RED, the schemes vary in the extent to which EU market requirements are considered additional to or water down the social sustainability provisions of the existing standard; Greenergy and RSB are on opposite ends of the spectrum in this regard.

While Greenergy appears to have watered down its standard for EC compliance, the two other industry-led schemes lack any social sustainability criteria. This illustrates the critical importance of policies in consumer markets in giving teeth to the voluntary schemes led by commercial actors. Furthermore, EU

¹² Although Abengoa does not yet seem to be open to all operators, 2BSvs is – opening the door for all suppliers to be minimally compliant.

¹³ And the RTRS, which lacks a comprehensive social impact assessment process.

consumer markets must accept all seven voluntary schemes, regardless if they are less stringent than member state requirements preceding them.¹⁴ These two facts together suggest the critical importance for the EU to set the 'bottom line' higher. This may be done by incorporating social sustainability criteria into EU RED and enabling greater flexibility for member states to set their own bar higher than the minimum criteria legislated by the bloc.

Schemes led by multi-stakeholder processes also seemingly provide significant wiggle room for operators. Yet they also seem to be leading to more concerted efforts to address social sustainability concerns in a way that is at least minimally responsive to national laws and international agreements. Leadership of the RSB standard by an academic institution is also notable in its more rigorous treatment of social sustainability criteria. Ultimately, the ability of even those standards with the most far-reaching treatment of social principles to advance social sustainability effectively will depend on interpretation and compliance – something that can only be evaluated in practice.

To conclude, some schemes have considerable coverage of social sustainability concerns. Yet three factors undermine the likelihood of achieving social sustainability through these schemes or the EU sustainability policies lending credibility to them: poor coverage of some critical social sustainability components, the presence of schemes lacking any social sustainability requirements (creating incentives for a 'race to the bottom' in social practices) and gaps in procedural rules.

This analysis, coupled with a rapidly expanding literature on the negative local social and economic impacts of biofuels, suggests that urgent action is needed. Social sustainability concerns must be incorporated into the requirements of major consumer markets, thus bringing new schemes into compliance and expanding the scope of issues treated. This aim can, in turn, be advanced by generating evidence about the actual socio-economic impacts associated with operators certified by EU-approved voluntary schemes and by bringing these to the attention of key decision fora within and outside of the EU.

¹⁴ This in effect eliminates the sovereignty of member states in managing the social sustainability of biofuels they consume within their own borders, further eroding the already deficient ability of consumers to discriminate among labels (Wynne 1994).

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The rapid expansion of biofuel production and consumption in response to global climate mitigation commitments and fuel security concerns has raised concerns over the social and environmental sustainability of biofuel feedstock production, processing and trade. The European Union has thus balanced the commitment to biofuels as one of the options for meeting its renewable energy targets for the transport sector with a set of sustainability criteria for economic operators supplying biofuels to its member states. Seven voluntary 'EU sustainability schemes' for biofuels were approved in July 2011 as a means to verify compliance. While mandated sustainability criteria of the EU Renewable Energy Directive (RED) have a strong environmental focus, a number of these voluntary schemes have social sustainability as a significant component of their requirements for achieving certification. This paper evaluates the social sustainability of these schemes through a review of the substantive content and procedural rules of these schemes, and discusses its implications for rural livelihoods in producer countries. The absence of social sustainability provisions in several schemes, the limited scope of most other schemes and procedural rules providing compliance loopholes point to the urgent need to expand the scope of EU RED to safeguard rural livelihoods in the global South.

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