

Towards ‘hybrid accountability’ in EU biofuels policy? Community grievances and competing water claims in the Central Kalimantan oil palm sector

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Abstract

The EU biofuels market is stimulating expansion of oil palm plantations in Indonesia. Little research has yet examined the impacts on water resources arising from this large-scale land use conversion to cultivation of biofuel feedstock or positioned contextual water resource governance in Indonesian locales in a wider political ecology of European climate politics. Through the concept of 'hybrid accountability', we examine primary evidence from an extensive action research process in Central Kalimantan Province, Indonesian Borneo, to assess whether the EU's Renewable Energy Directive and existing certification schemes offer a way to improve the accountability of market actors and promote sustainable water resource management. We conclude that these initiatives have had no bearing on safeguarding local livelihoods and the water resources they depend on, with governance mechanisms largely failing to address people's grievances. Rather, the EU's policies on biofuels have supported a de-politicisation of what needs to be seen as 'distributional water politics'. Furthermore, certification schemes such as the Roundtable for Sustainable Palm Oil offer, at present, only cosmetic tools and are insufficient to address deep structural governance issues. We argue that further hybridisation of market-based certification and governmental regulation should be designed with the purpose of providing new transnational recourse mechanisms and remedies for affected communities.

Keywords: certification; accountability; palm oil; water resources; biofuels; Indonesia

1. Introduction

The European Union (EU) biofuels market is stimulating global demands for vegetable oil, contributing to the rapid expansion of oil palm plantations in Indonesia, the world's largest producer. Palm oil, generally traded as crude palm oil (CPO), is one of the main inputs for the production of biodiesel, which accounts for over three-quarters of total biofuel consumption in the EU. Biodiesel imports into the Union rose from 1.8 million tons of oil equivalent (mtoe) in 2009 to 2.5 mtoe in 2010 (EurObserv'ER, 2010). While there is a lack of consolidated data, the USDA (2012) estimated that palm oil in 2010 comprised close to 10 % of total European feedstock use for biodiesel, thus representing a minor but still tangible complement to soy biodiesel imports from Argentina and the US (European Commission, 2012a). Furthermore, the demand for liquid biofuels requires palm oil to replace other food oils diverted for energy consumption (e.g. Fitzherbert et al., 2008). Imports of palm oil to Europe doubled from 2000 to 2006, and taking into account the interchangeability of major oils for edible and biofuel uses and associated substitution effects, Corley (2009) has predicted that global demand for palm oil will likely double by 2050.

Although the palm oil sector plays a pivotal role in the national economy of Indonesia and has contributed to poverty alleviation in some areas, it has a well documented traumatic legacy – recently attracting new attention with July 2013 forest fires in oil palm dense Borneo causing transcontinental smog in neighbouring countries. The sector has fuelled resource degradation, marginalized indigenous groups, and had adverse impacts on communities that have not benefited from the industry (e.g. Colchester et al., 2006; Danielsen et al., 2008; McCarthy et al., 2012). A substantial body of research has documented how formal institutional structures in developing countries typically suffer from severe implementability constraints – thus preventing purposeful environmental governance (e.g. Ravnborg et al., 2013). This impediment is well documented for the Indonesian oil palm sector (e.g. Casson and Obidzinski, 2002; Obidzinski et al., 2012).

The incorporation of sustainability standards into government legislation in importing countries and regions (such as the EU) aims to improve the accountability of market actors. Indeed, the emergence

of voluntary multi-stakeholder sustainability standards to complement weak public sector regimes (e.g. van Dam et al., 2010) has been said to hold a promise of improving accountability in the international market on bioenergy products. In recent years, arguments have been made to move beyond existing divides between non-coercive stakeholder negotiated market standards and coercive state based regulation, and explore 'hybrid' public-private arrangements in novel co-evolutionary institutions (e.g. Schouten and Glasbergen, 2011; German et al., 2011; McCarthy et al., 2012). Most of these calls for hybrid accountability arrangements focus on the need to bolster host country governmental regulation. Meanwhile, an equally important avenue exists to integrate certification schemes into the political and legislative structures of import regions such as the EU, and so-called home states (i.e. the countries in which many of the largest internationally operating market actors are domiciled).

In this paper, we examine whether the EU biofuels policy, principally the EU Renewable Energy Directive (EU-RED), offers an effective, fledgling, attempt by an importing region to move towards a hybrid accountability arrangement. We first introduce the central policy measures in the EU-RED. We then frame our analysis with an emphasis on the political ecology of water resource governance, before we explain our research methodology, including a case study of palm oil cultivation in Central Kalimantan, Indonesian Borneo. We offer a brief discussion of the legacy of the Indonesian palm oil sector and the historical and social context of the field sites. The results are divided in two parts; first, we provide a synthesis of local grievances regarding impacts on water resources; second, we report a stakeholder appraisal of the (limited) efficacy of the existing governance system in addressing these grievances. The evidence shows that, while there are positive aspects of EU-RED, its design and implementation has had no bearing on safeguarding local livelihoods and water resources in Central Kalimantan Province. Similarly, market certification has so far been largely unable to address the grievances from affected communities or to transparently and robustly mediate between the competing water claims of stakeholders. On this basis, we mobilise the concept of 'hybrid accountability' to provide a theoretical critique of the co-evolution of market based certification and governmental regulation. We argue that despite considerable weaknesses, the EU-RED and recent developments in

market certification contain important seeds for rethinking the governance of the palm oil and biodiesel value chains, in particular the provision of functioning remedies to affected communities and water users.

2 The central measures in the EU biofuels policy

The EU-RED sets a target that 10 % of the energy used in the transport sector across the EU should be generated from renewable sources by 2020. Member states have generally chosen to prioritize liquid biofuels, which are thought to represent the most cost-competitive option in the short term. To be eligible for government support or to count towards mandatory national renewable energy targets, biofuels used in the EU – whether produced locally or imported – have to comply with the so-called sustainability criteria set out in articles 17, 18 and 19 of the EU-RED. The same criteria are applied in the Fuel Quality Directive (2009/30/EC) (EU-FQD), as amended in 2009, which establishes environmental criteria for the fossil fuel components of petrol and diesel. The sustainability criteria, in effect since December 2010, stipulate a minimum level of direct greenhouse gas (GHG) emission savings (35 % in 2009, rising to 50 % in 2017), and impose restrictions on cultivating land with high biodiversity and high carbon stocks (such as peatland and wetlands). The criteria prohibit conversion of such areas from the baseline date of January 2008 (Art. 17).

The European Parliament and the Commission have faced great uncertainties associated with accounting for indirect land use change (ILUC), that is, the displacement of other agricultural activities by the cultivation of biofuel feedstock. Early statistical analyses demonstrated that emissions from land use change linked to biofuel feedstock production significantly reduce the environmental benefits of the policy framework (e.g. Laborde 2011). However, political disagreement led to a seven-year delay in setting out concrete actions on ILUC (Dunmore 2011). In October 2012 the Commission launched its long-awaited proposal with amendments that favor so-called advanced ('low-ILUC') biofuels (European Commission, 2012a). This is done principally by limiting the contribution from food crops to 5 %, increasing the reward for non-land based biofuels (e.g. from waste products), and

requiring providers to report on 'ILUC factors' associated with their feedstock. This proposal is currently in a co-decision procedure in the European Council and Parliament.

Unrelatedly, In June 2010, the European Commission announced its scheme for certifying sustainable biofuels. Member states were obliged to transpose the EU-RED into national legislation by December 2010, although many delayed. National authorities, companies and non-governmental organizations (NGOs) are encouraged to implement voluntary biofuel sustainability certification schemes, and the Commission indicates which criteria these schemes must meet in order to achieve EU-wide recognition. In July 2011, seven certification schemes were approved as complying with the sustainability criteria and by 2013 13 schemes were accredited (European Commission, 2011a; European Commission, 2012b). Schemes differ markedly in the scope of their standards, modes of implementation and compliance costs. This has caused confusion among regulators, economic providers and civil society observers, thus lowering the regulatory quality of the schemes (e.g. van Dam et al., 2010; Johnson, 2012).

The Roundtable for Sustainable Palm Oil (RSPO) provides the leading voluntary sustainability standard for palm oil products, covering both food and fuel uses. This multi-stakeholder organization was founded in 2004 and by 2011 close to 5 million tonnes of SPO was being produced annually by 26 certified growers, representing close to 10 % of global CPO production (RSPO, 2012). Under the RSPO, the palm oil mill and its supply base comprise the unit of certification and audit, where all relevant subsidiaries must be certified. Beyond demanding full compliance with national law, a number of the RSPO Principles and Criteria have even stricter requirements for water resource management, including the management of riparian zones and high conservation value areas (HCVA) to protect endangered ecosystems and ecosystem services (RSPO, 2006).

The RSPO proper has not yet been accredited under the EU-RED, as it lacks an accepted technical method for calculating GHG emissions from palm oil cultivation. This means that palm oil imported for the EU biodiesel market initially had to be certified through other standards such as the International Sustainability & Carbon Certification System (ISCC). However, in November 2012 the

European Commission accredited a scheme comprising a voluntary add-on to the generic RSPO Principle and Criteria, the so-called RSPO-RED, which guarantees compliance with the sustainability criteria by using methane capture to meet the 35% GHG reduction requirement. The sustainability requirements of the RSPO that go beyond the EU-RED are not of interest to the Commission.

To monitor compliance with certification scheme standards, auditing uses the mass balance model, in which economic providers must show that the share of material that is certified is reflected in the share of the final products. This method is less strict than so-called identity preservation, which is obtained by physically isolating the certified product from non-certified materials, but stricter than the ‘book and claim’ system, which does not trace the origin of the products or physical flows but allows buyers to purchase tradable sustainability certificates (Johnson, 2011). The mass balance system is considered stringent but also resource intensive and the European Commission is re-evaluating its future use of the system (European Commission, 2011b).

Within these policy measures, palm oil is relatively disadvantaged compared to other feedstocks, with the European Commission attributing a low (39%) direct emission savings value and a high (54%) emission value due to ILUC. Combined with the EU biodiesel standard (EN 14214) this constrains palm oil import. Indonesia currently benefits from differential export taxes, however the European Council is considering imposing punitive duties to protect domestic biodiesel producers (USDA, 2010; Johnson et al., 2012). In response to what it sees as discriminatory GHG emission reduction requirements embedded in a protectionist trade policy, the Indonesian government is preparing an alternative certification tool, the Indonesian Sustainable Palm Oil (ISPO) (Regulation 18:2010).

3. Interrogating accountability dilemmas in water resource governance

In framing our inquiry into hybrid accountability in the palm oil sector and the EU biofuels policy regime, the governance of water resources provides a suitable focus. Water resource management is most often shaped by intractable uncertainty and controversy regarding what comprises ‘desirable’ management practices. Water resources play a role not simply as a bio-physical entity, but as a ‘mediating object’, that is, a socio-technical entity, which resource users and managers construct

through their discourses and actions, invariably inserting their own interests and perspectives (e.g. Ison et al., 2012). Underpinned by a political ecology of water, water resource governance thus traverses the physical boundaries of a watershed, an analysis must attend to diverse 'systems of interest' as defined by different stakeholders (Molinga et al., 2008; Powell and Larsen, 2012). River basins assume significance as contested 'objects of development' (Sneddon and Fox, 2008), with the potential for both conflict and cooperation between the state and communities, companies and civil society, revolving around access to and the exploitation of water resources.

Interrogating accountability dilemmas in water resource governance is also particularly relevant given the near-absence of independent assessments of the efficacy of water management practices in oil palm plantations (Comte et al., 2012). Similarly, few scientific studies have been conducted into the impacts on water resources arising from conversion to cultivation of biofuel feedstock. Where wider environmental impacts have been studied, forest and biodiversity conservation have most often been the focus (e.g. Koh and Ghazoul, 2008; Danielsen et al., 2008; Phalan, 2009; German et al., 2011). Water is rarely accounted for in the analyses of mass flows contained in fuel energy and economic studies (Pereira and Ortega, 2010). Recent global modelling results even suggest that water consumption has been largely ignored in the assessment of global bioenergy scenarios, leading to a gross overestimation of potentials (Beringer et al., 2011). The prevalence of impact studies oriented towards deforestation is partly explained by the narrow political discourse surrounding the EU-RED as a climate change policy to mitigate GHG emissions. Those few studies that do exist on water resources highlight the general lack of quantitative data and the likelihood that feedstock production will significantly affect water resources at the local and sub-national levels (e.g. Berndes, 2002; Garg et al., 2011).

It is well known that the choice of crops for cultivation affects water consumption, and that many highly productive monocultures depend on a generous and timely supply of water. Withdrawals increase the burdens on already strained aquifers (CWIBP-US, 2008) and rivers (Falkenmark and Molden, 2008). It is thus to some extent possible to extrapolate from lessons from agricultural water management in general, including from other crops with a dual food and fuel purpose. However, there

is a need to understand the institutional aspects surrounding water resources and how plantation companies set out to manage water. Only recently has the research agenda started to include the governance of water impacts in biofuel feedstock concessions, focusing on the formal and informal functions of water-related institutions (e.g. Skinner and Cotula, 2011).

Given the institutional and historical contingencies embedded in the political ecology of water there is a need for detailed case studies into actual governance practices. In fact, the struggle over water resources (and so-called ‘water grabbing’) has often been ignored even in the growing literature on land acquisitions for agricultural production and only recently has research attended to these issues (e.g. Mehta et al., 2012). While a substantial body of literature exists on governance dilemmas in the palm oil sector, little research has yet examined the governance of water resources or positioned contextual water resource challenges in Indonesian locales in a wider political ecology of European climate politics.

4. Methodology

The primary data in this paper is derived from an action research process covering one and a half years of collaboration between an international research institute, a national Indonesian human rights NGO, and a local environmental NGO with a permanent presence in the field sites. The research built on past and ongoing efforts of the two civil society organisations (e.g. WALHI Central Kalimantan, 2010; Colchester et al., 2011), with the international research institute entering as ‘friendly outsiders’ in the action research tradition of Greenwood and Levin (2007).

Our study adopted a qualitative case-study methodology inspired by the principles of participatory action research. The case study was intended to serve as a ‘learning platform’ for stakeholders to convene and co-construct relevant accounts (Steyart et al., 2007). The rigour of the work was defined in terms of its ability to adequately account for the complexity of the problem context and the diverse perspectives and interests of stakeholders, and to support actions for concrete improvements (Larsen et al., 2012). This implies that we do not claim that the grievances expressed by consulted villagers reflects a consensus in the field sites nor do we comment on the ‘truth content’ of the claims posited

by different contributors to the study. Our task is to document the experiences and legitimate grievances of a considerable number of people in three villages and to assess the capacity of the existing governance system in responding to their complaints.

Joint data generation was undertaken during October 2011 and October-November 2012 in Central Kalimantan Province, focusing on field study sites in Seruyan and Kotawaringin Timur Districts (Fig. 1). Interviews and focus groups were held in the villages of Pondok Damar, Sembuluh and Terawan; in Sampit, the district capital of Kotawaringin Timur; in Palangkaraya, the capital of Central Kalimantan Province; and in Jakarta. The consultations followed a semi-structured interview format organised around two key research questions: 1) Which water-related impacts and risks arise from the oil palm operations? 2) How does the current governance system manage these impacts and risks? Members of the research team produced rich field notes that were compared immediately after each consultation to consolidate observations and interpretations. Many contributors from the field sites and within the private sector did not wish to be identified personally and we have only made direct attributions if permitted.

The study received formal contributions from 17 people from three villages (village heads, plantation workers, farmers, fishermen, etc.); 17 government officials of nine agencies at the district, province and central government levels (agency directors, office heads, desk officers, field staff); seven Chief Executive Officers and managers from four private sector organizations (including growers and buyers); 11 staff members of six civil society organizations at the district, province and national levels (directors, programme managers and field staff); and three staff from two research institutions. The analysis of primary data was complemented by secondary information from literature reviews as well as key informant interviews with people from 16 European government offices, companies and NGOs involved in the renewable energy market, such as the EU Directorates for Energy and Climate Action, major European supermarket chains and fuel distributors etc. (See Authors, 2012 for a complete list of contributors.)

A draft field report was shared with all contributors during a review period 5 July – 5 August 2012, as a mediating object for stakeholders to re-construct and negotiate interpretations of the findings. Substantial comments were incorporated from five contributors, including companies operating in the field sites. A subsequent field visit was undertaken to consolidate the findings with people who had previously been consulted in Central Kalimantan Province. This also served as an opportunity to explore possible joint actions related to the recommendations emerging from this study. Further comments were received from villagers, district politicians, an association of plantation companies, and provincial government agencies, including in a seminar convened by the Provincial Government. In these meetings people suggested minor needs to improve the report, subsequently addressed, but otherwise affirmed the key findings communicated in this paper.

5. The case study: oil palm cultivation in Central Kalimantan

The Indonesian palm oil sector is one of the longest established agro-industries for vegetable oil with potential as a biofuel feedstock. While the history and general governance structures of this sector have been previously reviewed (Casson and Obidzinski, 2002; McCarthy et al., 2012), it is important to briefly present them here to appraise the background and context of the study sites.

Originating in West Africa, the oil palm tree was introduced to Indonesia in 1848 through a donation to the Botanical gardens in Bogor. Large-scale investments in oil palm plantations in the Dutch colonial era turned Indonesia into the biggest exporter of oil palm by 1938 (Kiple, 2000). After independence in 1945, the government of President Sukarno focused on facilitating the transition from colony to independent nation by building a cohesive state in which a geographically dispersed archipelago could be united under the doctrine of ‘Guided Democracy’. The approach included isolationist policies and the promotion of import substitution. Formerly Dutch-owned plantations were slowly transformed into New State Plantation Companies (Colchester et al., 2006). The absence of technical skills previously provided by the colonial power, combined with widespread smuggling and unfavourable exchange rates, made it difficult for the state-owned companies to maintain quality and

develop the industry (Casson, 2000). By the late 1950s, most of the plantations were state-owned and were investing in different crops such as coconut and soya beans.

The military seized power in 1966 and, under General Suharto's New Order regime (1966–1994), the state attracted massive investment from multinational companies and technical skills in particular from the United States. With the new technical capacity, economic growth resulted from direct government investments in state-owned plantations, which usually followed a Nucleus Estates and Smallholders pattern in which a company owns a refinery and an estate surrounded by smallholdings (Larson, 1996). Later on, a joint government and private sector development scheme further promoted the growth of smallholdings. Following the financial crisis in 1997, the New Order was fractured by the International Monetary Fund (IMF) with loans subject to structural adjustment, which failed to take account of indigenous land tenure systems and pushed for CPO exports. The disregard for indigenous land and resource rights that resulted from structural adjustment and government policies led to a widespread transfer of indigenous land rights and territory (*adat*) to corporate actors, also weakening the role of smallholders (Colchester et al., 2006). Nonetheless, local conceptions of *adat* rights still play an important role in many *Dayak* communities (the collective term for the indigenous peoples of Indonesian Borneo) (McCarthy, 2007; Colchester, 2011).

The subsequent social and private cooperative period coincided with a state-led migration programme referred to as the *Transmigrasi*, the purpose of which was to move people from the islands of Java and Bali, which were considered to be overpopulated, to remote and less populated islands. State-owned companies and private developers were obliged to prepare plots of land (known as 'plasma') for smallholders, who would develop them under supervision (Casson and Obidzinski, 2002). In the post-Suharto era, the Decentralization Act of 1999 led to the devolution of land governance responsibilities to local government, thereby empowering the district governments in terms of legislature and revenue generation (Powell and Osbeck, 2010). Today, state-owned entities, private corporations and smallholders produce palm oil in Indonesia. The officially estimated share of state-owned, privately owned and smallholder owned plantations in 2007 was 12 %, 53 % and 35 %, respectively (Indonesian Palm Oil Board, 2007). This highlights the relative dominance of the corporate plantations model.

5.1 The field study sites

The field sites selected for our analysis are in the Mentaya and Seruyan River Basins, specifically three villages around Lake Sembuluh (Fig. 1). Central Kalimantan is one of Indonesia's 33 provinces, inhabited by close to 2.2 million people and covering 13 river basins and 150 000 km². It stretches from the south coast of Borneo, over the lowland plains drained by a large number of rivers and streams, to the central highlands in the heart of Borneo. Central Kalimantan is heavily dependent on extractive industries and the exploitation of its natural resources, such as forests. Oil palm plantations, gold and coal mining, timber concessions and rubber estates are the main land uses. In the lowland tracts of the province, the extensive logging and oil palm plantations were preceded by other extensive land uses, such as Suharto's Mega Rice Project, which unsuccessfully sought to convert peatland and wetlands to rice cultivation (e.g. Ludang et al., 2007). With Sumatra, the province boasts the majority of Indonesia's peat soils, jointly accounting for over 80 % of the peatland in South East Asia (Someshwar et al., 2008). This was one of the reasons why the province was chosen in 2010 as a pilot province for the Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (REDD+), with funding from AusAid. It is also one of the provinces covered by a two-year moratorium on the issuance of new permits for the conversion of primary forests and peatlands for further logging and the expansion of oil palm plantations under the Indonesian government's 2011 agreement with the government of Norway.

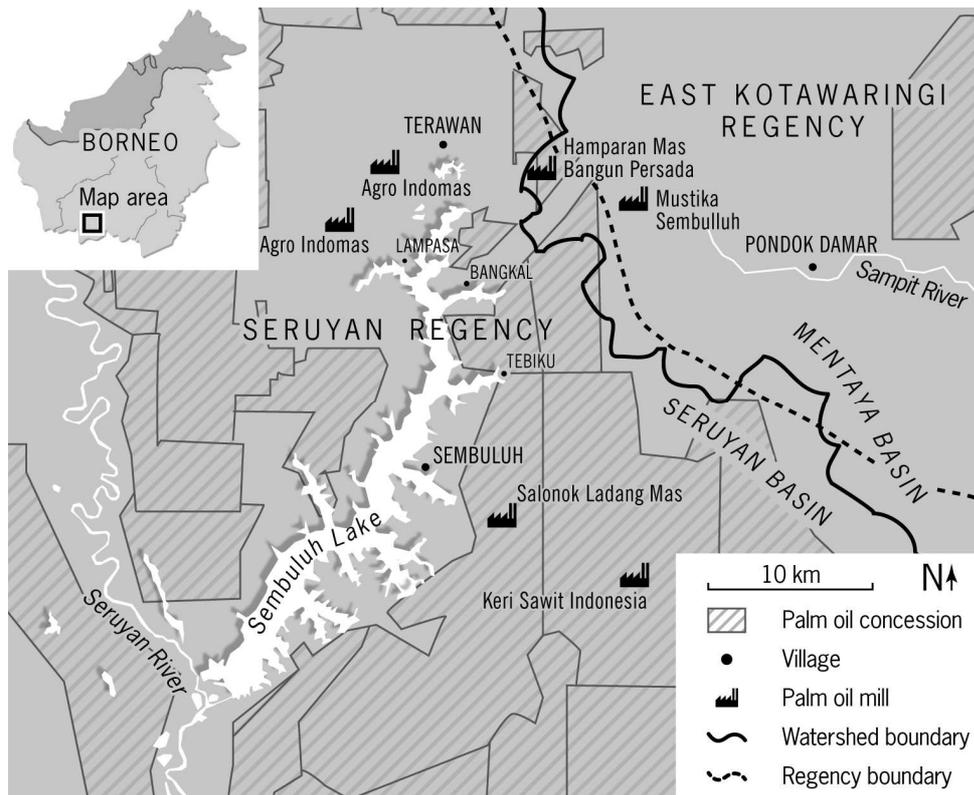


Fig. 1: Map of the field study sites. The map highlights the villages involved in this study and other larger communities, but not the full extent of human settlement around the shores of Lake Sembuluh or along the rivers in the two river basins. The official extent of the palm oil plantations is derived from Dinas Perkebunan (2010), however the credibility of official data on the oil palm concessions is contested. Location of palm oil mills is derived from WALHI Central Kalimantan (2010).

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The Provincial Government is chaired by the Governor and the province is comprised of 14 districts each led by a Regent (*Bupati*). The districts of Kotawaringin Timur and Seruyan cover about 50,700 km² and 16,400 km² with around 500,000 and 108,000 inhabitants, respectively. The area is mainly inhabited by indigenous *Dayak* and migrant East Javanese and *Madurese* people (arriving as part of the *Transmigrasi* programme and the logging era in the late 1980s). Diverse migration patterns and external influences have led to a highly complex system of ethnicity and cultures in Borneo. In 2001, tensions between the *Dayak* and the *Madurese* population turned violent, resulting in a large number of people on both sides losing their lives (Smith, 2005). Human settlements were traditionally located along the rivers as a means of transport and subsistence, and the many villages and towns that were

not relocated in resettlement programmes remain in these locations. Spatial planning, including administrative boundaries, original patterns of human settlement and the location of cities and towns as trading points, is strongly influenced by the river systems and watersheds (see also Casson, 2000).

Pondok Damar village is located by the Tebelian Tusang Stream. The village has about 300 households and over 900 inhabitants, and has been in its current location for 23 years, since resettlement organized by the Department for Social Affairs (Colchester et al., 2011). Terawan village is located north of the Lake Sembuluh with about 250 households and a population of around 950 people. Sembuluh village is situated on the eastern shore of Lake Sembuluh, comprising of two adjacent villages, Sembuluh I and II, together home to 1200 households and 4600 people. The majority of villagers are employed as labourers on the plantations, with others engaged in cultivation of rice or other crops, fishery, and/or service provision and trading. Like elsewhere in Borneo the villagers are mainly engaged in the plantation nurseries, whereas skilled labour for the latter stages of cultivation is imported from Java. Six palm oil mills have been operating in the lake area since 2000. In 2008, the plantation company PT. Hamparan Mas Bangun Persada started construction of a new mill just upstream of Sembuluh village (see also WALHI Central Kalimantan, 2010).

6. Results

Villagers consulted for the study shared a range of grievances pertaining to the impacts on water resources and their lives in, or adjacent to, the plantations. In all three villages, before the arrival of the plantations, rice cultivation, and fruit and vegetable growing took place on community land. They explained how much of this land had been appropriated by the concessions and agricultural food production had been significantly reduced. In Sembuluh village, the former head of the village estimated that 80% of their farm land had been lost. In Terawan, two villagers estimated that close to 20,000 ha of what was previously community land had been appropriated for the plantations. One farmer explained his case: *“When grabbing land, companies ... use people in the village. [I] had a document, which is recognised in customary law, but a man from the village was connected to the*

company and was paid the compensation... [I] protested to the company and they said they would investigate, but... yet no action”.

Because of pollution, villagers reported they can no longer use water obtained from streams and rivers in the area for drinking, and village wells now often dry out during the dry season. Men and women involved in fishery, interviewed individually or in small focus groups, noted how the use of the aquatic resources in the lake and the river had been undermined by different forms of pollution. In Sembuluh village, fisherfolk described how the average size of the catch has decreased since the establishment of the plantations, and a growing number of cases have been observed where only degraded, rotten or skeleton remains of fish have been found in the nets. In Terawan, a fisherman commented that “...when the mills started operating in 2001, the fish stocks in the river decreased because of water pollution... [We] protested, wrote letters to government offices, but they didn’t respect our protest”. Similarly, a farmer commented: “[The Bupati] said that the government would solve the problem with the mills, “just wait and see”,’ he said, “be patient”. But people are [still waiting] and it has been a long time with trouble now!”

Regular overflows of Palm Oil Mill Effluent (POME) into the river and streams were observed by villagers during the rainy season. One village headman stated: “In the dry season there is almost no water in the river, and in the rainy season people cannot consume the water; it is polluted... and they get skin diseases...”. In Sembuluh village, a farmer interviewed during a focus group said in frustration: “We have evidence of the pollution; fish are dying and [we get] skin diseases... [the water is] not good for fishery or washing clothes. If you don’t believe it you can just put your leg in the water!” In Pondok Damar, the village headman showed a film produced by a local journalist, with scenes from the Tebelian Tusang stream, with murky water, dead fish and children with skin rashes.

In sum, the impacts reported related to both water quality and water quantity:

- Land clearing, erosion and run-off from plantations leading to turbid and murky water;
- Release of toxins into the water bodies through the spraying of pesticides on plantations;
- Decline in fish stocks and aquatic wild plants;

- POME and other palm oil waste dumped or otherwise released into rivers and streams, including overflowing waste dams in the rainy season;
- Reduction in or redirection of water flows linked to the construction of channels and dams for plantations;
- Floods linked to deforestation, which increases peak flows and the risk of flash floods in the rainy season;
- Drying of community land adjacent to plantations and a lowering of the water table (including wells), forcing villagers to give up traditional rice farming and work in oil palm production.

These reports from the three villages were confirmed by the five local (environmental or indigenous) NGOs that participated in focus group discussions in Palangkaraya to consolidate the findings. Beyond the immediate concerns with water resource degradation, a pattern emerged of a spiral of increased village-dependency on the plantation companies when water-dependent livelihoods such as rice and crop cultivation and fisheries were undermined by loss of land, water scarcity and pollution, and when households come to depend on companies for their supply of drinking water. In this vein, one farmer explained that “[I] can’t plant rice or food crops because the quality of the soil is bad”.

The compensatory provision of drinking water (in response to village complaints) through government- or company-led compensation programmes appeared ineffective and not to satisfy the basic needs of villagers. Nor did these forms of compensation address the larger livelihoods impacts of water resource deterioration, such as the undermining of fishing or crop cultivation. One village headman noted, during an individual interview, that “...*the company stopped supplying water. [We] now use wells, but in [the] dry season there is no water. Then [we] search for water elsewhere in the plantation area, for instance in a nearby excavation site, but [we] are not sure the quality is good there*”.

On learning of the complaints from the consulted villagers, four executives from one of the growers operating in the watersheds of the affected villages acknowledged, during a joint interview, the

existence of *'rotten apples'* in the sector, and that some companies in the area were disposing of POME directly into the water courses, despite the fact that this is prohibited by law. They called on the local government to play a more proactive role in enforcing regulations but noted that: *"law enforcement unfortunately rarely works well in practice...thus the industry must take all initiatives"*. A Sustainability Manager with one of the world's major buyers of CPO explained, during an individual interview, that it is a basic premise of their operation to acknowledge that no plantation is unproblematic: *'If a plantation has "manageable issues" – in Indonesia everyone has issues – then [our company] proposes a work plan to address these issues...'*. Many district and provincial government staff confirmed the credibility of the village complaints. For instance, the officer from one of the river basin authorities in the province explained during an interview that he had come across many such complaints on fish deaths and the disappearance of other aquatic animals, but that despite submitting his reports to the Ministry of Forestry concerning the concessions responsible, no action had yet been taken by the respective companies.

6.1 Stakeholder appraisal of governance performance

According to the Ministry of Agriculture regulation 26:2007, plantation companies are required to obtain four levels of permits to initiate oil palm concessions. The first three permits are issued by the *Bupati*: the *Ijin prinsip*, which recognizes the operation of the company; the *Ijin lokasi*, which identifies an area of operation for the company and where it may site nurseries; and the *Ijin usaha perkebunan*, which entitles the company to plant oil palms and commence production. On receipt of the required documentation, the National Land Agency may issue the final concession permit, the *Hak Guna Usaha* (HGU), if the land has been released from forest classification by the Ministry of Forestry. Land permits issued from the sub-national governments can be revoked if there are severe violations of management regulations, if no HGU permit is granted or if the company has been unable to take productive action within two years.

Indonesian law contains a number of environmental provisions for the sustainable production of palm oil that have direct or indirect implications for water resource management. Most notably, the Forestry

Law no. 41:1999 prohibits destruction of naturally vegetated riparian zones around water bodies. This includes protection of 500 metres from the edge of a lake, 200 metres from the edge of larger rivers, and 100 metres from the banks of streams. To obtain the *Ijin usaha Perkubunan* and the HGU, companies are legally required (e.g. per the National Regulation 27:2007) to complete an Environmental Impact Assessment (*Amdal*). The baseline for the *Amdal* is a feasibility study, a confidential document which describes the planned concession, the villages located in the area, planned plasma allocations, infrastructural developments, and likely HCVAs. Further, in 2004, a new Indonesian Water Law replaced the 30-year old Water Law no. 11:1974. Among other things, it calls for the establishment of a National Water Council and River Basin Councils for all the country's river basins. The law stipulates principles for 'water use right' (*Hak Guna Air*), including recognition of customary rights. Yet, in order to support valid claims the law requires affirmation of customary rights to be made by local government (Al' Afghani 2006). Integrated watershed management is legally enshrined in this law, as well as in the Law on Spatial Planning and the Forestry Law. Decree 282 of the Ministry of Forestry also outlines the legal requirement to put in place transboundary basin management plans.

Notwithstanding this formal legal regime championed by the central government, it was widely recognised by people consulted for this study that existing mechanisms largely do not work to address grievances from the villages. The Director of the provincial environmental agency explained in an interview that the provincial government is able to investigate less than 1% of citizen complaints about plantation companies. Staff at the District Plantations Agency stated that there have been no cases of revoking concession permits because of non-compliance with environmental or social regulations. As concerns the new water law, government officials clarified during successive interviews that the establishment of river basin and watershed management organizations, policies and plans had not commenced in the province. An officer in the river basin authority noted that they are unable to monitor water pollution from plantations or other agro-industries. Similarly, quantitative water data were requested from district and provincial Environment Offices, but they were unable to make such data available, noting that monitoring data are extremely scarce or even completely lacking for most of

the province. Two officers at the Ministry of the Environment commented during an interview that “*Almost nobody complies with regulations to keep the required minimum distance from rivers and streams....the legislative framework is too complex and law enforcement too weak*”. Several contributors described how *Amdal* procedures were undermined by the operation of a concession ‘permit mafia’. One senior EIA consultant, interviewed individually, thus explained that “... *the Bupati dispatches a team to assess the area. The company pays the team for all services, its transport and accommodation . . . the team is not independent. The company negotiates with the team; how much land the company gets depends on the negotiation. Then the team sends a recommendation to the Bupati for his approval, including the payment for the permit...There is a close relation between many companies and the Bupati. The number of permits approved increases during election time; the companies may also support a politician for election and be rewarded with permits afterwards.*”

The functioning of the government administration was also undermined by a number of structural institutional weaknesses. While important legislative changes have been passed recently by the Governor to recognise *adat* land rights, these customary claims are not yet registered and no such steps have been taken as regards water rights. Moreover, Central Kalimantan province (like many other provinces) lacks an approved spatial plan, and the most recent Forest Classification process, the *Tataguna Hutan Kesepakatan* (TGHK), which dates from the 1990s, has been rejected by the Ministry of Forestry. This means that the only legal forest classification is from 1982 (see also Colchester et al., 2011). In effect, there is a mismatch between the outdated land use map held by the Ministry of Forestry and the rejected land use map operating at the provincial level. An officer in the district plantations agency explained during an interview: “...*in September 2000, a letter from the planning agency under Ministry of Forestry, referring to the recently passed Law 41:1999 on Forestry (article 19), agreed that the province could allocate forest land for plantation purposes even though the areas were not designated as non-forest land by the ministry. [We saw this] to reflect recognition by the Ministry of Forestry of the fact that the discrepancy between spatial plans was holding back further development. However, in September 2006, the Ministry of Forestry issued a new letter cancelling the previous order, obliging [us] to revert back to enforcing the 1982 forestry map...Today, the Governor*

has frozen issuance of land permits, and the national moratorium has entered into force. In the intervening period, 2000–2006, many plantations were established in designated forest land”.

This mismatch between land use maps held at local and national levels is a central reason why many companies operate concessions mandated by district governments without being able to secure the HGU. The lack of formal approval from the national government has in turn undermined the implementation of legislation on plantations and environmental provisions. Government officials explained that implementation of the compulsory allocation of 20 % concession area for smallholders is held back by the absence of HGU certificates. Furthermore, uncertainty over legal land rights discourages financial institutions from providing guarantees and loans to smallholders. Environmental agency staff also commented that monitoring and enforcement of environmental and social obligations in the plantations are obstructed when concessions operate without formal legal recognition.

These implementability constraints in the public sector posit the relevance of voluntary market-based standards. However, implementation of the RSPO standard in plantations in the field sites appeared weak. Several of the companies or parts of their operations (mills or suppliers under holding arrangements) were RSPO certified, with operations bound by partial certification requirements and time-bound plans to resolve remaining issues and work towards certification for their entire operations. These operations were criticised for noncompliance with both the RSPO guidelines and public sector regulations. This included most notably the PT Mustika Sembuluh (Wilmar Group) near the Pondok Damar village, PT Agro Indomas (Agrohope Group) near Terawan village, and PT. Salonok Ladang Mas (Triputra Group) near Sembuluh village (Fig. 1). At least one of these companies (Wilmar Group) has been previously blacklisted by the world’s largest buyers of palm oil, Neste Oil and Unilever (McCarthy et al., 2012). Furthermore, local NGOs explained that village complaints had been expressed to RSPO auditors but that this has not led to withdrawal of certification from the companies in question. Indeed, staff in the RSPO Liaison Office noted that there had been no cases of certification being revoked from any company due to noncompliance.

7. Analysis

The findings from the field sites demonstrate severe grievances from affected people in three villages in Central Kalimantan province pertaining to impacts on water resources – and considerable challenges in implementing water resource management as stipulated in government regulations and the RSPO standard. The available evidence suggests that the massive expansion of oil palm plantations, with its disposal of POME and application of fertilisers and toxins, has been a considerable contributor to the issues reported by villagers. However, without consolidated monitoring, uncertainty persists within governmental agencies regarding the relative role of different sources of pollution in the water bodies of Central Kalimantan. This undermines their ability to identify the relative burden to be placed on the palm oil industry compared to other upstream users of water, and hence to attribute responsibility and specific liabilities in line with the Polluter Pays Principle in environmental law. Indeed, pollution from heavy metals and other toxins from both industrial and artisanal mining, household waste disposal and other industry may also contribute to the impacts observed by the consulted villagers. Considerable pollution from these sources has been documented in Indonesia on previous occasions (Djuangsih, 1993; Adijaya and Yamashita, 2004).

Beyond the direct impacts from pesticides and run-off from plantations, the palm oil sector is also likely to have contributed to deterioration of water quality through the release of toxic ferrous-oxide from degraded peatlands. Hydrological modelling using data from Central Kalimantan Province has shown that water draining from peatland concessions contains high levels of sulphuric acid and organic decomposed matter, adding low-pH compounds to the already acidic soils and water bodies (Wösten et al., 2008). Drainage channels in plantations also change the seasonal stream and river flows as they accelerate water movement out of the peatlands (Ludang et al., 2007). Further, above and beyond the risks of toxification and acidification, it is well documented that the drying and removal of peatlands alters the local hydrological cycle, increasing the frequency of forest fires and lowering water tables (Someshwar et al. 2009).

7.1 Regulatory failure in the host country

The implementability constraints revealed through the governance appraisal confirm the regulatory failure of the Indonesian palm oil sector (e.g. McCarthy et al., 2012). This failure has been a key determinant of the rapid expansion of oil palm production in Central Kalimantan. Because palm-oil producers are seldom obliged to comply with environmental and social regulations, the ‘cost of compliance’ is low or non-existent, making palm oil produced in the province very cost-competitive on the global market. In fact, the province has suffered the highest rate of deforestation and forest degradation in Borneo, chiefly owing to logging and the expansion of extractive and agro-industries, including oil palm (Broich et al., 2011). An important incentive for the operation of oil palm plantations is the clear-cutting prior to the initiation of plantations. The transition to plantation-dependent economies in the Seruyan and Kotawaringin Timur districts partly reflects the exhaustion of timber resources and the urge for alternative ways to gain profit from the land (see also Casson and Obidzinski, 2002).

The decentralization policy, with its extensive but insufficiently funded autonomy in the districts, has been one of the main factors undermining compliance and enforcement. While tax revenue accrued from natural resources (palm oil, rubber, fruit, etc.) must be returned only to the national government, district administrations handle the sale of land permits for logging and palm oil concessions (except for concessions spanning districts, where the province is responsible). Stakeholders consulted for this study (both within and outside government administration) suggested that politicians at both the provincial and the district levels are privately granting land permits as a source of patronage. This confirms previous findings pointing to a struggle between central and sub-national governments to secure benefits from land and water resources (see also Casson, 2000; Casson and Obidzinski, 2002; Edwards et al., 2011). Meanwhile, districts continue to depend on (insufficient) fiscal grants from the central government, which to a large degree frees district regimes from downwards accountability to citizens. These dysfunctions of the government administration in the field sites are partly driven by the engagement of corporate actors in the palm oil sector. Politicians, from the President to Governors and *Bupatis*, are under much pressure from international lobby groups to maintain an investment climate

that is deemed desirable by corporate executives. The financial revenues generated by these relationships often play a significant role in funding election campaigns and otherwise securing political support (Koh and Gazoul 2009; Edwards et al. 2011).

7.2 Accountability gaps in the EU's biofuels policy

The architecture of EU renewable energy policies and their implementation by member states have led to a de facto delegation ('outsourcing') of responsibilities for reducing negative impacts on local livelihoods and natural resources to market-based sustainability standards. These measures have limited effectiveness, also demonstrated by the fact that, in the field study sites, extensive conversions of peatlands were reported to have taken place prior to the 2008 baseline set in the EU-RED and are still taking place. Further, the sustainability criteria encompass only land use changes while altogether disregarding water resource exploitation in the actual process of cultivation and production, and excluding socio-economic criteria regarding impacts on local livelihoods (see also van Dam et al., 2010; Hunsberger et al., this issue). There is no attempt by the EU to actively support sustainable water resource management in production outside its borders, and it remains optional for member states to monitor such impacts.

Rooted in the ILUC debate, the measures in the 2012 proposal are derived on the basis of GHG emission savings estimates rather than broader sustainability considerations. While it will, if adopted, put an upper limit on the future use of palm oil it will far from eliminate it, nor create any difference in incentivizing sustainable water resource management. Moreover, the proposal seeks to expand the scope for the Commission to decide on the inclusion of water conservation restrictions in voluntary sustainability schemes, but this requires case-by-case decisions and does not strengthen the mandatory basis of the sustainability criteria. Overall, the proposal appears – as also stated by the Commission – to reinforce the existing policy direction.

The market-based sustainability standards accredited under the EU-RED differ radically in quality, and few include procedures to safeguard water resources or the rights of local communities. In fact, standards may compete for buy-in from market actors, which means incentives to please companies.

This may lead to a phenomenon known in the literature on eco-labels as ‘a race to the bottom’ (cf. Fortin and Richardson, 2012). Furthermore, there are no process requirements in the EU-RED specifying minimum procedures or facilitation guidelines for acceptable meaningful democratic negotiation in the construction of certification schemes. This means that schemes which have fewer transaction costs and are marketed more aggressively, are likely to ‘storm’ the market (Ponte, this issue).

The most prominent effort to institutionalise a multi-stakeholder sustainability standard for palm oil, offered by the RSPO, from the outset had buy-in from many environmental and human rights NGOs. However, the design of the EU-RED does not provide much support to such initiatives. Since the RSPO is not rewarded for its comprehensiveness in contrast to other standards, it is difficult for the RSPO to offer a financial premium to its members to be competitive and motivate compliance with its more comprehensive standard requiring greater investments. Furthermore, in the absence of mandatory requirements pertaining to water resource in the EU-RED the burdens of compliance are placed primarily on the growers rather than with manufacturers or the later steps in the audit trail (see also Johnson et al. 2012).

Hence, while the EU-RED in some ways reflects a progressive policy innovation, its design and implementation has had no bearing on safeguarding local livelihoods and water resources in locales of producer countries such as in Central Kalimantan Province. The current governance system is largely unable to address the grievances from affected communities or to transparently and robustly mediate between the competing water claims of stakeholders. Arguably, these systemic weaknesses and outstanding complaints undermine the credibility of claims to sustainability made by growers, whether certified or not, even those who may actually be committed to the responsible production of more sustainable palm oil.

8. Discussion and conclusions

Political ecology contributions have previously argued that the EU-RED comprises primarily a range of discursive strategies that reduce the EU’s political accountability for harm inflicted on people in

producer countries to a technical matter of carbon accounting, thus effectively depoliticising global plunder of natural resources (Levidow, 2013). The disregard for water-related ecosystem services derived from Borneo's peatland forests serves as an additional reflection on the 'water blindness' that characterizes the current international debate on biofuel feedstock production. The present case is thus, first and foremost, indicative of how EU and international policy discourses centred on climate change mitigation objectives marginalize other natural resource concerns and livelihoods issues. These findings support a general critique of current global climate politics; namely that it allows energy security priorities of affluent nations to put local livelihoods in peril and benefit already privileged market actors (e.g. Newell et al., 2009; Boyd and Goodman, 2011; Levidow, 2013). Our analysis also supports previous arguments that EU policy making is taking inadequate account of the perspectives of trade partners and foreign actors, including government, private sector and civil society in Indonesia, ultimately leading to undesirable impacts in producer countries (Di Lucia, 2010).

One of the central reasons for the current accountability failure is that the sustainability criteria and the general design of the EU-RED do not match the socio-ecological reality and governance legacy in a context such as Central Kalimantan. Through its accredited certification schemes that offer but a very partial definition of sustainability, the EU ignores the political and historical legacy of the sector and the intrinsic exploitative dynamics of large-scale agro-industry. This legitimizes the historical injustices associated with successive land concentration, productive monopoly, and ignorance of indigenous resource claims. Local and national actors, with experiences of deep historical complicities, often pitted in antagonist and highly political positions, are expected to come to the table and negotiate around a market based conception of sustainability within the questionable frames provided by the EU directive. Meanwhile, in both producer and consumer countries, governments tend to step back from their originally mandated role as guarantor of citizen interests. The EU's policies on biofuels have so far supported a de-politicisation of what remains and ought to be addressed as distributional water politics. Furthermore, certification schemes such as the RSPO offer, at present, only cosmetic efforts to beautify a market-based approach that is insufficient to address deep structural issues.

The impact of EU biofuel policies also plays into the increasingly globalizing flows of capital and investments to control landed property and water resources. It is for this reason that some scholars mobilize the term “water grabbing”, since it “*draws attention to the involvement of new capitalist players and actors in water resources management and the rise of new political and economic power relations through diverse trajectories of neo-liberalism*” (Mehta et al., 2012, p. 198). To some extent, the EU-RED contributes to a subtle form of resource alienation that may aptly be captured under the term of ‘green grabbing’, i.e. the appropriation of land and resources for supposedly environmental ends (Fairhead et al., 2012). The impacts associated with water quality rather than quantity has so far received little attention and the present study highlights additional nuances that must be addressed.

8.1 Towards ‘hybrid accountability’?

The failure to operationalise hybrid accountability through the current design and implementation of the EU-RED demonstrates the continued need for stronger European policy interventions. Despite being partially offered as complement to compliance failures in host country regulatory systems, certification generally struggles to ensure the robustness of auditing, the enforcement of codes of conduct signed by members, and the provision of functional grievance procedures (Schouten and Glasbergen 2011). McCarthy (2012) argues that certification may, at best, offer limited learning tools for governments, corporations, farmers and NGOs, but that in general, certification reflects a compromise between corporations and social movements, which is incommensurable with local state based functions of government.

A number of policy revisions could be envisioned within the existing structure of the EU-RED to facilitate a more constructive co-evolution of public policy with market based and stakeholder negotiated standards. First, a wider conception of “sustainability” beyond the bounds of climate mitigation objectives could improve the rigour of sustainability standards, and serve to empower multi-stakeholder standards such as that offered by the RSPO. Clearly, if taking seriously the espoused commitment to sustainable production, criteria to safeguard ecosystem benefits derived from river basin and watershed management should be included in the sustainability criteria and made mandatory

in member states' implementation and certification schemes. It should also be required to strengthen traceability and transparency in the audit trail, to identify, and thus ensure rewards to, progressive sub-national government administrations and companies. This could make mandatory use of the principle of "identity preservation", so that the responsible grower can be identified. Such measures would require substantial political will as well as improved mediation and consultation with trade partners that so far have felt excluded by what they perceive as European protectionism. Challenges could also arise under the World Trade Organization's Agreement on Technical Barriers to Trade (TBT) and General Agreement on Tariffs and Trade (GATT) (e.g. Swinbank and Daugbjerg, 2013).

Notwithstanding the options within the EU-RED, a larger question emerges of whether such sectoral policy can ever compensate for deeper governance failures linked to general corporate regulation and transnational liability of market actors, serving distinct vested interests. The majority of palm oil from Indonesia is sourced for food products, for which governments in importing countries have not put regulatory frameworks in place. As argued by Bringezu et al. (2012), for biofuel certification in general, this suggests that selective product certification cannot at present fill the gap left by functional regulatory and enforceable public policy. It also suggests that sectoral initiatives such as the EU-RED are insufficient in scope as concerns multi-purpose crops and that equal attention must be paid to the audit trail for palm oil for non-energy purposes. Such interventions should also take account of the fact that general market signals and prices can have equal or even more important effects than tariffs and subsidies originating from the EU-RED.

In our view, the most fundamental flaw in the existing governance system is that affected communities such as those around Lake Sembuluh, despite multiple performance standards and sources of authority, still do not have access to functioning recourse mechanisms and remedies. As concerns the hybridization between market based certification and state based regulation in importing regions such as the EU, this argues for an urgent policy and research agenda emphasising how accountability could be strengthened through new transnational complaint mechanisms. Some opportunities already exist within the EU-RED in that it encourages bilateral and multilateral trade agreements on biofuels, which could provide for the institution of such recourse mechanisms, for instance through bilateral

complaints desks. Yet, neither the European Commission nor its member states have yet explored the use of trade agreements in practice (Johnson et al., 2012). Such approaches could also find inspiration in the guidelines provided by the UN "Protect, Respect and Remedy" Framework for Business and Human Rights, for instance through incorporating into auditing a mandatory principle of demonstrating free, prior and informed consent (FPIC) from communities into the auditing of compliance with the sustainability criteria (already embedded in the RSPO standard).

Clearly, a number of political and technical challenges would need to be overcome in designing such institutional mechanisms for transnational recourse. Pursuing this line of inquiry would bring the research on certification and sustainability governance closer to, and benefit from, where the community of legal and human rights scholars is moving at present. This includes the growing body of work on legal and institutional questions of transnational litigation and the extra-territorial obligations of states (e.g. McCorquodale and Simons, 2007), specifically the opportunities for collaboration between producer countries and import countries in clarifying relevant remedies and strengthening the enforcement of compliance with corporate performance standards (e.g. Prihandono, 2011). The experiences with the EU-RED and recent developments in market certification may then contain important seeds for rethinking the governance of global market chains. Arguably, elucidating these opportunities for innovation and thus fleshing out a more operational concept of hybrid accountability comprises an urgent task for both action and research.

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