

Legislative Readiness for RED

An analysis of the legislative readiness among exporting countries
to produce biofuels in compliance with the sustainability criteria
in the EU Renewable Energy Directive

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SUMMARY

A total of 1185 environmental laws from the Ecollex database (FAO et al. 2011) have been individually assessed in an attempt to provide insight in the target countries' general legislative readiness to produce biofuels complying with:

- i. The existing RED sustainability requirements
- ii. Potential requirements that can be added to the RED when revised

The assessment was done by reading and evaluating the relevance for each law in relation to the relevant RED criteria and topics. Legislative texts in English, Portuguese and Spanish were assessed, which was sufficient for covering all target countries defined in the original tender specification, except Sudan.

Target countries' potential to enforce legislation was assessed by combining the results of four recognised global indexes, *Corruption Perception Index* (Transparency International 2010), *Global Integrity Index* (Global Integrity 2009), *Democracy Index* (The Economist Intelligence Unit 2010) and *Rule of Law Index* (Agrast et al. 2010). In addition, it was assessed to which extent countries specify institutions responsible for enforcement in-text in their biofuel related legislation.

Legislative readiness for producing biofuels that comply with the RED sustainability criteria

Table 1 shows the regional levels of consideration for the RED criteria in the three regions (see Table 27 in the full report for definitions). For the assessed target countries' legislation, it can be concluded that:

Impacts on areas designated for nature protection purposes seems to be *universally well considered* (+++) in the assessed American countries, *generally well considered* (++) in the assessed African countries and *relatively well considered* (+) in the assessed Asian countries.

Clearing of forests seems to be *universally well considered* (+++) in the assessed American countries, *relatively well considered* (+) in the assessed Asian countries and *relatively considered* () in the assessed African countries.

Impacts on rare, threatened and endangered species seems to be *relatively considered* () in the assessed American and African countries and *universally poorly considered* (---) in the assessed Asian countries.

Conversion of wetlands seems to be *generally poorly considered* (--) in the assessed African countries and *universally poorly considered* (---) in the assessed Asian and American countries.

Drainage of peatlands and Conversion of grasslands seem to be *universally poorly considered* (---) in legislation in all assessed countries.

Table 1: Consideration of RED sustainability criteria in biofuel related legislation: global overview

	Impacts on protected areas	Clearing of forests	Impacts on threatened species	Conversion of wetlands	Conversion of grasslands	Drainage of peatlands
Asia	+	+	---	---	---	---
America	+++	+++		---	---	---
Africa	++			--	---	---

In summary, the assessed target countries' general legislative readiness for producing biofuels complying with the RED criteria seems to be **good**, what regards *Impacts on areas designated for nature protection purposes* and *Clearing of forests*, provided that legislation is sufficiently enforced.

However, the assessed target countries' general legislative readiness for producing biofuels complying with the RED criteria seems to be **poor**, what regards *Conversion of grasslands*, *Drainage of peatlands* and *Conversion of wetlands*.

Legislative readiness for additional RED sustainability criteria

Table 2 shows the regional levels of consideration for the RED topics in the three regions (see Table 27 in the full report for definitions). For the assessed target countries' legislation, it can be concluded that:

Social sustainability seems to be **universally well considered** (+++) in all assessed countries.

Land-use seems to be **universally well considered** (+++) in the assessed American countries, **generally well considered** (++) in the assessed Asian countries and **relatively well considered** (+) in the assessed African countries.

Water seems to be **universally well considered** (+++) in the assessed American countries, **generally well considered** (++) in the assessed African countries and **relatively well considered** (+) in the assessed Asian countries.

Biodiversity seems to be **generally well considered** (++) in the assessed American countries and **relatively considered** () in the assessed Asian and African countries.

Soil seems to be **relatively well considered** (+) in the assessed American countries and **relatively considered** () in the assessed Asian and African countries.

Ecosystem services seems to be **relatively considered** () in the assessed American countries, and **relatively poorly considered** (-) in the assessed Asian and African countries.

Carbon stock seems to be **relatively poorly considered** (-) in all the assessed countries.

Air seems to be *relatively poorly considered* (-) in the assessed American countries and *universally poorly considered* (---) in the assessed Asian and African countries.

Greenhouse gas emissions seems to be *universally poorly considered* (---) in all the assessed countries.

Table 2: Consideration of RED topics in biofuel related legislation: global overview

	Social sustainability	Land-use	Water	Bio-diversity	Soil	Ecosystem services	Carbon stock	Air	GHG emissions
Asia	+++	++	+			-	-	---	---
America	+++	+++	+++	++	+		-	-	---
Africa	+++	+	++			-	-	---	---

In summary, if additional mandatory requirements related to *Social sustainability*, *Land-use* or *Water* are to be added to the RED, the results indicate that these are likely to be *well considered* in national legislation.

If additional mandatory requirements related to *GHG emissions*, *Air* or *Carbon stock* are to be added to the RED, the results indicate that these are likely to be *poorly considered* in national legislation.

Enforcement

Unless legislation is sufficiently enforced, the legislative readiness, as previously determined, is of little value. The results, as summarised in Table 30 in the full report, show that seven of the assessed countries were classified as having a low potential to enforce legislation, six countries were classified as having an intermediate potential while no countries were classified as having a high potential to enforce legislation. In addition, most countries do not specify institutions responsible for enforcement in-text in their biofuel related legislation. It is unknown if such responsibilities are specified in other ways in the different countries, but if the responsibilities are not sufficiently clear; it is likely to negatively affect the level of enforcement.

Implications

The results indicate that the legislative readiness cannot be determined other than on a theoretical level, since challenges related to enforcement seem to be consistent among the assessed exporting countries. This means that the EU cannot expect countries to be well prepared to produce biofuels complying with the RED criteria, even though the legislative readiness in some cases indicates so. It is therefore essential that the EU supports the development, or consolidation, of third-party institutions, either national or international, which can monitor developments of biofuel projects and verify that biofuels aimed for the EU-RED market are produced in compliance with the RED criteria.

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1 – INTRODUCTION

Legal and voluntary mechanisms exist that will, to varying degrees, provide information on various environmental and social issues relevant for biofuels. Analysis of these mechanisms can provide valuable insights into how countries manage sustainability challenges in areas relevant for biofuels production aimed for export to EU.

Legal mechanisms include for example environmental legislation (this report) and Environmental Impact Assessments. Voluntary mechanisms include for example certification schemes, Voluntary Emissions Reductions (VER), REDD and CDM projects. All these mechanisms are treated in separate reports.

1.1 Aim

An underlying question for the studies on legal or voluntary mechanisms, in this project, is whether or not different governments tend to develop policies in response to foreign sustainability concerns, and also how well prepared they are to do so.

The aim of this study, besides from supplying input for this underlying question, is:

To analyse national and sub-national legislation relevant for sustainability considerations in relation to agriculture in general and biofuels in particular, with the intention to provide insight in the target countries' general legislative readiness to produce biofuels complying with the existing RED sustainability requirements, as well as potential requirements that can be added to the RED when revised.

To analyse enforcement, both juridical responsibilities to enforce biofuel related legislation and practical potential to enforce legislation in general, with the intention to discuss if biofuels are likely to be produced in compliance with national legislation.

Results from the legislation and enforcement analyses are presented on a national level for the selected target countries, as well as on a regional and global level.

1.2 Limitations to the study

The ECOLEX database (FAO et al. 2011) has been used to identify environmental legislation in the target countries. The developers FAO, UNEP and IUCN claim that ECOLEX “provides the most comprehensive possible global source of information on environmental law”, although it is assumed that the database is not perfectly comprehensive. Therefore, it is unlikely that all laws relevant for biofuels have been analysed for all target countries.

Due to time and capacity constraints, some target countries were not included in this study. All countries included in the tender specification for subtask 2 (TS-2) have been included besides Sudan, due to lack of Arabic translation capacity. The selection of countries has been decided on in discussions with Ecofys.

Only legislation was included in the main analysis. Regulation was excluded due to time constraints. Since regulation can be relevant for biofuels, a complementary analysis for regulations was performed in cases where no laws were identified covering certain aspects. However, an identical analysis for regulation as for legislation would provide the most comprehensive and reliable results.

2 – METHOD

In this chapter, methodologies are presented for the country level analysis, the complementary regulation analysis, the regional analysis and the enforcement analysis.

2.1 Legislation

Each target country's environmental legislation has been extracted from the ECOLEX database. ECOLEX is an information service on environmental law, operated jointly by FAO, IUCN and UNEP. Its purpose is to build capacity worldwide by providing the most comprehensive possible global source of information on environmental law (FAO et al. 2011).

2.1.1 National level legislation analysis

All legislative documents has been systematically analysed using an analysis tool developed specifically for this task. The following methodology has been used:

Elements relevant for all legislation

The following elements of the analysis are relevant for all legislations.

Basic information

Basic information has been collected for all available legislation, including:

- Full name of the legislation
- Translation to English (if necessary)
- ECOLEX subject(s)
- Direct link to the legislation summary in the ECOLEX database
- Relevance for biofuels, i.e. whether the legislation is relevant for biofuels or not

Elements only relevant for biofuel related legislation

The following elements of the analysis are only relevant for biofuel related legislation.

Connections to biofuels

Legislation can be related to biofuels in different ways. The obvious connections are to feedstock production and processing but there are also other possible connections. For example, legislation on labour issues are not connected to the production of feedstock or processing per se, but it is nevertheless necessary for biofuel producers to comply with. Therefore, legislation can be connected to biofuels in three main ways;

- Feedstock production,
- Processing and
- Other

These categories have been further subcategorised to be able to further specify the connections between specific legislation and biofuels. Each subcategory, or connection, has a different relation to biofuels and one law can be related to several of the

connections. However, only the connection that has the closest relation to biofuels has been chosen for each law in the analysis.

The closest connection to feedstock production is naturally “biofuel feedstock production” followed by “agriculture”, “forestry”, “nature and biodiversity protection” and “other land-use and LUC”.

The closest connection to processing is “biofuel processing” followed by “industrial activities”.

The last category, “Other”, includes “other relevance” or “no other relevance”. The reason for choosing “other relevance” has been noted in all cases.

Relations to RED sustainability considerations

As further described in the study about Environmental Impact Assessments (EIAs), the RED has been translated into seven topics and 31 underlying aspects. The RED-topics are supposed to represent main areas of interest in the RED. They include:

- Social sustainability
- Biodiversity
- GHG emissions
- Carbon stock
- Air, water and soil
- Ecosystem services
- Land-use

In order to identify which environmental considerations that exist in biofuel legislation, the RED topics have been used as a basis for evaluation of each analysed law. This has been done by analysing whether or not the laws are related to each of the RED topics (yes/no). The topic “air water and soil” was split up into the three topics; “air”, “water” and “soil” for this analysis.

Relations to RED sustainability criteria

The RED topics represent the main, broad areas of interest in the RED, but the sustainability criteria in Article 17 are more specific and of particular interest for this study.

Each legislative document has been evaluated on whether or not it restricts activities in similar ways as each of the RED criteria. For each target country, this analysis shows how many legislations that are restricting biofuel related activities similar to the ways required by the EU through the sustainability criteria in the RED. Criterion 17:2 on GHG emissions savings has been excluded from the analysis.

Note that the sole existence of legislation related to, for example, criterion 17:3a on clearing on natural forests does not automatically mean that clearing of natural forests is restricted per se. It might mean that it is prohibited without permission or in specific areas. However, it is assumed that the more laws that restrict activities in similar ways as a specific criterion, the higher the legislative readiness for producing biofuels in a way that complies with that specific criterion. Analogously, if few laws exist restricting

certain activities, it is assumed that the legislative readiness for producing biofuels in a way that complies with the corresponding criterion is low.

Coverage

All biofuel related legislations have been marked with either national or sub-national, depending on their coverage. Sub-national legislation means that it is provincial or local, or that it is only relevant for a specific area (e.g. establishment of a defined protected area). National legislation means that it is nation-wide.

Institution responsible for enforcement

If stated in-text in the legislation, the institution responsible for enforcement has been noted. This is done in order to identify how biofuel related legislations are enforced in the juridical sense.

Database development

Each legislative document has been downloaded as a pdf file in order to provide for the development of a database on biofuel related legislation.

2.1.2 Complementary regulation analysis

Due to the different cultures and traditions that exist regarding legislation in different countries, we assumed that some countries restrict certain activities primarily in *legislation* and others primarily in *regulation*. Therefore, in an attempt to avoid erroneous conclusions about certain countries' legislative coverage in relation to the RED sustainability criteria, a complementary analysis of regulations was made in cases where no laws were found related to a certain RED sustainability criterion.

The analysis was performed in a similar way as for the legislation, although restricted to identifying relations to the specific RED sustainability criteria that were missing in legislation. Besides, in contrary to the legislation analysis, all regulations were not analysed. A selection was made before the analysis based on a keyword search in the ECOLEX regulation database, as specified below.

Clearing of forests - (Article 17:3a; 17:4bc)

No complementary analysis necessary since all countries had laws related to this criterion.

Impacts on areas designated on nature protection purposes - (Article 17:3bi)

No complementary analysis necessary since all countries had laws related to this criterion.

Impacts on rare, threatened and endangered species - (Article 17:3bii)

No complementary analysis necessary since all countries had laws related to this criterion.

Conversion of grasslands - (Article 17:3c)

Keywords: "desertification" "ecosystem preservation" "land-clearing" "management/conservation" "protected area" "national parks" "protection of habitats" "wild flora"

Drainage of peatlands - (Article 17:5)

Keywords: "drainage/land reclamation" "ecosystem preservation" "land-clearing" "management/conservation" "protected area" "national parks" "protection of habitats" "wild flora"

Conversion of wetlands - (Article 17:4a)

Keywords: "drainage/land reclamation" "estuaries" "mangroves" "water conservation zone" "wetlands" "ecosystem preservation" "land-clearing" "management/conservation" "protected area" "national parks" "protection of habitats" "wild flora"

2.1.2 Regional level analysis

The assessed countries were grouped into three regions in order to identify similarities and differences, both between countries within the same region and between regions.

In order to illustrate how the RED aspects/criteria are considered on a national level, three levels of consideration were defined, as described in Table 3.

Table 3: National level of consideration for RED topics/criteria in legislation

National level of consideration for RED topics/criteria	Code
RED aspect/criteria <i>well considered</i> (considered by relatively many laws)	+
RED aspect/criteria <i>relatively considered</i>	
RED aspect/criteria <i>poorly considered</i> (considered by relatively few laws)	-

In order to determine the national level of consideration for each RED topic/criterion, thresholds were defined, as described in Table 4. The thresholds were calculated to allow for an even distribution of levels among countries, regardless of the number of available laws.

The upper limit for *poorly considered* varies depending on the number of available laws and is consequently twice as high for RED topics as for the more specific RED criteria. The lower limit for *well considered* is constant in both cases; 30% for RED topics and 18% for RED criteria.

RED topics/criteria that fall in between the limits, i.e. considered by neither relatively many nor relatively few laws, are classified as *relatively considered*.

Table 4: Thresholds for determining national level of compliance for RED topics/criteria in legislation

Number of available laws relevant for biofuels	RED topics		RED criteria	
	-	+	-	+
<20	<16%	>30%	<8%	>18%
21-40	<14%	>30%	<7%	>18%
41-100	<13%	>30%	<6.5%	>18%
100-200	<11%	>30%	<5.5%	>18%
>200	<9%	>30%	<4.5%	>18%

In order to compare regions on a global level, national levels of consideration were aggregated to regional levels of consideration, as defined in Table 5.

Table 5: Regional level of consideration for RED topics/criteria in legislation

Regional levels of consideration	Code
Universally well considered	+++
Generally well considered	++
Relatively well considered	+
Relatively considered	
Relatively poorly considered	-
Generally poorly considered	--
Universally poorly considered	---

The regional levels of consideration were determined by calculating the percentage of aspects/criteria that are *well considered* or *poorly considered* for each topic/criteria, as described in Table 6. In cases where different national levels of consideration exist for the same topic/criteria in a region, the national levels *well considered* and *poorly considered* have been settled to resulting *relatively considered* levels. This means that contradicting national levels within a region results in a lower regional level of consideration.

Table 6: Methodology for determining regional level of consideration

Percentage of RED topics/criteria with the same national level of consideration in a region	Code	
0-25		
26-50	+	-
51-75	++	--
76-100	+++	---

2.3 Enforcement

2.3.1 Enforcement in the juridical sense

Institutions responsible for enforcement were identified in the legislative texts, if specified. Besides detailed information about institutions responsible for enforcing biofuel related legislation in each country, this allows for an illustration of whether or not the different countries tend to specify institutions responsible for enforcement in-text in their biofuel related legislation.

2.3.2 Enforcement in the practical sense

On a country level, it is not feasible to assess how each and every law is enforced in practice. Instead, the enforcement potential for each target country is discussed based on global indexes indicating the general potential to enforce legislation.

Corruption Perception Index (CPI)

CPI is developed by Transparency International and has the purpose to indicate the perceived level of public-sector corruption in a country. The corruption index ranges between 0-10 and a high index indicates low levels of corruption. (Transparency International 2010)

Global Integrity Index (GII)

GII is developed by Global Integrity and has the purpose to indicate the existence, effectiveness, and citizen access to key national-level anti-corruption mechanisms used to hold governments accountable. GII ranges between 0-100 and a high index indicates a strong anti-corruption framework. (Global Integrity 2009)

Index of Democracy (ID)

ID is developed by The Economist Intelligence Unit and has the purpose to indicate the state of democracy, including e.g. the electoral process, functioning of government and political participation. The democracy index ranges between 0-10 and a high index indicates a strong democracy. (The Economist Intelligence Unit 2010)

Enforcement Index (EI)

EI is an index consisting of the CPI, GII and ID indexes combined. The results for each index have been normalized and combined with equal weight in order to present a combined result for the three indexes, representing the potential to enforce legislation. The EI ranges between 0-10 and a high index indicates a strong potential to enforce legislation.

The CPI, GII and ID all suggest ways to interpret their respective systems. For example, an integrity index of 70-80 means that the country is placed in the *moderate performance* group. These interpretations have been aggregated and combined and a system for interpretation of the EI has been created, as illustrated in *Table 1*.

Table 7: Interpretation of Enforcement Index

Enforcement Index	Potential to enforce legislation
$\geq 7,7$	High
5,6 - 7,6	Intermediate
$\leq 5,5$	Low

Rule of Law Index (RLI)

RLI is developed by the World Justice Project and intends to provide detailed information and original data regarding a variety of dimensions of the rule of law, which enables stakeholders to assess a nation's adherence to the rule of law in practice, identify a nation's strengths and weaknesses in comparison to other countries, and track changes over time. RLI consist of 9 factors, each range between 0-1 and a high index indicates a better performance. (Agrast et al. 2010)

The intention with RLI is similar to the one with EI, since it intends to assess a nation's adherence to the rule of law in practice. Therefore, the RLI scores can both confirm other results and indicate that they might be inaccurate. Note that RLI scores are not available for all countries.

3 – COUNTRY PROFILES

In this chapter, results are presented on a country level. Each country profile is intended to provide an overview of the legislative situation in the different countries, from a biofuels perspective. For each country, results from the legislation analysis and enforcement analysis are presented separately.

3.1 Indonesia

Indonesia is a major producer of Oil Palm biodiesel and part of the *Asia* region.

3.1.1 Biofuel legislation

Available environmental legislation in Indonesia consists of 27 laws, written in English (FAO et al. 2011). As seen in Figure 1, 18 of the laws are relevant for biofuels and all have a national coverage.

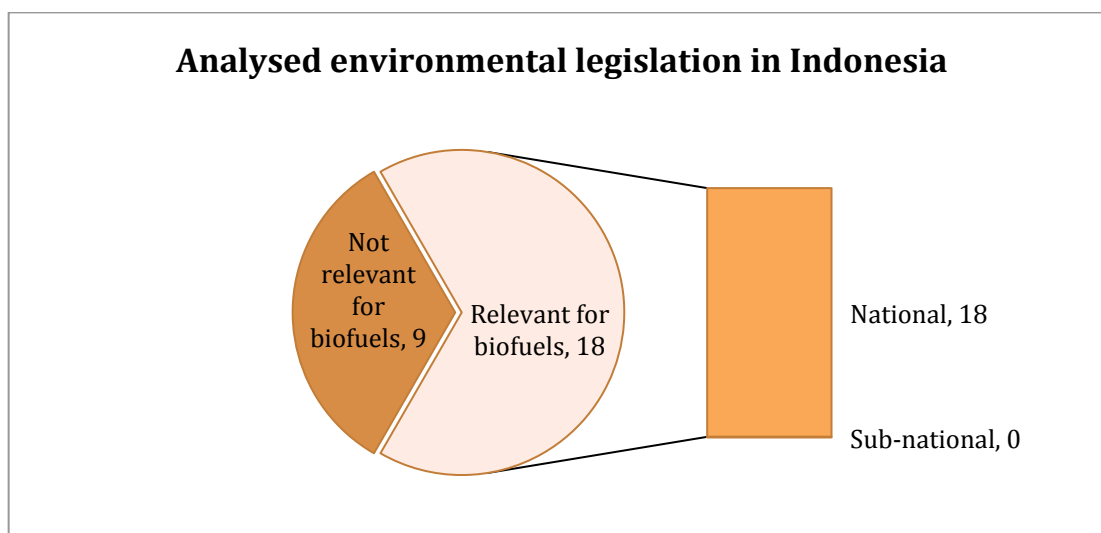


Figure 1: Overview of the analysed environmental legislation in Indonesia, including number of laws relevant for biofuels and their national coverage

Connections to biofuels

As seen in Figure 2, most of the biofuel related laws have connections to the feedstock production phase and particularly agriculture in general. No laws have specific connections to biofuel feedstock production.

About one fifth of the relevant laws have connections to industrial activities, but no laws have specific connections to biofuel processing.

Almost half of the relevant laws have connections to biofuels in other ways than feedstock production or processing, most commonly these laws cover issues related to land-rights. Other examples include electricity supply and promotion of renewable energy.

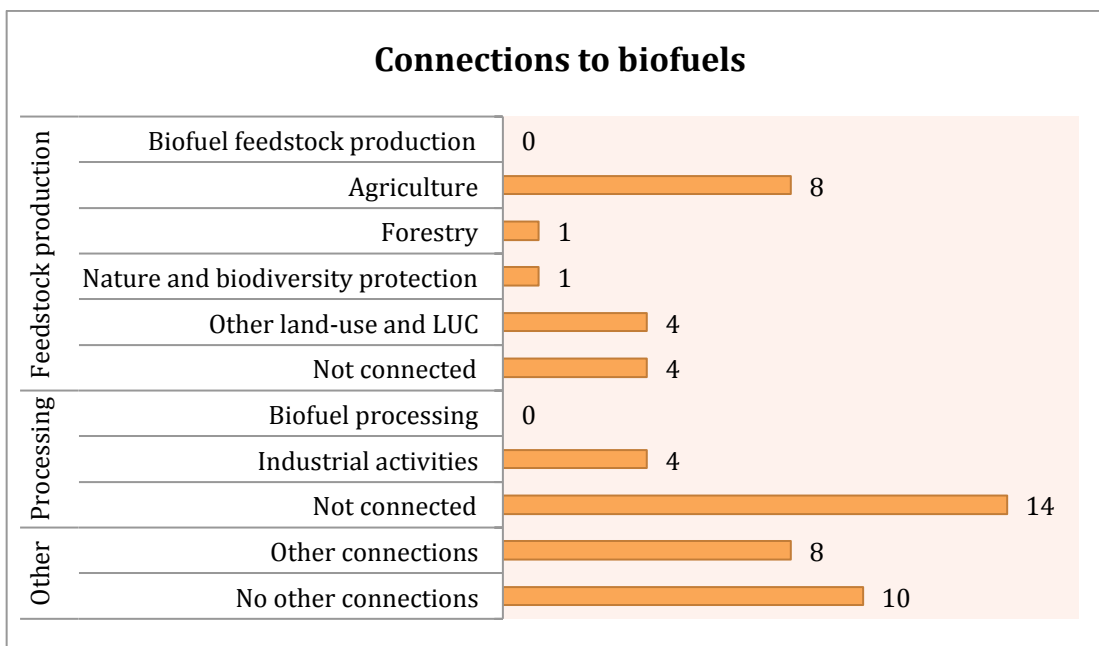


Figure 2: Connections between environmental legislation and biofuels in Indonesia

Relations to RED sustainability topics

As seen in Figure 3, *Social sustainability* seems to be the most considered RED topic in Indonesia's biofuel related legislation followed by *Land-use*. The least considered topics include *Air* and particularly *GHG emissions*, for which no relations were found.

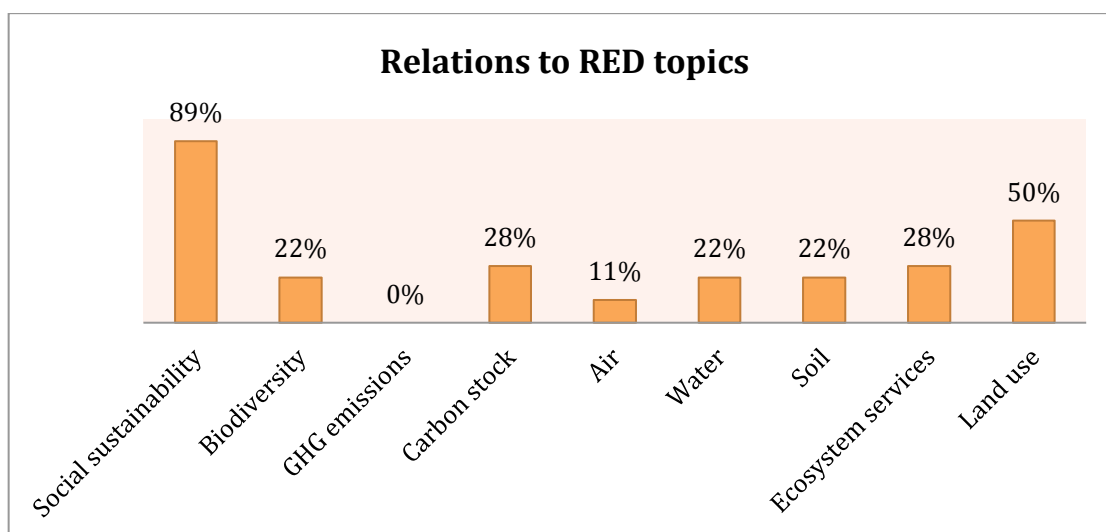


Figure 3: Share of Indonesia's biofuel related legislation that consider each RED topic

Relations to RED sustainability criteria

As seen in Figure 4, most relations were found for *Impacts on areas designated for nature protection purposes*. Few relations were found for *Clearing of forests*, *Impacts on rare, threatened and endangered species* and *Conversion of wetlands*. No laws restricting *Drainage of peatlands* or *Conversion of grasslands* were found.

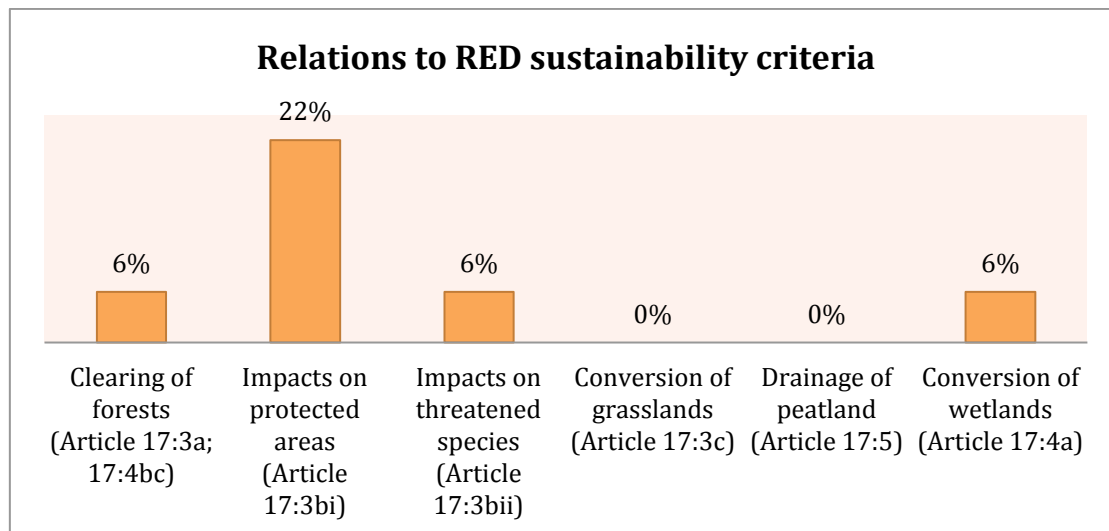


Figure 4: Share of Indonesia's biofuel related legislation that consider each RED criterion

Complementary analysis of regulations

Since no laws related to *Conversion of grasslands* or *Drainage of peatlands* were identified, an effort to identify such relations in regulations was made. Three national regulations restricting drainage of peatland were identified, including “Government Regulation No. 27 Concerning Swamps”, “Decree of the State Minister of Environment No. KEP-39/MENLH/8/1996 on the types of business or activities which shall, by way of obligation, be completed with an analysis of environmental impacts” and “Government Regulation on land use management”.

No regulations were identified restricting *Conversion of grasslands*.

3.1.2 Enforcement

Enforcement is analysed both from the perspective of juridical responsibilities to enforce biofuel related legislation and practical potential to enforce legislation in general.

Enforcement of biofuel legislation in the juridical sense

With a few exceptions, it is generally not stated in-text how individual laws are supposed to be enforced. Generally it seems like enforcement of laws is the responsibility of the government, local/regional governments or an unspecified government assigned agency. Exceptions include the National Energy Council, the Plant Variety Protection Office and the Head of First-Level Region through the Land Procurement Committee.

Enforcement potential of legislation

This chapter presents and interprets the results for Indonesia on the CPI, GII, ID, EI and RLI indexes, with the purpose to provide for a discussion on how compliance with legislation in Indonesia is managed in the practical sense. Note that this chapter does not focus specifically on how compliance with biofuel legislation is managed, but rather on Indonesia's potential to enforce legislation in general.

Corruption Perception Index

Indonesia scores 2.8/10 on the Corruption Perception Index. That puts Indonesia in the 110th place of 178 countries globally, and in the 20th place of the 33 countries in the Asian Pacific region (Transparency International 2010). The interpretation of the score indicates that public sector corruption in Indonesia is perceived to be high.

Target countries with similar CPI scores include: Argentina (2.9), Ethiopia (2.7), Mozambique (2.7) and Tanzania (2.7).

Global Integrity Index

On the 2009 Global Integrity Index (Global Integrity 2009), Indonesia scores 74/100, which means that the anti-corruption framework is considered to be moderate. The following highlights from the GII analysis was published along the result:

“Indonesia's overall performance on key dimensions of anti-corruption and good governance remains similar to last year. The anti-corruption agency, ombudsman, and audit agency earned strong to very strong ratings. The voting and tax systems are relatively effective, while a new (and potentially important) public access to information law will be implemented in 2010. Nevertheless, there are areas of growing concern and weakness. Although the national ombudsman currently enjoys political autonomy, this independence is threatened by the possibility that the selection of ombudsman staff will be voted on by parliament in the near future. Legislative oversight of public expenditures continues to be extremely weak, as are the laws governing the financing of political parties and candidates, which often fail to impose sanctions on those who violate the limits on campaign spending. In addition, although the media enjoys relative freedom from censorship, journalists face serious threats when investigating stories related to corruption.”

Target countries with similar GII scores include: Brazil (76), Malawi (73) and Pakistan (72).

Index of Democracy

On the 2010 Index of Democracy, (The Economist Intelligence Unit 2010) Indonesia scores 6.53/10. This puts Indonesia in the 60th place of 167 countries globally. The score means that Indonesia is classified as a “flawed democracy”.

“Flawed democracies (our comment: ranked the second best out of four groups) also have free and fair elections and even if there are problems (such as infringements on media freedom), basic civil liberties will be respected. However, there are significant weaknesses in other aspects of democracy, including problems in governance, an underdeveloped political culture and low levels of political participation.”

Target countries with similar ID scores include: Peru (6.4), Ukraine (6.3) and Malaysia (6.2).

Enforcement Index

Indonesia scores 5.6/10 on the Enforcement Index. This means that the potential to enforce legislation is classified as being intermediate. Compared to other target countries, Indonesia ranks the same as Peru and Argentina whereas six target countries ranks higher and twelve ranks lower.

Rule of Law Index

Indonesia is part of the “lower middle” income group and located in the “East Asia & Pacific” region (Agrast et al. 2010). The results on the Rule of Law Index for Indonesia is presented in Table 8.

Table 8: Relevant results for Indonesia on the Rule of Law index

Rule of Law Index – Indonesia								
Principle	Factor	Score	Global ranking		Regional ranking		Income group ranking	
Accountable Government	1. Limited Government Powers	0.56	18/35	22.5/35	7/7	7/7	4/12	6.5/12
	2. Absence of Corruption	0.44	27/35		7/7		9/12	
Open Government and Regulatory Enforcement	6. Open Government	0.41	17/35	19/35	4/7	5.5/7	3/12	5.5/12
	7. Regulatory Enforcement	0.51	21/35		7/7		8/12	

Indonesia has approximately the same relative rank for the principle on *accountable government* (23/35) as for the CPI, both globally (110/187) and regionally (20/33). This indicates that challenges related to corruption and government accountability are likely to exist in Indonesia.

Indonesia is ranked 19/35 for the principle on *open government and regulatory enforcement*. Compared to Argentina (29/35) and Peru (22/35), with similar EI score, Indonesia is likely to have fewer challenges related to open government and regulatory enforcement. This indicates that Indonesia might have a better potential to enforce legislation than what is indicated in the EI, at least in comparison to other countries with similar EI score. However, the difference between the EI and the RLI score is sufficiently small to support the earlier classification of Indonesia’s potential to enforce legislation as being intermediate.

3.1.3 Country-specific conclusions

27 laws are available for Indonesia in the ECOLLEX database, of which 18 are relevant for biofuels. All biofuel related laws have a national coverage but they are often locally or regionally enforced.

No laws specifically aimed for biofuel feedstock production or biofuel processing was identified.

Social sustainability and *Land-use* seem to be the most considered RED-topics in Indonesia’s biofuel legislation while *Air* and particularly *GHG emissions* seem to be the least considered.

Regarding the RED sustainability criteria, most relations were found for *Impacts on areas designated for nature protection purposes*. Few relations were found for *Clearing of forests*, *Impacts on rare, threatened and endangered species* and *Conversion of*

wetlands. No laws restricting *Drainage of peatlands* or *Conversion of grasslands* were found.

Enforcement

Institutions responsible for enforcement are specified in-text in 17% of the identified biofuel related laws.

With regard to the score on the CPI, GII, ID and RLI indexes, Indonesia is regarded to be a “flawed democracy”, likely to face challenges related to corruption and government accountability and the anti-corruption framework is considered to be moderate. Indonesia’s potential to enforce legislation is classified as intermediate.

3.2 Malaysia

Malaysia is a major producer of Oil Palm biodiesel and part of the *Asia* region.

3.2.1 Biofuel legislation

Available environmental legislation in Malaysia includes 134 laws, written in English (FAO et al. 2011). As seen in Figure 5, 54 of the laws are relevant for biofuels and about two thirds have a national coverage while one third are sub-national.

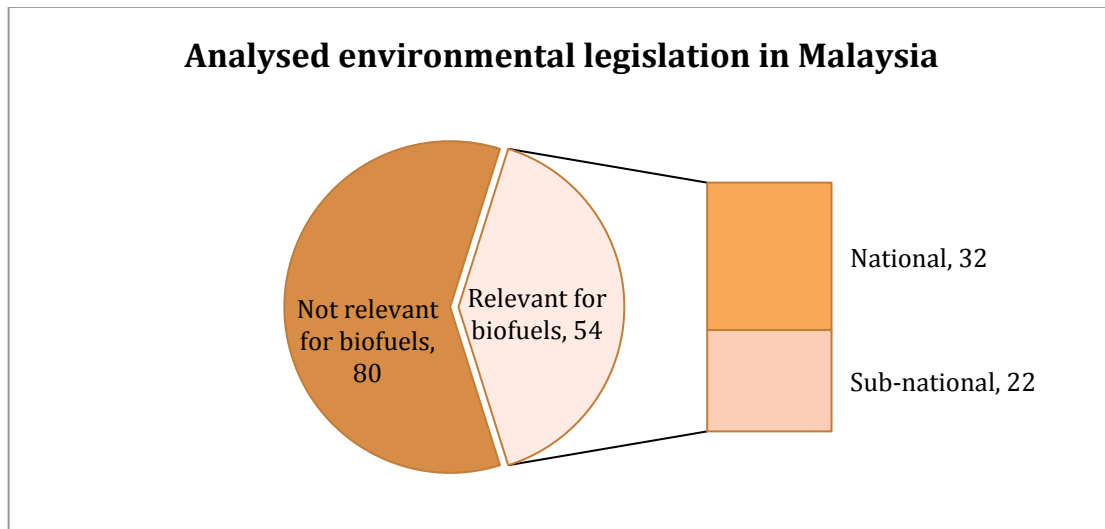


Figure 5: Overview of the analysed environmental legislation in Malaysia, including number of laws relevant for biofuels and their national coverage

Connections to biofuels

As seen in Figure 6, almost all of the relevant laws have connections to the feedstock production phase, and particularly agriculture in general. Two laws have specific connections to biofuel feedstock production, “Malaysian Biofuel Industry Act 2007 (Act No. 666)” and “Malaysia Energy Commission Act 2001 (Act No. 610)”. Both laws are national.

One third of the relevant laws have connections to industrial activities, but no laws have specific connections to biofuel processing.

About one third of the relevant laws have connections to biofuels in other ways than feedstock production or processing, including for example issues regarding land-/property-/building rights, general energy or land-use planning and corruption.

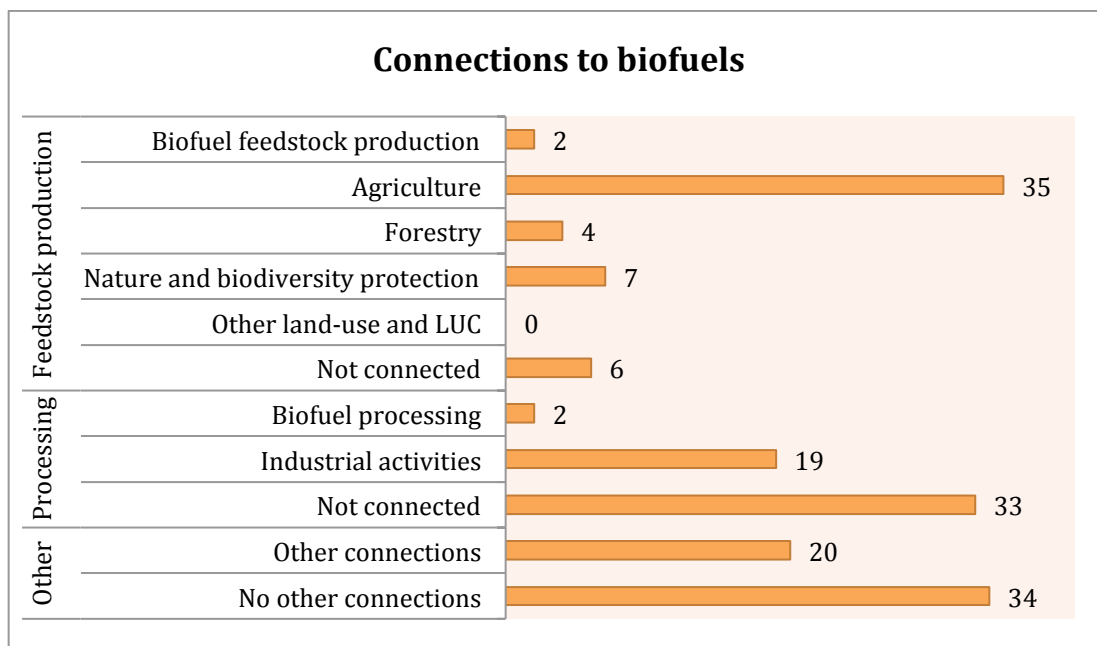


Figure 6: Connections between environmental legislation and biofuels in Malaysia

Relations to RED sustainability topics

As seen in Figure 7, *Land-use* seem to be the most considered RED topic in Malaysia's biofuel legislation followed by *Social sustainability*. The least considered topics include *Ecosystem services*, *Air*, *Carbon stock* and *GHG emissions*.

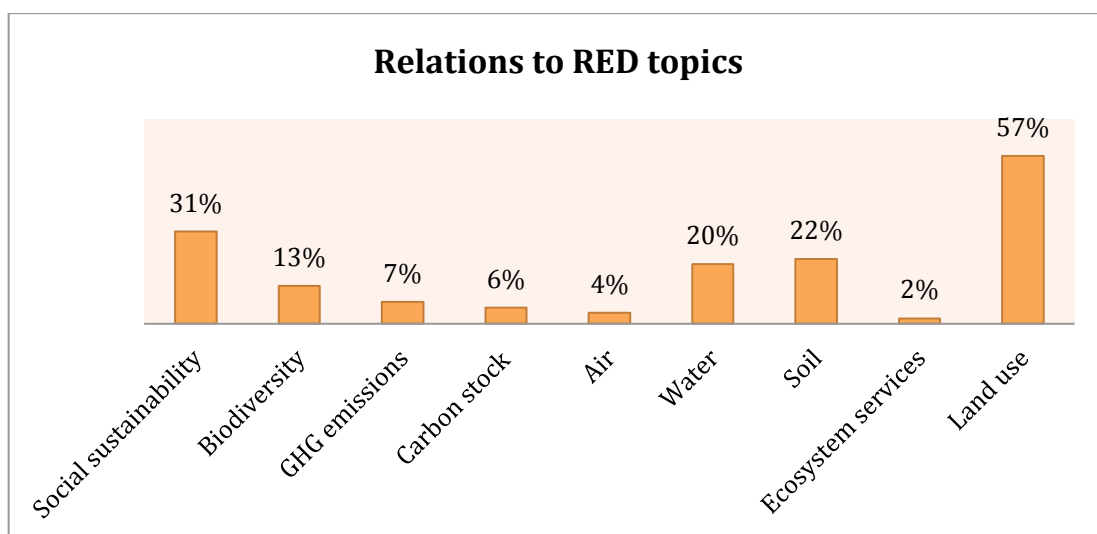


Figure 7: Share of Malaysia's biofuel related legislation that consider each RED topic

Relations to RED sustainability criteria

As seen in Figure 8, most relations were found for *Impacts on areas designated for nature protection purposes* and *Clearing of forests*. Few relations were found for *Conversion of grasslands*, *Impacts on rare, threatened and endangered species*, *Drainage of peatlands* and *Conversion of wetlands*.

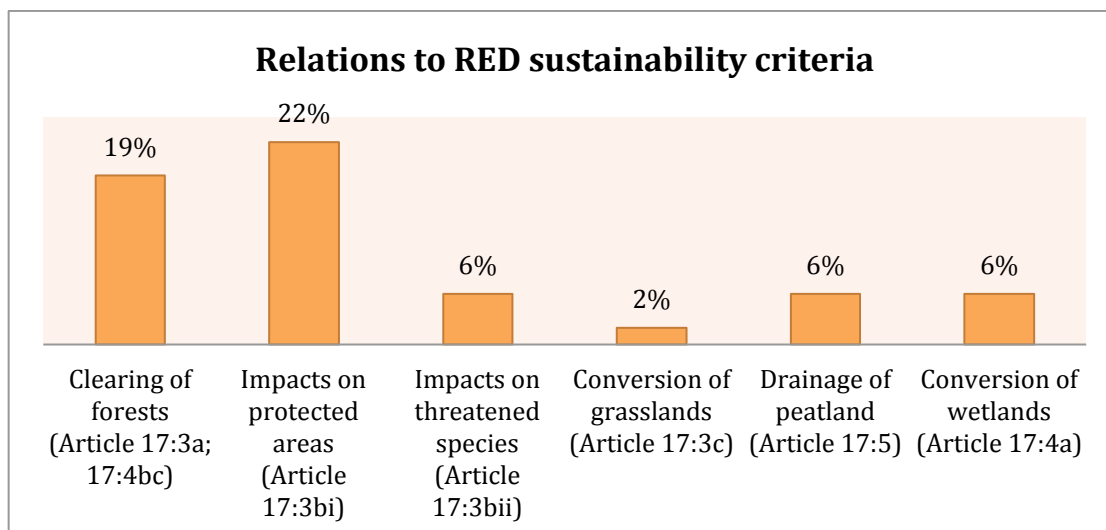


Figure 8: Share of Malaysia's biofuel related legislation that consider each RED criterion

3.2.2 Enforcement

Enforcement is analysed both from the perspective of juridical responsibilities to enforce biofuel related legislation and practical potential to enforce legislation in general.

Enforcement of biofuel legislation in the juridical sense

38 of the 54 biofuel related laws in Malaysia specify an institution responsible for enforcement. Particularly recurring (in 14 laws) is “Duli Yang Maha Mulia Seri Paduka Baginda Yang di-Pertuan Agong with the advice and consent of the Dewan Negara and Dewan Rakyat”. This means that the constitutional head-of-state of Malaysia is responsible for enforcement with the advice and support of the Senate and the House of Representatives. 16 laws include more specific responsible institutions, mainly specific ministers.

Even though 38 of the 54 biofuel related laws specify an institution responsible for enforcement, only 16 can be regarded as sufficiently specific for the responsibility to be clear.

Enforcement potential of legislation

This chapter presents and interprets the results for Malaysia on the CPI, GII, ID and EI indexes, with the purpose to provide for a discussion on how compliance with legislation in Malaysia is managed in the practical sense. Note that this chapter does not focus specifically on how compliance with biofuel legislation is managed, but rather on Malaysia's potential to enforce legislation in general.

Corruption Perception Index

Malaysia scores 4.4/10 on the Corruption Perception Index. That puts Malaysia in the 56th place of 178 countries globally, and in the 11th place of the 33 countries in the Asian Pacific region (Transparency International 2010). The interpretation of the score indicates that public sector corruption in Malaysia is perceived to exist to a medium extent.

Target countries with similar CPI scores include: South Africa (4.5).

Global Integrity Index

Malaysia is not covered by the GII. The score for Indonesia (geographical proximity and similar ID score) is 74 and the score for South Africa (similar CPI score) is 79. If Malaysia were given a similar score it would mean that the anti-corruption framework could be considered to be moderate.

Index of Democracy

On the 2010 Index of Democracy (The Economist Intelligence Unit 2010), Malaysia scores 6.19/10. This puts Malaysia in the 71st place of 167 countries globally. The score means that Malaysia is classified as a “flawed democracy”.

“Flawed democracies (our comment: ranked the second highest out of four groups) also have free and fair elections and even if there are problems (such as infringements on media freedom), basic civil liberties will be respected. However, there are significant weaknesses in other aspects of democracy, including problems in governance, an underdeveloped political culture and low levels of political participation.”

Target countries with similar ID scores include: Peru (6.4), Ukraine (6.3) and Guatemala (6.1).

Enforcement Index

For the enforcement potential to be regarded as low, the unknown GII score would have to be set to 4.4, lower than any GII score in the entire index. On the other end, it is not mathematically possible that the enforcement index could be regarded as being high. Therefore, the potential for Malaysia to enforce legislation is regarded to be intermediate.

Malaysia scores 6.0/10 on the Enforcement Index, using the same GII score as for Indonesia. This means that the potential to enforce legislation is regarded to be intermediate, as previously concluded. Compared to other target countries, Malaysia ranks similar to Brazil (6.1) and India (5.9). In total, four target countries ranks higher and 16 ranks lower.

Rule of Law Index

Malaysia is not covered by the RLI.

3.2.3 Country-specific conclusions

134 laws are available for Malaysia in the ECOLEX database, of which 52 are relevant for biofuels. About two thirds of the relevant laws are national and one third are sub-national.

No laws specifically aimed for biofuel feedstock production were identified, however two national laws were identified specifically aimed for biofuel processing.

Land-use seems to be the most important RED topic in Malaysia’s biofuel legislation, followed by *Social sustainability*. RED topics of low importance seem to include *Ecosystem services*, *Air*, *Carbon stock* and *GHG emissions*.

Regarding the RED sustainability criteria, most relations were found for *Impacts on areas designated for nature protection purposes* and *Clearing of forests*. Few relations

were found for *Conversion of grasslands, Impacts on rare, threatened and endangered species, Drainage of peatlands* and *Conversion of wetlands*.

Enforcement

Even though 38 of the 54 biofuel related laws specify an institution responsible for enforcement, only 16 laws can be regarded as sufficiently specific for the responsibility to be clear. Therefore, institutions responsible for enforcement are specified in-text in 30% of the biofuel related laws.

With regard to the score on the CPI, GII, and ID indexes, Malaysia is regarded to be a “flawed democracy”. Public sector corruption is perceived to exist to a medium extent and the anti-corruption framework is considered to be moderate. Malaysia’s potential to enforce legislation is classified as intermediate.

3.3 Pakistan

Pakistan is a big producer of Sugarcane molasses ethanol and part of the *Asia* region.

3.3.1 Biofuel legislation

Available environmental legislation in Pakistan includes 111 laws, written in English (FAO et al. 2011). As seen in Figure 9, 59 of the laws are relevant for biofuels and most have a sub-national coverage.

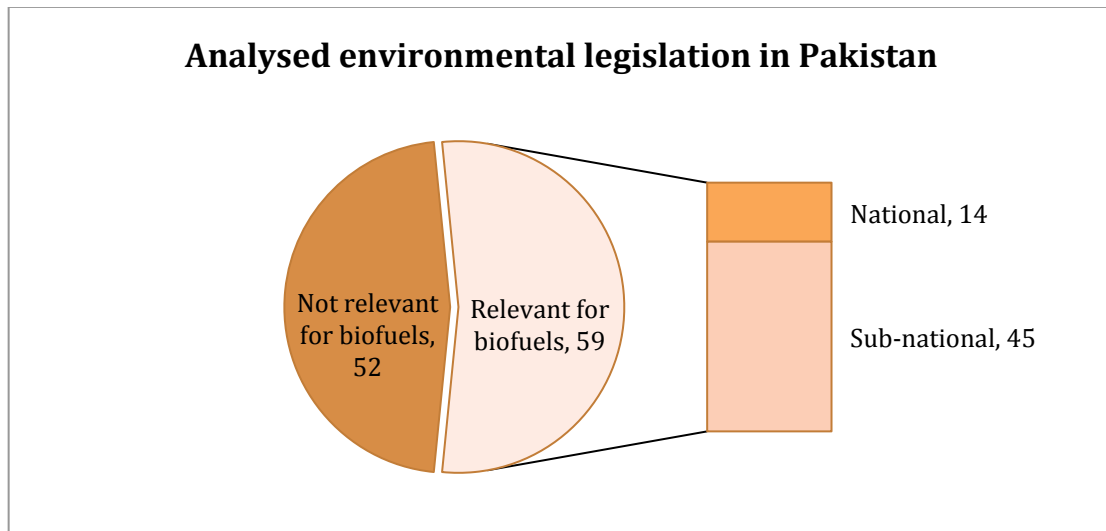


Figure 9: Overview of the analysed environmental legislation in Pakistan, including number of laws relevant for biofuels and their national coverage

Connections to biofuels

As seen in Figure 10, most of the biofuel related laws have connections to the feedstock production phase and particularly agriculture in general. No laws have specific connections to biofuel feedstock production.

One sixth of the relevant laws are connected to industrial activities, but no laws have specific connections to biofuel processing.

One third of the relevant laws have connections to biofuels in other ways than feedstock production or processing, most commonly these laws cover issues related to land-rights. Other examples include electricity supply and promotion of renewable energy.

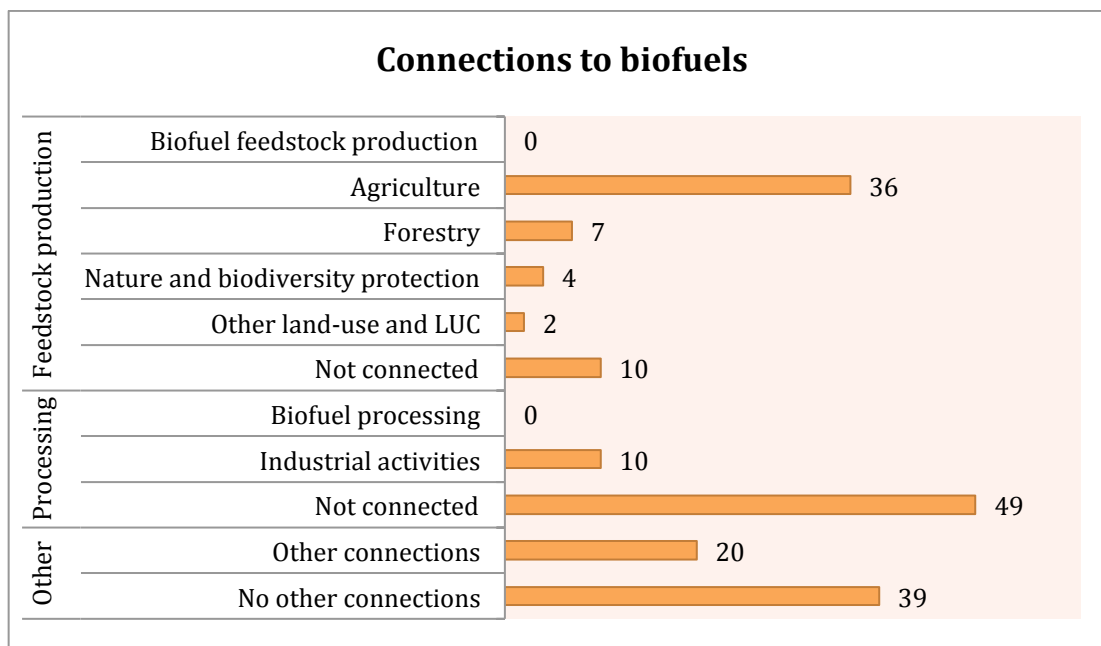


Figure 10: Connections between environmental legislation and biofuels in Pakistan

Relations to RED sustainability topics

As seen in Figure 11, *Social sustainability* seems to be the most considered RED topic in Pakistan's biofuel legislation, followed by *Water*. The least considered topics include *Biodiversity*, *Air* and particularly *GHG emissions*, for which no relations were found.

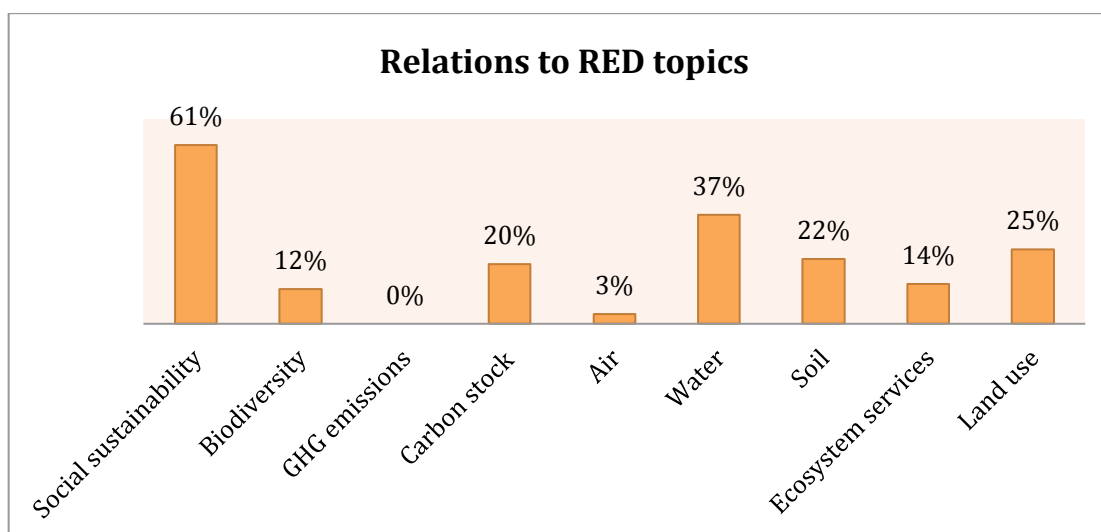


Figure 11: Share of Pakistan's biofuel related legislation that consider each RED topic

Relations to RED sustainability criteria

As seen in Figure 12, most relations were found for *Clearing of forests*. Few relations were found for *Impacts on rare, threatened and endangered species*. No relations were found for *Conversion of grasslands*, *Drainage of peatlands* and *Conversion of wetlands*.

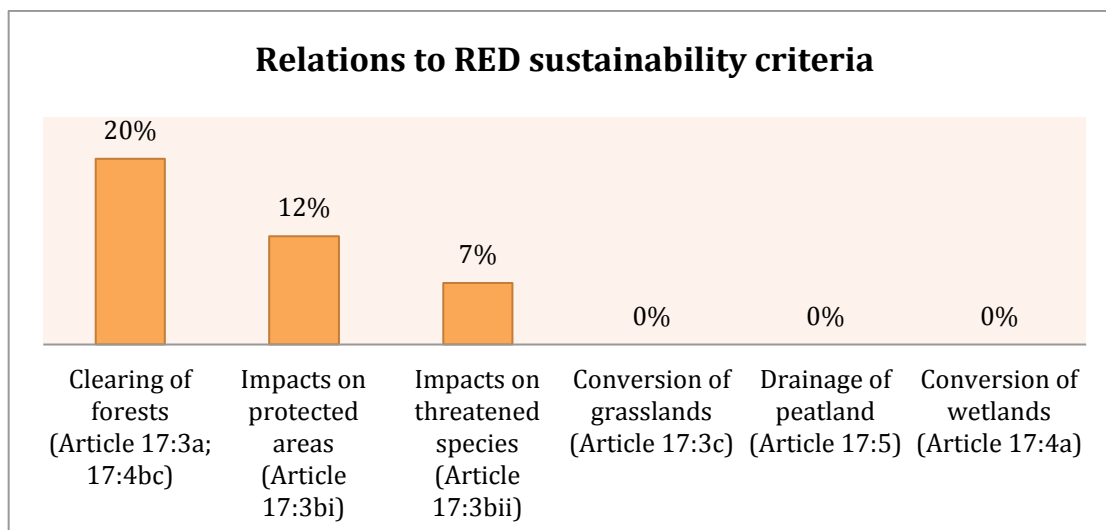


Figure 12: Share of Pakistan's biofuel related legislation that consider each RED criterion

Complementary analysis of regulations

Since no laws related to *Conversion of grasslands*, *Drainage of peatlands* or *Conversion of wetlands* were identified, an effort to identify such relations in regulations was made.

No regulations were identified restricting *Conversion of grasslands*, *Drainage of peatlands* or *Conversion of wetlands*.

3.3.2 Enforcement

Enforcement is analysed both from the perspective of juridical responsibilities to enforce biofuel related legislation and practical potential to enforce legislation in general.

Enforcement of biofuel legislation in the juridical sense

43 of the 59 biofuel related laws in Pakistan specify an institution responsible for enforcement. However, most laws state that it is the responsibility of the government, the federal government or the provincial government. 13 laws include more specific responsible institutions, such as the Alternative Energy Development Board and the Environmental Protection Council.

Even though 43 of the 59 biofuel related laws specify an institution responsible for enforcement, only 13 can be regarded as sufficiently specific for the responsibility to be clear. It is unclear if specific responsibilities for enforcement are specified in other ways than in the individual laws. However, if responsibilities are unspecified or unclear, it is likely to affect the level of enforcement.

Enforcement potential of legislation

This chapter presents and interprets the results for Pakistan on the CPI, GII, ID, EI and RLI indexes, with the purpose to provide for a discussion on how compliance with legislation in Pakistan is managed in the practical sense. Note that this chapter does not focus specifically on how compliance is managed with biofuel legislation, but rather on Pakistan's potential to enforce legislation in general.

Corruption Perception Index

Pakistan scores 2.3/10 on the Corruption Perception Index. That puts Pakistan in the 143th place of 178 countries globally, and in the 27th place of the 33 countries in the Asian Pacific region (Transparency International 2010). The interpretation of the score indicates that public sector corruption in Pakistan is perceived to be high.

Target countries with similar CPI scores include: Nigeria (2.4), Ukraine (2.4) and Russia (2.1).

Global Integrity Index

On the 2008 Global Integrity Index (Global Integrity 2009), Pakistan scores 72/100, which means that the anti-corruption framework is considered to be moderate. The following highlights from the GII analysis was published along the result:

“Pakistan has a very strong anti-corruption legal framework, but practical implementation is a different story, as seen in the weak scores for the anti-corruption agency, law enforcement, and government accountability across all branches of government. Media reporting during the February 2008 elections contained political bias, with women being misled by local television broadcasters to believe they were unable to participate. Pakistan's civil society organizations remain vocal but are not transparent in terms of their funding, which is suspected to come primarily from foreign sources. Despite an increased score for law enforcement accountability from last year's assessment, Pakistan's police force remains "infested with political interference," with bribes a commonplace occurrence.

Target countries with similar GII scores include: Indonesia (74), Malawi (73), India (70) and Argentina (70).

Index of Democracy

On the 2010 Index of Democracy (The Economist Intelligence Unit 2010), Pakistan scores 4.55/10. This puts Pakistan in the 104th place of 167 countries globally. The score means that Pakistan is classified as a “hybrid regime”.

“Hybrid regimes (ranked the third best out of four groups): Elections have substantial irregularities that often prevent them from being both free and fair. Government pressure on opposition parties and candidates may be common. Serious weaknesses are more prevalent than in flawed democracies - in political culture, functioning of government and political participation. Corruption tends to be widespread and the rule of law is weak. Civil society is weak. Typically there is harassment of and pressure on journalists, and the judiciary is not independent.”

Target countries with similar ID scores include: Mozambique (4.9) and Russia (4.3).

Enforcement Index

Pakistan scores 4.7/10 on the Enforcement Index. This means that the potential to enforce legislation is classified as “low”. Compared to other target countries, Pakistan ranks similar to Uganda (4.8), Ukraine (4.8), Tanzania (4.8) and Mozambique (4.5). In total, 15 target countries ranks higher and five ranks lower.

Rule of Law Index

Pakistan is part of the “low” income group and is located in the “South Asia” region (Agrast et al. 2010). The results on the Rule of Law Index for Pakistan is presented in Table 9.

Table 9: Relevant results for Pakistan on the Rule of Law index

Rule of Law Index – Pakistan								
Principle	Factor	Score	Global ranking		Regional ranking		Income group ranking	
Accountable Government	1. Limited Government Powers	0.26	34/35	35/35	2/2	2/2	4/5	5/5
	2. Absence of Corruption	0.21	35/35		2/2		5/5	
Open Government and Regulatory Enforcement	6. Open Government	0.26	31/35	32/35	2/2	2/2	5/5	4/5
	7. Regulatory Enforcement	0.33	33/35		2/2		3/5	

Pakistan ranks very low for both the RLI principle on *accountable government* (35/35) and the CPI, globally (143/187) as well as regionally (27/33). This indicates that challenges related to corruption and government accountability are very likely to exist in Pakistan.

Pakistan is ranked 32/35 for the principle on *open government and regulatory enforcement*. Compared to Nigeria that has a lower EI score (4.1), Pakistan is likely to have more challenges related to open government and regulatory enforcement. This indicates that Pakistan actually might have a lower potential to enforce legislation than what is indicated in the EI. This confirms that Pakistan’s potential to enforce legislation can be regarded as low.

3.3.3 Country-specific conclusions

111 laws are available for Pakistan in the ECOLLEX database, of which 59 are relevant for biofuels. About one fourth of the relevant laws are national and three fourth are sub-national.

Social sustainability seems to be the most considered RED topic in Pakistan’s biofuel related legislation, followed by *Water*. The least considered topics include *Biodiversity*, *Air* and particularly *GHG emissions*, for which no relations were found.

Regarding the RED sustainability criteria, most relations were found for *Clearing of forests*. Few relations were found for *Impacts on rare, threatened and endangered species*. No laws or regulations were identified restricting *Conversion of grasslands*, *Drainage of peatlands* or *Conversion of wetlands*.

Enforcement

Even though 43 of the 59 biofuel related laws specify an institution responsible for enforcement, only 13 laws can be regarded as sufficiently specific for the responsibility to be clear. Therefore, institutions responsible for enforcement are specified in-text in 22% of the biofuel related laws.

With regard to the score on the CPI, GII, ID and RLI indexes, Pakistan is regarded to be a “hybrid regime”. Public sector corruption is perceived to be high and the anti-corruption framework is considered to be moderate although with difficulties in practical implementation. Pakistan’s potential to enforce legislation is classified as low.

3.4 India

India is part of the *Asia* region.

3.4.1 Biofuel legislation

Available environmental legislation in India includes 219 laws, written in English (FAO et al. 2011). As seen in Figure 13, 91 of the laws are relevant for biofuels and most have a sub-national coverage.

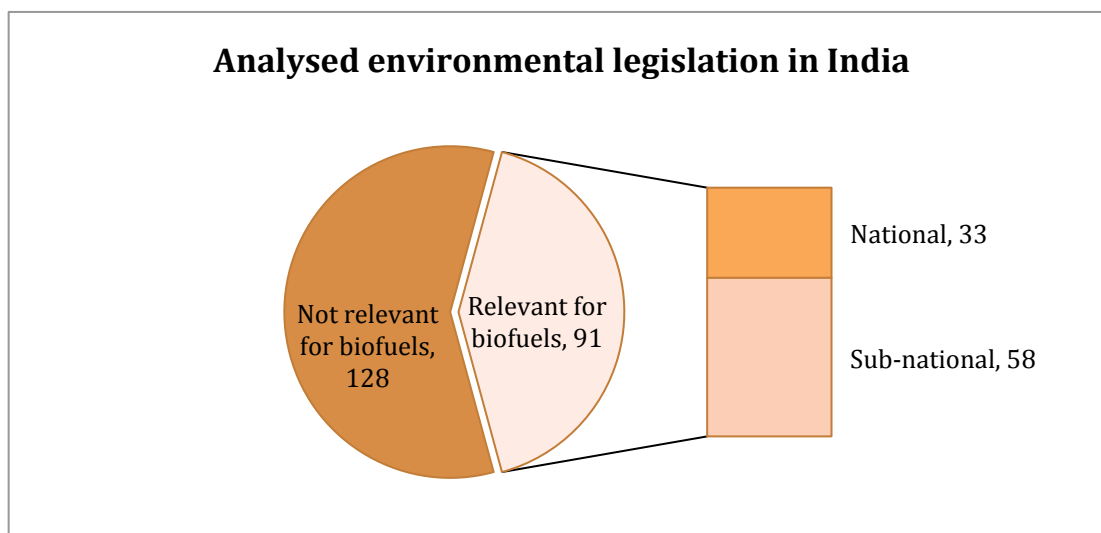


Figure 13: Overview of the analysed environmental legislation in India, including number of laws relevant for biofuels and their national coverage

Connections to biofuels

As seen in Figure 14, most of the biofuel related laws have connections to the feedstock production phase and particularly agriculture in general. No laws have specific connections to biofuel feedstock production.

Almost half of the relevant laws have connections to industrial activities. One law, Act No. 30 of 2002, is specifically connected to biofuel processing.

About 10% of the relevant laws have connections to biofuels in other ways than feedstock production or processing. Examples include laws on land-rights and distribution of agricultural products.

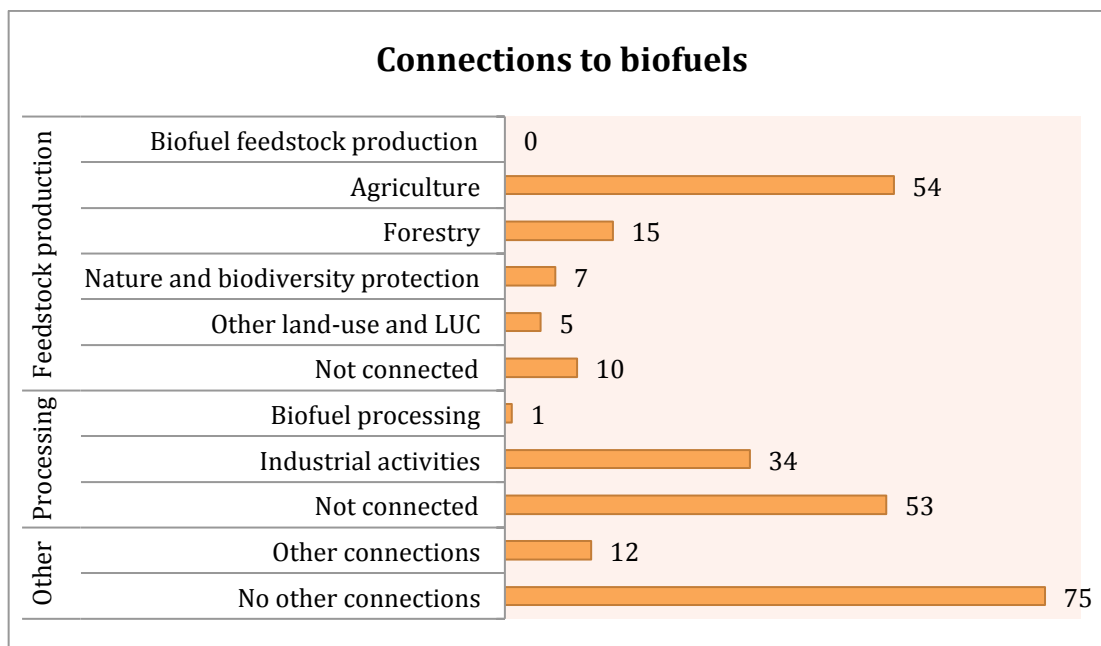


Figure 14: Connections between environmental legislation and biofuels in India

Relations to RED sustainability topics

As seen in Figure 15, *Social sustainability*, *Water* and *Land-use* seem to be the most considered RED-topics in India's biofuel related legislation. The least considered topics include *Ecosystem services*, *Carbon stock*, *Air* and particularly *GHG emissions*, for which no relations were found.

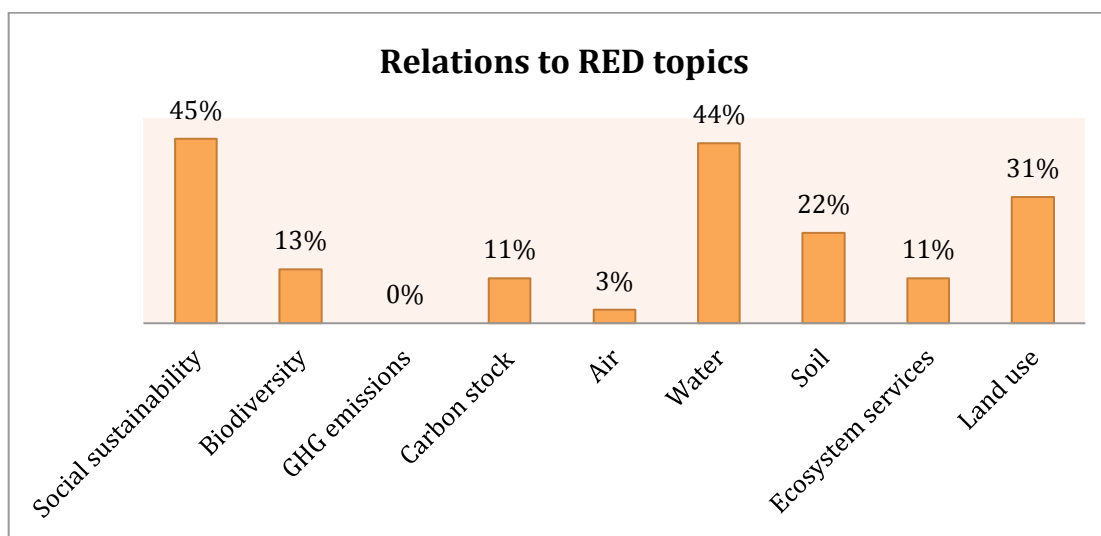


Figure 15: Share of India's biofuel related legislation that consider each RED topic

Relations to RED sustainability criteria

As seen in Figure 16, most relations were found for *Clearing of forests*. Few relations were found for *Impacts on rare, threatened and endangered species*, *Drainage of peatlands* and *Conversion of wetlands*. No relations were found for *Conversion of grasslands*.

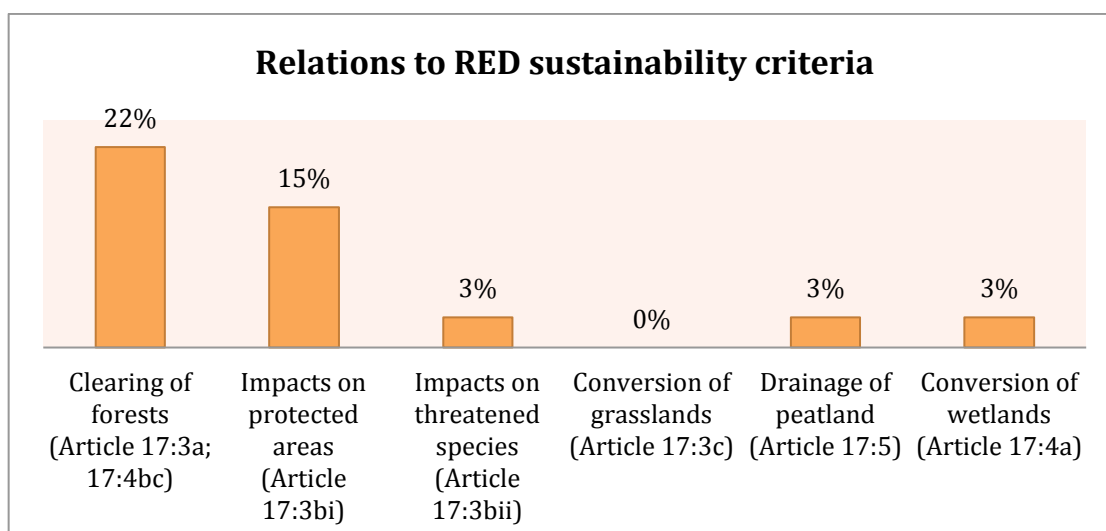


Figure 16: Share of India's biofuel related legislation that consider each RED criterion

Complementary analysis of regulations

Since no laws related to *Conversion of grasslands* were identified, an effort to identify such relations in regulations was made.

No regulations were identified restricting *Conversion of grasslands*.

3.4.2 Enforcement

Enforcement is analysed both from the perspective of juridical responsibilities to enforce biofuel related legislation and practical potential to enforce legislation in general.

Enforcement of biofuel legislation in the juridical sense

None of the 91 laws relevant for biofuel production specify an institution responsible for enforcement.

Enforcement potential of legislation

This chapter presents and interprets the results for India on the CPI, GII, ID, EI and RLI indexes, with the purpose to provide for a discussion on how compliance with legislation in India is managed in the practical sense. Note that this chapter does not focus specifically on how compliance is managed with biofuel legislation, but rather on India's potential to enforce legislation in general.

Corruption Perception Index

India scores 3.3/10 on the Corruption Perception Index. That puts India in the 87th place of 178 countries globally, and in the 16th place of the 33 countries in the Asian Pacific region (Transparency International 2010). The interpretation of the score indicates that public sector corruption in India is perceived to exist to a medium extent.

Target countries with similar CPI scores include: Guatemala (3.2), Malawi (3.7) and Peru (3.5).

Global Integrity Index

On the 2009 Global Integrity Index (Global Integrity 2009), India scores 70/100, which means that the anti-corruption framework is considered to be moderate, although close to weak. The following highlights from the GII analysis was published along the result:

Certain public sector anti-corruption safeguards in India perform very well while others do not. Good news can be found in robust public access to government information, high levels of public participation in elections, and a relatively strong anti-corruption legal framework. Furthermore, India's functional equivalent of an ombudsman mechanism — the Central Vigilance Commission — is quite effective. Despite strong performance in these areas, the country struggles with promoting transparency and accountability in the financing of political parties and candidates. For instance, there are currently no regulations that require parties or candidates to disclose the donations they receive (although there is an ongoing effort to pass a law that requires political parties to publish their financing). In addition, conflicts of interest laws governing the executive, legislative, and judicial branches of government are absent or are weakly enforced. Citizens face obstacles in accessing the anti-corruption agency for support; anonymous complaints are not allowed and there have been some cases of whistle-blowers being publicly identified.

Target countries with similar GII scores include: Indonesia (74), Malawi (73), Pakistan (72) and Argentina (70).

Index of Democracy

On the 2010 Index of Democracy (The Economist Intelligence Unit 2010), India scores 7.28/10. This puts India in the 40th place of 167 countries globally. The score means that India is classified as a “flawed democracy”.

“Flawed democracies (ranked the second best out of four groups): These countries also have free and fair elections and even if there are problems (such as infringements on media freedom), basic civil liberties will be respected. However, there are significant weaknesses in other aspects of democracy, including problems in governance, an underdeveloped political culture and low levels of political participation.”

Target countries with similar ID scores include: Brazil (7.12).

Enforcement Index

India scores 5.9/10 on the Enforcement Index. This means that the potential to enforce legislation is regarded to be intermediate. Compared to other target countries, India ranks similar to Indonesia (5.6), Peru (5.6), Malaysia (6.0) and Brazil (6.1). In total, five target countries ranks higher and 15 ranks lower.

Rule of Law Index

India is part of the “lower middle” income group and is located in the “South Asia” region (Agrast et al. 2010). The results on the Rule of Law Index for India is presented in Table 10.

Table 10: Relevant results for India on the Rule of Law index

Rule of Law Index – India								
Principle	Factor	Score	Global ranking		Regional ranking		Income group ranking	
Accountable Government	1. Limited Government Powers	0.62	14/35	20/35	1/2	1/2	1/12	4/12
	2. Absence of Corruption	0.46	25/35		1/2		7/12	
Open Government and Regulatory Enforcement	6. Open Government	0.59	9/35	17/35	1/2	1/2	1/12	5/12
	7. Regulatory Enforcement	0.45	24/35		1/2		9/12	

India's ranking for the RLI principle on *accountable government* (20/35) compared to the CPI, both globally (87/187) and regionally (16/33), indicates that challenges related to corruption and government accountability are most likely to exist in India, although not to a very large extent.

India is ranked 17/35 for the principle on *open government and regulatory enforcement*. This is similar to Peru (22/35) and Indonesia (19/35), with similar EI scores. This confirms that India's potential to enforce legislation can be regarded as intermediate.

3.4.3 Country-specific conclusions

219 laws are available for India in the ECOLLEX database, of which 91 are relevant for biofuels. About one third of the relevant laws are national and two thirds are sub-national.

Social sustainability, Water and Land-use seem to be the most considered RED-topics in India's biofuel related legislation. The least considered topics include *Ecosystem services, Carbon stock, Air* and particularly *GHG emissions*, for which no relations were found.

Regarding the RED sustainability criteria, most relations were found for *Clearing of forests*. Few relations were found for *Impacts on rare, threatened and endangered species, Drainage of peatlands* and *Conversion of wetlands*. No relations were found for *Conversion of grasslands* in neither legislation nor regulation.

Enforcement

None of the 91 laws relevant for biofuel production specify an institution responsible for enforcement.

With regard to the score on the CPI, GII, ID and RLI indexes, India is regarded to be a "flawed democracy". Public sector corruption is perceived to exist to a medium extent and the anti-corruption framework is considered to be moderate, although close to weak. India's potential to enforce legislation is classified as "intermediate".

3.5 Brazil

Brazil is a major producer of Sugarcane ethanol and part of the *America* region.

3.5.1 Biofuel legislation

Available environmental legislation in Brazil includes 257 laws, written in Portuguese (FAO et al. 2011). As seen in Figure 17, 150 laws are relevant for biofuels and about 54% of the relevant laws have a national coverage.

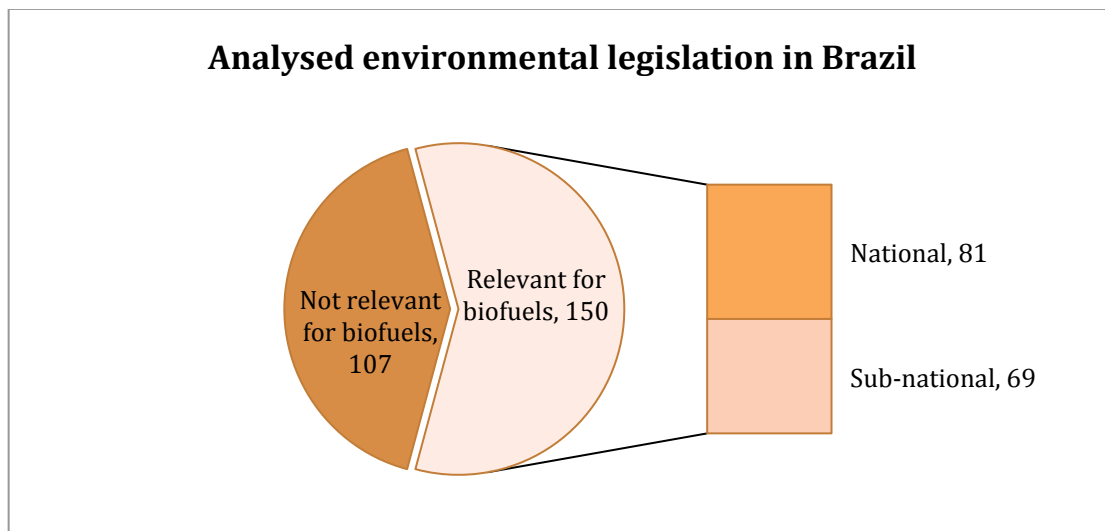


Figure 17: Overview of the analysed environmental legislation in Brazil, including number of laws relevant for biofuels and their national coverage

Connections to biofuels

As seen in Figure 18, most of the biofuel related laws have connections to the feedstock production phase and particularly agriculture in general. Three laws are specifically connected to biofuel feedstock production, “Law No. 11.116 ruling on the Special Registry of biodiesel producers and importers and other provisions” (national), “Law No. 11.097 ruling on Biodiesel introduction among Brazil national energy sources” (national) and “Law No. 3135 instituting State Policy on climate change, environment conservation and sustainable development” (sub-national).

Almost one third of the relevant laws have connections to industrial activities. Four laws are specifically connected to biofuel processing, “Law No. 11.116 ruling on the Special Registry of biodiesel producers and importers and other provisions” (national), “Law No. 11.097 ruling on Biodiesel introduction among Brazil national energy sources” (national), “Law No. 3135 instituting State Policy on climate change, environment conservation and sustainable development” (sub-national) and “Law No. 9.478 on the National Energy Policy” (national).

About 40% of the relevant laws have connections to biofuels in other ways than feedstock production or processing. Most common are laws on environmental education and land-rights.

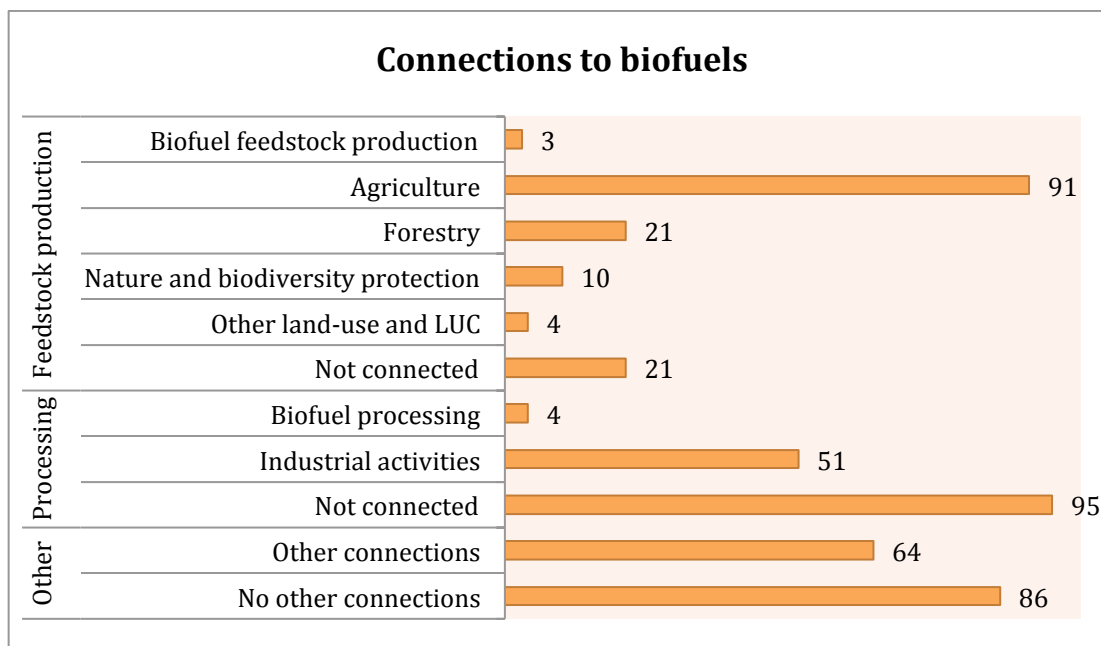


Figure 18: Connections between environmental legislation and biofuels in Brazil

Relations to RED sustainability topics

As seen in Figure 19, *Social sustainability*, *Water* and *Land-use* seem to be the most considered RED-topic in Brazil's biofuel related legislation. The least considered topic seem to be *GHG emissions*.

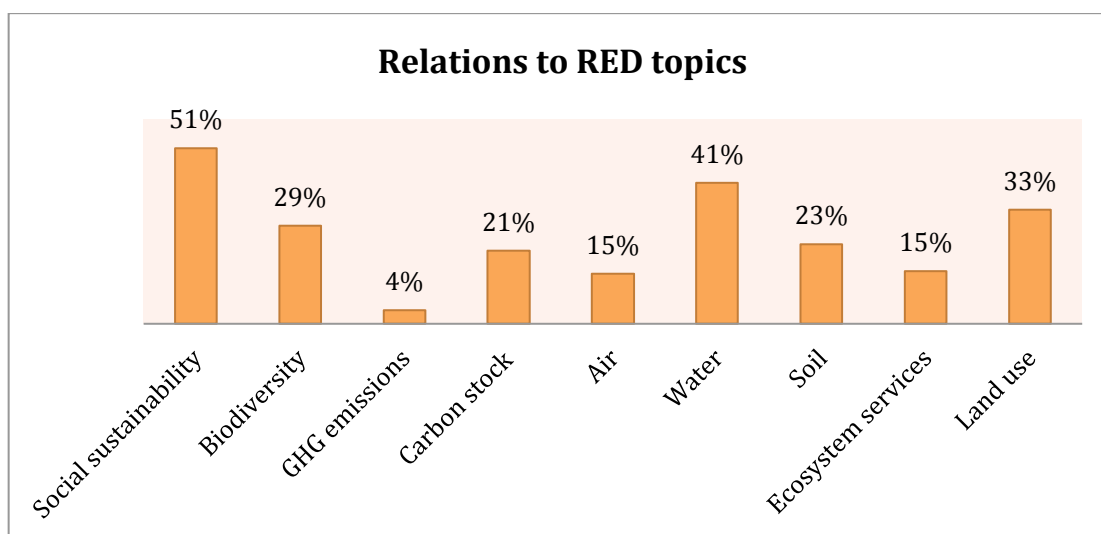


Figure 19: Share of Brazil's biofuel related legislation that consider each RED topic

Relations to RED sustainability criteria

As seen in Figure 20, most relations were found for *Impacts on areas designated for nature protection purposes* and *Clearing of forests*. Few relations were found for *Conversion of wetlands* and *Conversion of grasslands*. No relations were found for *Drainage of peatlands*.

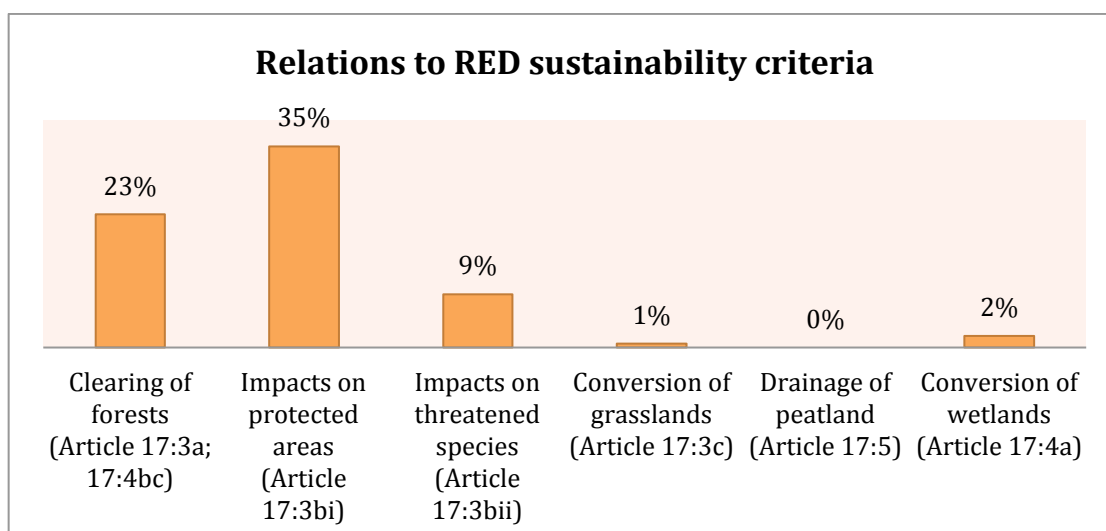


Figure 20: Share of Brazil's biofuel related legislation that consider each RED criterion

Complementary analysis of regulations

Due to capacity constraints, no complementary analysis of regulations was made for Brazil. It should be noted though that the number of Brazilian regulations in ECOLEX (922) is far greater than the number of legislations (269). It is therefore likely that a complementary analysis of regulations could be very useful to better understand the Brazilian case.

3.5.2 Enforcement

Enforcement is analysed both from the perspective of juridical responsibilities to enforce biofuel related legislation and practical potential to enforce legislation in general.

Enforcement of biofuel legislation in the juridical sense

Almost all 150 laws relevant for biofuels specify that “the government” is responsible for enforcement. No laws specify more specific responsible institutions.

Enforcement potential of legislation

This chapter presents and interprets the results for Brazil on the CPI, GII, ID and EI indexes, with the purpose to provide for a discussion on how compliance with legislation in Brazil is managed in the practical sense. Note that this chapter does not focus specifically on how compliance is managed with biofuel legislation, but rather on Brazil's potential to enforce legislation in general.

Corruption Perception Index

Brazil scores 3.7/10 on the Corruption Perception Index. That puts Brazil in the 69th place of 178 countries globally, and in the 9th place of the 28 countries in the Americas region (Transparency International 2010). The interpretation of the score indicates that public sector corruption in Brazil is perceived to exist to a medium extent.

Target countries with similar CPI scores include: Malawi (3.4), Peru (3.5) and Malaysia (4.4)

Global Integrity Index

On the 2009 Global Integrity Index (Global Integrity 2009), Brazil scores 76/100, which means that the anti-corruption framework is considered to be moderate. The following highlights from the GII analysis was published along the result:

“Brazil's performance on key governance and anti-corruption measures continues to serve up a mixed picture. The country earns strong ratings in the areas of civil society, voting and elections, privatization, and anti-corruption legal regulations. The Brazilian Court of Audit is very active in opening investigations into financial irregularities, with "all proceedings, minutes, and questions... published on [its] website." Unfortunately, there are several dimensions of governance that remain in need of significant improvement. While a constitutional right to access government information exists, no law or institutional mechanism is in place in Brazil to operationalize that right in practice. The "availability of information," especially in the executive branch, "varies tremendously" while federal bodies are generally more responsive to information requests than agencies at the state and municipal levels. Donations to political parties and individuals are also weakly regulated. Since the limits on individual donations are based on a percentage of one's income, for instance, "wealthy individuals might exercise a decisive influence on an election, especially [at] the local level." Furthermore, the Brazilian ombudsman office is not independent and is instead subsumed under the Office of the Comptroller General and appointed by the executive. Whistle-blowing protections in Brazil remain virtually non-existent as most governmental bodies "refuse to accept anonymous charges”.”

Target countries with similar GII scores include: Indonesia (74) and South Africa (79).

Index of Democracy

On the 2010 Index of Democracy (The Economist Intelligence Unit 2010), Brazil scores 7.12/10. This puts Brazil in the 47th place of 167 countries globally. The score means that Brazil is classified as a “flawed democracy”.

“Flawed democracies (ranked the second best out of four groups): These countries also have free and fair elections and even if there are problems (such as infringements on media freedom), basic civil liberties will be respected. However, there are significant weaknesses in other aspects of democracy, including problems in governance, an underdeveloped political culture and low levels of political participation.”

Target countries with similar ID scores include: Argentina (6.84) and India (7.28).

Enforcement Index

Brazil scores 6.1/10 on the Enforcement Index. This means that the potential to enforce legislation is regarded to be intermediate. Compared to other target countries, Brazil ranks similar to Malaysia (6.0) and India (5.9). In total, three target countries ranks higher and 17 ranks lower.

Rule of Law Index

Brazil is not covered by the RLI index.

3.5.3 Country-specific conclusions

257 laws are available for Brazil in the ECOLEX database, of which 150 are relevant for biofuels. About 54% of the relevant laws have a national coverage.

Social sustainability, Water and Land-use seem to be the most important RED-topic in Brazil's biofuel related legislation. The least considered topic seem to be *GHG emissions*.

Regarding the RED sustainability criteria, most relations were found for *Clearing of forests* and *Impacts on areas designated for nature protection purposes*. Few relations were found for *Conversion of wetlands* and *Conversion of grasslands*. No relations were found for *Drainage of peatlands*.

Enforcement

Almost all 150 laws relevant for biofuels specify that "the government" is responsible for enforcement. No laws specify more specific responsible institutions.

With regard to the score on the CPI, GII and ID indexes, Brazil is regarded to be a "flawed democracy". Public sector corruption is perceived to exist to a medium extent and the anti-corruption framework is considered to be moderate. Brazil's potential to enforce legislation is classified as "intermediate".

3.6 Argentina

Argentina is a major producer of Soybean biodiesel and part of the *America* region.

3.6.1 Biofuel legislation

Available environmental legislation in Argentina includes 454 laws, written in Spanish (FAO et al. 2011). As seen in Figure 21, 237 laws are relevant for biofuels and about 85% of the relevant laws have a sub-national coverage.

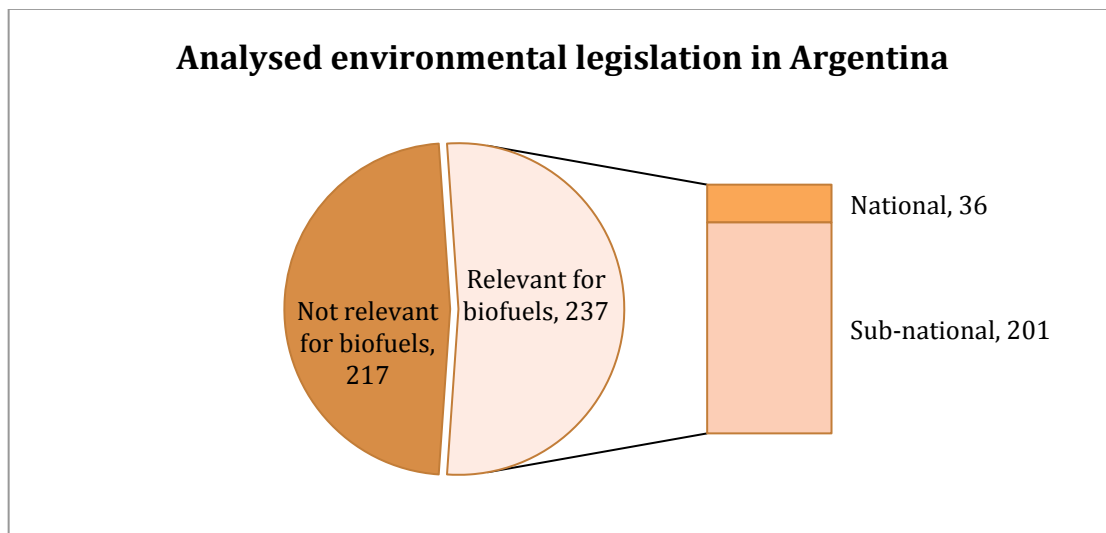


Figure 21: Overview of the analysed environmental legislation in Argentina, including number of laws relevant for biofuels and their national coverage

Connections to biofuels

As seen in Figure 22, most of the biofuel related laws have connections to the feedstock production phase and particularly agriculture in general. Six laws are specifically connected to biofuel feedstock production, “Law No. 7.560” (sub-national), “Law No. 26.334” (national), “Law No. 13.719 (sub-national), “Law No. 12.692” (sub-national), “Law No. 12.691” (sub-national) and “Law No. 26.093” (national).

Almost one third of the relevant laws have connections to industrial activities. Six laws are specifically connected to biofuel processing, the same laws as specified above for biofuel feedstock production.

Almost one third of the relevant laws have connections to biofuels in other ways than feedstock production or processing. Most common are laws on environmental education / access to environmental information and land-rights.

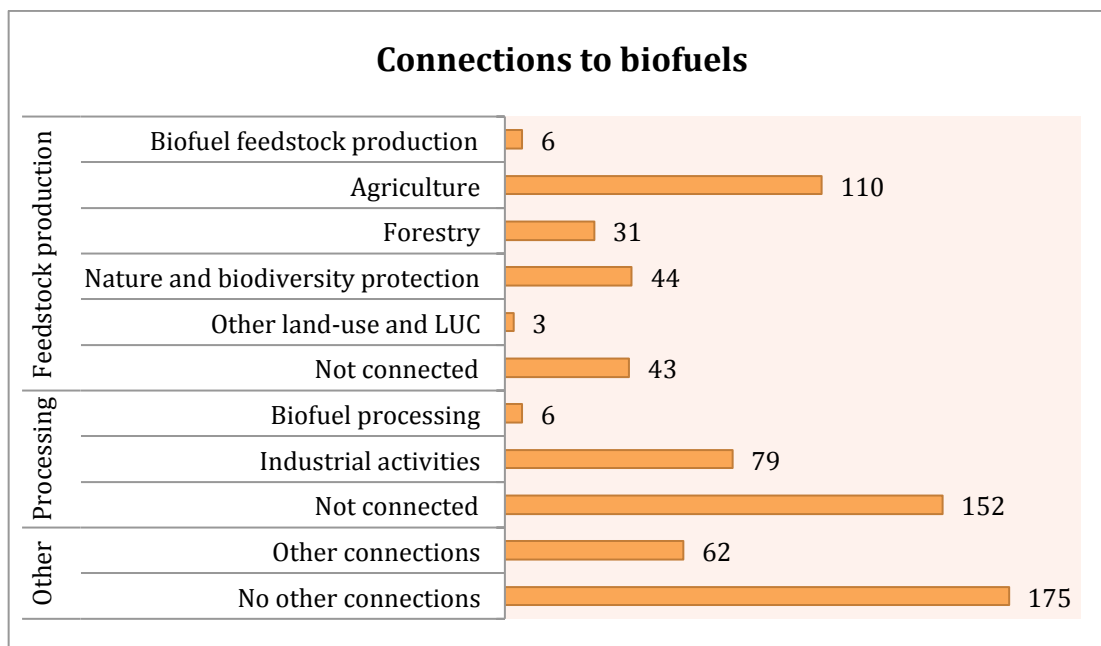


Figure 22: Connections between environmental legislation and biofuels in Argentina

Relations to RED sustainability considerations

As seen in Figure 23, *Social sustainability*, *Water*, *Biodiversity*, *Land-use* and *Soil* seem to be the most considered RED-topics in Argentina's biofuel related legislation. The least considered topic seems to be *Ecosystem services*.

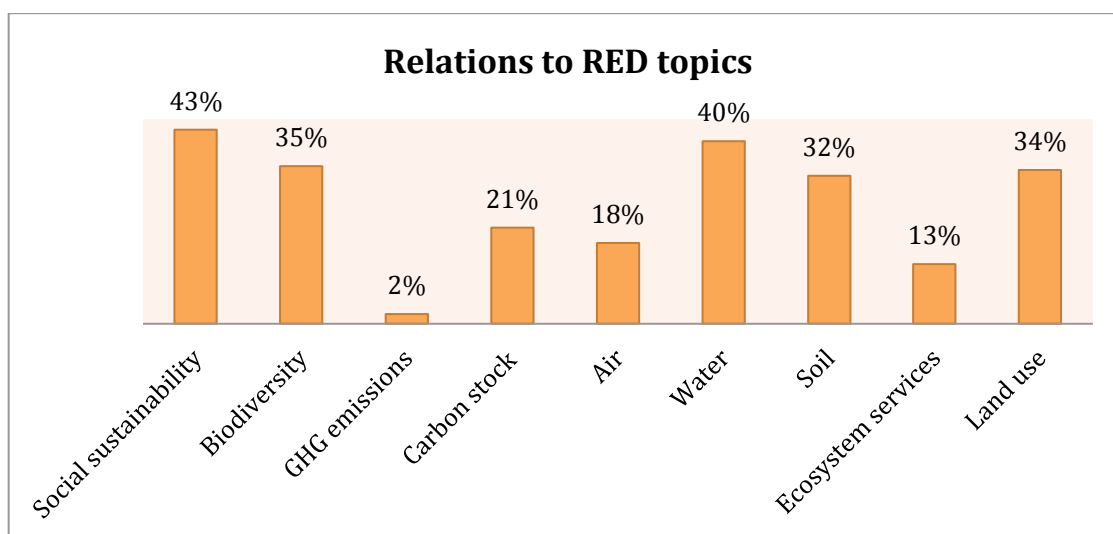


Figure 23: Share of Argentina's biofuel related legislation that consider each RED topic

Relations to RED sustainability criteria

As seen in Figure 24, most relations were found for *Impacts on areas designated for nature protection purposes* and *Clearing of forests*. Few relations were found for *Conversion of wetlands*, *Conversion of grasslands* and *Drainage of peatlands*.

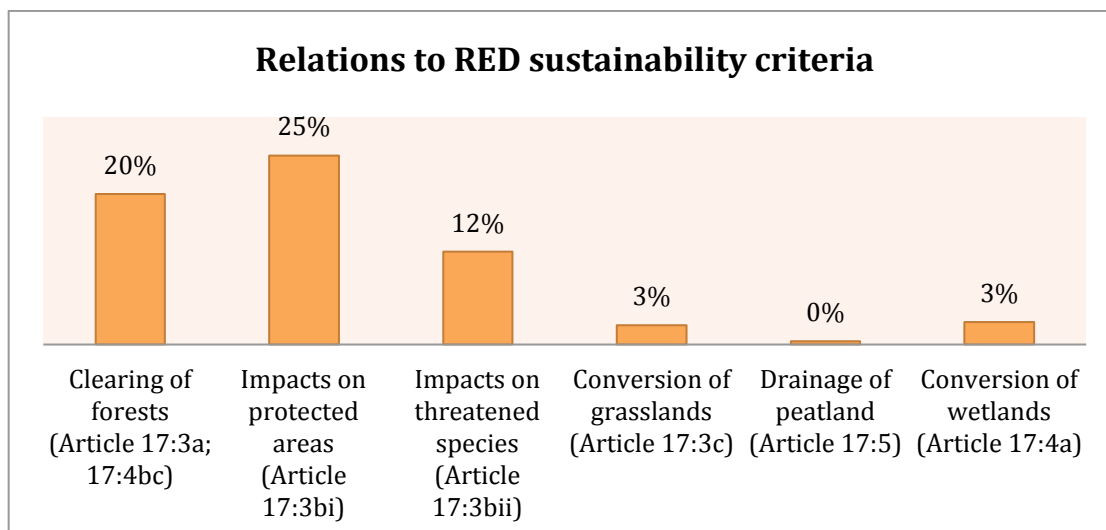


Figure 24: Share of Argentina's biofuel related legislation that consider each RED criterion

3.6.2 Enforcement

Enforcement is analysed both from the perspective of juridical responsibilities to enforce biofuel related legislation and practical potential to enforce legislation in general.

Enforcement of biofuel legislation in the juridical sense

125 of the 237 laws relevant for biofuels specify institutions responsible for enforcement. Examples of recurring institutions include “El Ministerio de Asuntos Agrarios” (The Ministry of Agricultural Affairs) and “El Ministerio de Ecología y Recursos Naturales Renovables” (The Ministry of Ecology and Renewable Natural Resources). The other 112 relevant laws do not specify institutions responsible for enforcement.

Enforcement potential of legislation

This chapter presents and interprets the results for Argentina on the CPI, GII, ID, EI and RLI indexes, with the purpose to provide for a discussion on how compliance with legislation in Argentina is managed in the practical sense. Note that this chapter does not focus specifically on how compliance is managed with biofuel legislation, but rather on Argentina's potential to enforce legislation in general.

Corruption Perception Index

Argentina scores 2.9/10 on the Corruption Perception Index. That puts Argentina in the 105th place of 178 countries globally, and in the 20th place of the 28 countries in the Americas region (Transparency International 2010). The interpretation of the score indicates that public sector corruption in Argentina is perceived to be high.

Target countries with similar CPI scores include: Indonesia (2.8) and Bolivia (2.8).

Global Integrity Index

On the 2008 Global Integrity Index (Global Integrity 2009), Argentina scores 70/100, which means that the anti-corruption framework is considered to be weak, although close to moderate. The following highlights from the GII analysis was published along the result:

“Argentina's overall score is lower than last year's Report due to increasing weaknesses in the fields of media, political financing, and tax and custom standards. While government accountability continues to be a concern across all branches of government, this year's report references specific declines in the political independence of the judiciary. Political interference can also be seen in the form of soft-censorship where the subtle use of government funding has undercut the independence and professionalism of the Argentinean media. In addition, the ombudsman and supreme audit institutions remain weak as the government is not required by law to act on the findings of either office, allowing for public sector corruption to be addressed at the government's discretion.”

Target countries with similar GII scores include: Peru (69), Russia (69) and Uganda (69).

Index of Democracy

On the 2010 Index of Democracy (The Economist Intelligence Unit 2010), Argentina scores 6.84/10. This puts Argentina in the 51th place of 167 countries globally. The score means that Argentina is classified as a “flawed democracy”.

“Flawed democracies (ranked the second best out of four groups): These countries also have free and fair elections and even if there are problems (such as infringements on media freedom), basic civil liberties will be respected. However, there are significant weaknesses in other aspects of democracy, including problems in governance, an underdeveloped political culture and low levels of political participation.”

Target countries with similar ID scores include: Brazil (7.12) and Indonesia (6.53).

Enforcement Index

Argentina scores 5.6/10 on the Enforcement Index. This means that the potential to enforce legislation is classified as intermediate, although close to weak. Compared to other target countries, Argentina ranks similar to Indonesia (5.6), Peru (5.6) and Malawi (5.5). In total, eight target countries ranks higher and 12 ranks lower.

Rule of Law Index

Argentina is part of the “upper middle” income group and is located in the “Latin America & the Caribbean” region (Agrast et al. 2010). The results on the Rule of Law Index for Argentina is presented in Table 11.

Table 11: Relevant results for Argentina on the Rule of Law index

Rule of Law Index – Argentina								
Principle	Factor	Score	Global ranking		Regional ranking		Income group ranking	
Accountable Government	1. Limited Government Powers	0.32	33/35	27/35	7/7	5/7	7/7	6/7
	2. Absence of Corruption	0.48	20/35		3/7		4/7	
Open Government and Regulatory Enforcement	6. Open Government	0.29	29/35	29/35	7/7	6/7	6/7	6/7
	7. Regulatory Enforcement	0.42	28/35		5/7		5/7	

Argentina's ranking for the RLI principle on *accountable government* (27/35) compared to the CPI, both globally (105/187) and regionally (20/28), indicates that challenges related to corruption and government accountability in Argentina are most likely to exist.

Argentina is ranked 29/35 for the principle on *open government and regulatory enforcement*. This is similar to Bolivia (28/35) and Pakistan (32/35). Since both Bolivia and Pakistan are classified as countries with a low potential to enforce legislation, and since Argentina's ranking on this RLI principle is the second lowest of all assessed target countries, it is relevant to assume that Argentina might have a lower potential to enforce legislation than what is indicated in the EI.

3.6.3 Country-specific conclusions

454 laws are available for Argentina in the ECOLLEX database, of which 237 are relevant for biofuels. About 85% of the relevant laws are sub-national.

Social sustainability, *Water*, *Biodiversity*, *Land-use* and *Soil* seem to be the most considered RED-topics in Argentina's biofuel related legislation. The least considered topic seems to be *Ecosystem services*.

Regarding the RED sustainability criteria, most relations were found for *Impacts on areas designated for nature protection purposes* and *Clearing of forests*. Few relations were found for *Conversion of wetlands*, *Conversion of grasslands* and *Drainage of peatlands*.

Enforcement

Institutions responsible for enforcement are specified in-text in 53% of the biofuel related laws.

With regard to the score on the CPI, GII, ID and RLI indexes, Argentina is regarded to be a "flawed democracy". Public sector corruption is perceived to be high and the anti-corruption framework is considered to be weak, but close to moderate. Argentina's potential to enforce legislation is classified as "intermediate", although close to "low". However, the RLI score indicates a significantly lower potential.

3.7 Guatemala

Guatemala is part of the *America* region.

3.7.1 Biofuel legislation

Available environmental legislation in Guatemala includes 46 laws, written in Spanish (FAO et al. 2011). As seen in Figure 25, 28 laws are relevant for biofuels and most have a national coverage.

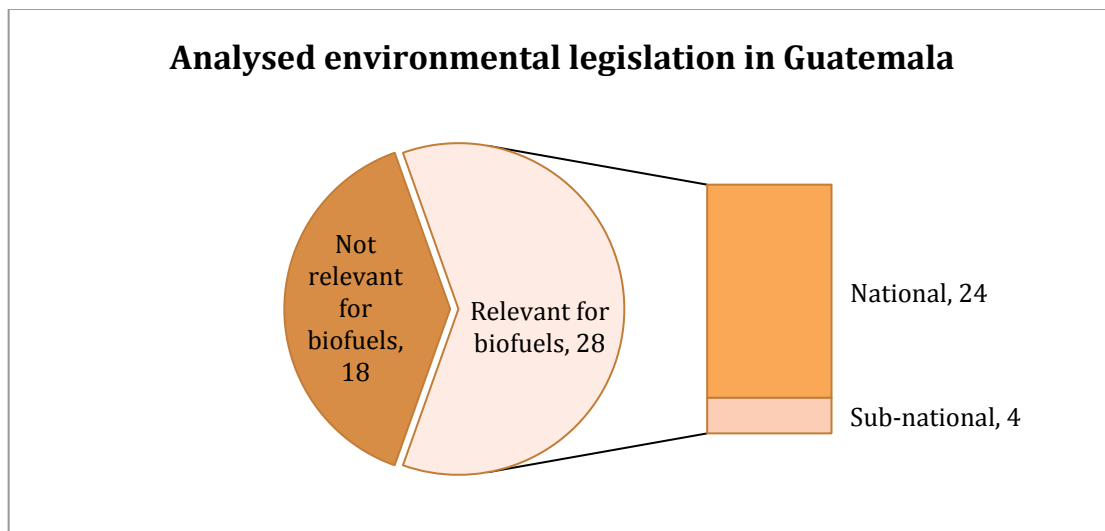


Figure 25: Overview of the analysed environmental legislation in Guatemala, including number of laws relevant for biofuels and their national coverage

Connections to biofuels

As seen in Figure 26, most of the biofuel related laws have connections to the feedstock production phase and particularly agriculture in general. One national law is specifically connected to biofuel feedstock production, “Decree No. 52/03 - Law on incentives for development of renewable energy projects”.

Five of the 28 relevant laws have connections to industrial activities. One law is specifically connected to biofuel processing, “Decree No. 52/03”, the same law as for biofuel feedstock production.

More than one third of the relevant laws have connections to biofuels in other ways than feedstock production or processing. Most common are laws on land-rights, although two laws aim towards promoting the spread of environmental awareness and knowledge.

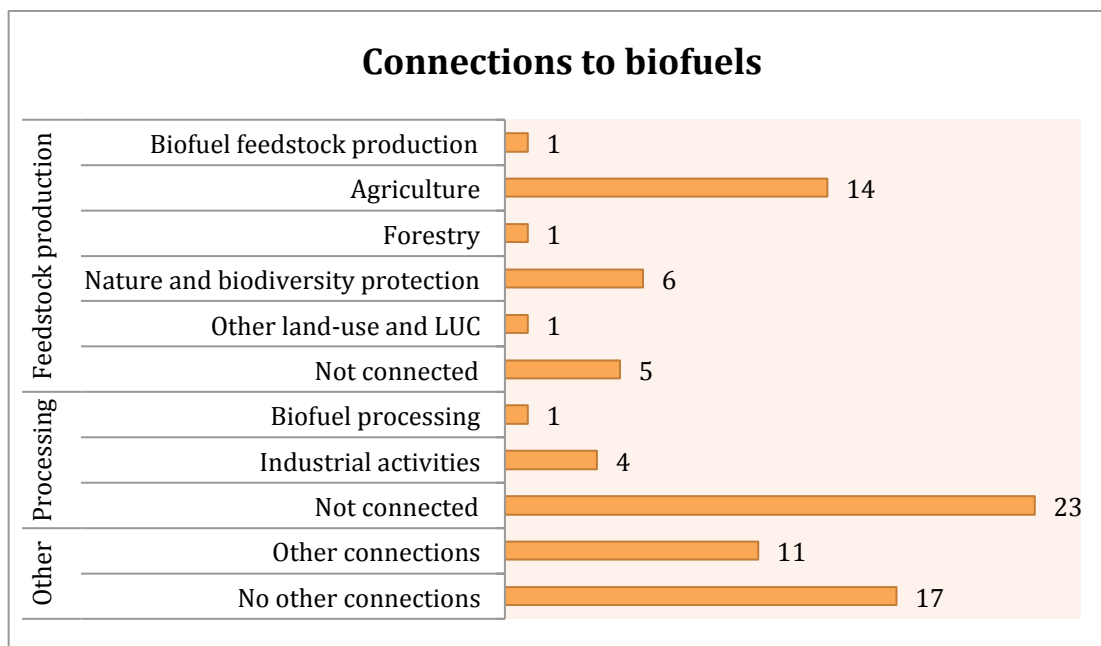


Figure 26: Connections between environmental legislation and biofuels in Guatemala

Relations to RED sustainability considerations

As seen in Figure 27, *Social sustainability* seems to be the most considered RED-topic in Guatemala's biofuel related legislation, followed by *Water*, *Land-use* and *Biodiversity*. The least considered topics include *Carbon stock*, *Air* and particularly *GHG emissions*, for which no relations were found.

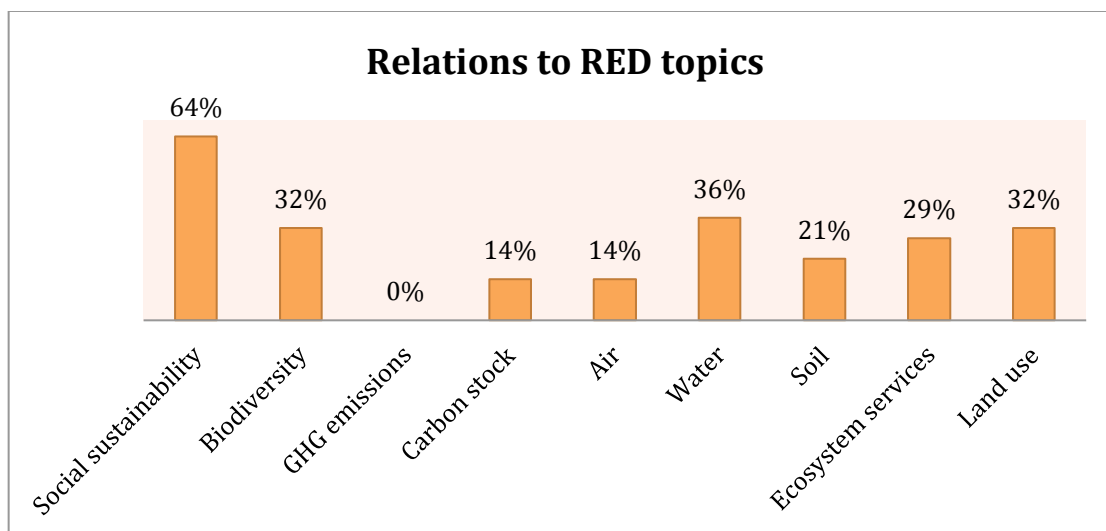


Figure 27: Share of Guatemala's biofuel related legislation that consider each RED topic

Relations to RED sustainability criteria

As seen in Figure 28, most relations were found for *Impacts on areas designated for nature protection purposes* and *Clearing of forests*. Few relations were found for *Conversion of wetlands*. No relations were found for *Conversion of grasslands* and *Drainage of peatlands*.

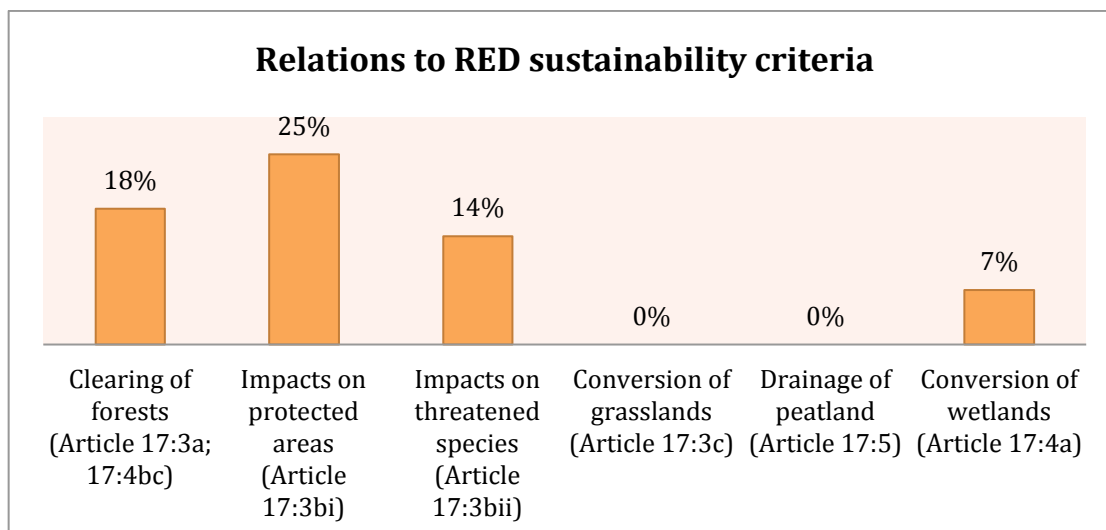


Figure 28: Share of Guatemala's biofuel related legislation that consider each RED topic

Complementary analysis of regulations

Since no laws related to *Conversion of grasslands* or *Drainage of peatlands* were identified, an effort to identify such relations in regulations was made. One national regulation restricting drainage of peatlands was identified, the “Resolution N° 1.25/98 - Regulation for the exploitation of mangrove”

No regulations were identified restricting conversion of grasslands.

3.7.2 Enforcement

Enforcement is analysed both from the perspective of juridical responsibilities to enforce biofuel related legislation and practical potential to enforce legislation in general.

Enforcement of biofuel legislation in the juridical sense

16 of the 28 laws relevant for biofuels specify institutions responsible for enforcement. Examples of recurring institutions include “El Consejo Nacional de Areas Protegidas” (The National Council of Protected Areas) and “La Comisión Nacional del Medio Ambiente” (The National Environment Commission).

Enforcement potential of legislation

This chapter presents and interprets the results for Guatemala on the CPI, GII, ID and EI indexes, with the purpose to provide for a discussion on how compliance with legislation in Guatemala is managed in the practical sense. Note that this chapter does not focus specifically on how compliance is managed with biofuel legislation, but rather on Guatemala's potential to enforce legislation in general.

Corruption Perception Index

Guatemala scores 3.2/10 on the Corruption Perception Index. That puts Guatemala in the 91st place of 178 countries globally, and in the 17th place of the 28 countries in the Americas region (Transparency International 2010). The interpretation of the score indicates that public sector corruption in Guatemala is perceived to exist to a medium extent.

Target countries with similar CPI scores include: Argentina (2.9), India (3.3) and Malawi (3.4)

Global Integrity Index

On the 2006 Global Integrity Index (Global Integrity 2009), Guatemala scores 64/100, which means that the anti-corruption framework is considered to be weak. No highlights from the GII analysis were published for Guatemala.

Target countries with similar GII scores include: Tanzania (60), Nigeria (64), Uganda (69) and Peru (69).

Index of Democracy

On the 2010 Index of Democracy (The Economist Intelligence Unit 2010), Guatemala scores 6.05/10. This puts Guatemala in the 75th place of 167 countries globally. The score means that Guatemala is classified as a “flawed democracy”, although close to a “hybrid regime”.

“Flawed democracies (ranked the second best out of four groups): These countries also have free and fair elections and even if there are problems (such as infringements on media freedom), basic civil liberties will be respected. However, there are significant weaknesses in other aspects of democracy, including problems in governance, an underdeveloped political culture and low levels of political participation.”

Target countries with similar ID scores include: Malawi (5.84), Bolivia (5.92) and Malaysia (6.19).

Enforcement Index

Guatemala scores 5.2/10 on the Enforcement Index. This means that the potential to enforce legislation is classified as “low”. Compared to other target countries, Guatemala ranks similar to Malawi (5.5), Bolivia (5.2) and Uganda (4.8). In total, 11 target countries ranks higher and 9 ranks lower.

Rule of Law Index

Guatemala is not covered by the RLI index.

3.7.3 Country-specific conclusions

46 laws are available for Guatemala in the ECOLEX database, of which 28 are relevant for biofuels. Most of the relevant laws have a national coverage.

Social sustainability seems to be the most considered RED-topic in Guatemala’s biofuel related legislation, followed by *Water*, *Land-use* and *Biodiversity*. The least considered topics include *Carbon stock*, *Air* and particularly *GHG emissions*, for which no relations were found.

Regarding the RED sustainability criteria, most relations were found for *Impacts on areas designated for nature protection purposes* and *Clearing of forests*. Few relations were found for *Conversion of wetlands*. No relations were found for *Conversion of wetlands* and *Drainage of peatlands*.

Enforcement

16 of the 28 laws relevant for biofuels specify institutions responsible for enforcement. This corresponds to 57% of the relevant laws.

With regard to the score on the CPI, GII and ID indexes, Guatemala is classified as a “flawed democracy”, although close to “hybrid regime”. Public sector corruption is perceived to exist to a medium extent and the anti-corruption framework is considered to be weak. Guatemala’s potential to enforce legislation is classified as “low”.

3.8 Tanzania

Tanzania is part of the *Africa* region.

3.8.1 Biofuel legislation

Available environmental legislation in Tanzania includes 100 laws, written in English (FAO et al. 2011). As seen in Figure 29, 30 of the laws are relevant for biofuels. Most laws have a national coverage but 11 laws are sub-national, mainly covering either the Tanganyika or Zanzibar regions.

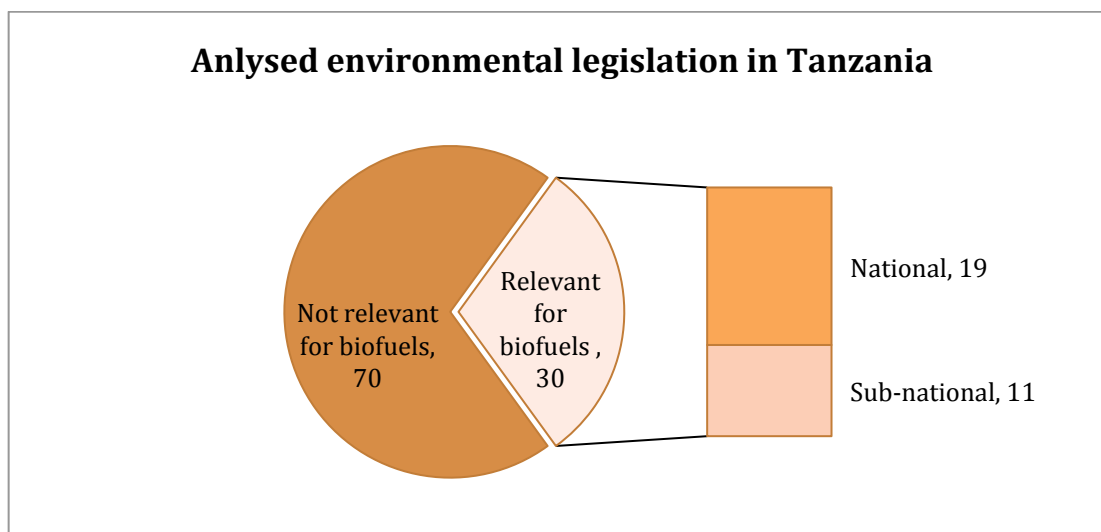


Figure 29: Overview of the analysed environmental legislation in Tanzania, including number of laws relevant for biofuels and their national coverage

Connections to biofuels

As seen in Figure 30, almost all of the relevant laws have connections to the feedstock production phase, and particularly agriculture in general. One of the laws, the Sugar Industry Act (Act No. 26 of 2001) is specifically connected to biofuel feedstock production.

Two fifth of the relevant laws have connections to industrial activities, but no laws have specific connections to biofuel processing.

About two thirds of the relevant laws have connections to biofuels in other ways than feedstock production or processing. Most commonly these laws cover issues related to land-rights.

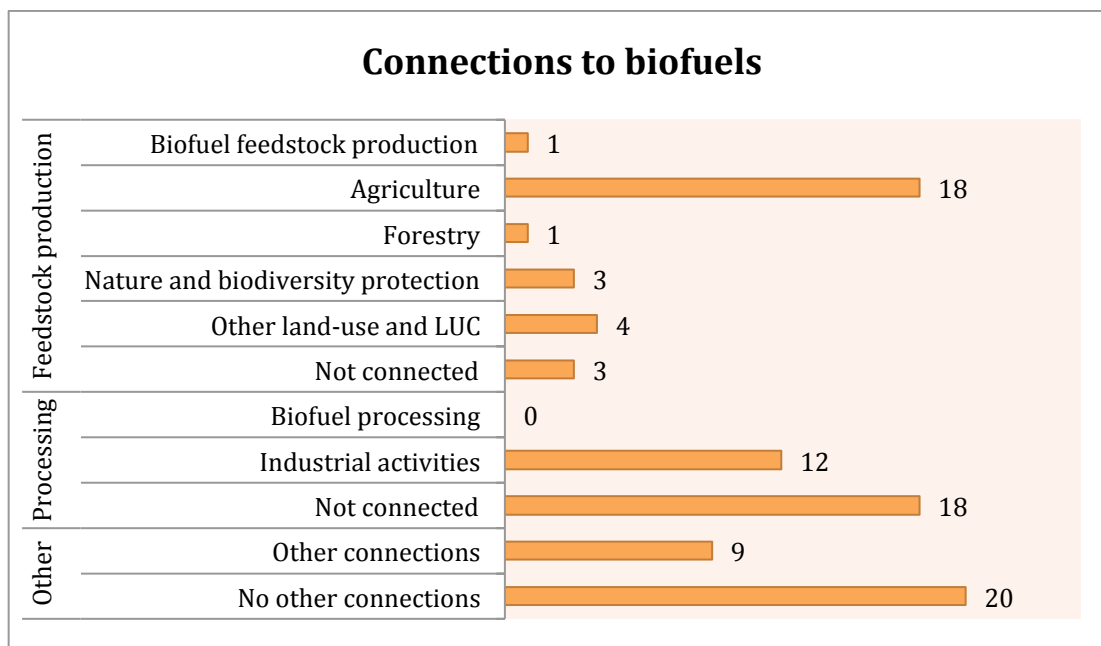


Figure 30: Connections between environmental legislation and biofuels in Tanzania

Relations to RED sustainability considerations

As seen in Figure 31, *Land-use*, *Water* and *Social sustainability* seem to be the most considered RED topics in Tanzania's biofuel related legislation. The least considered topics include *Ecosystem services*, *GHG emissions* and *Air*.

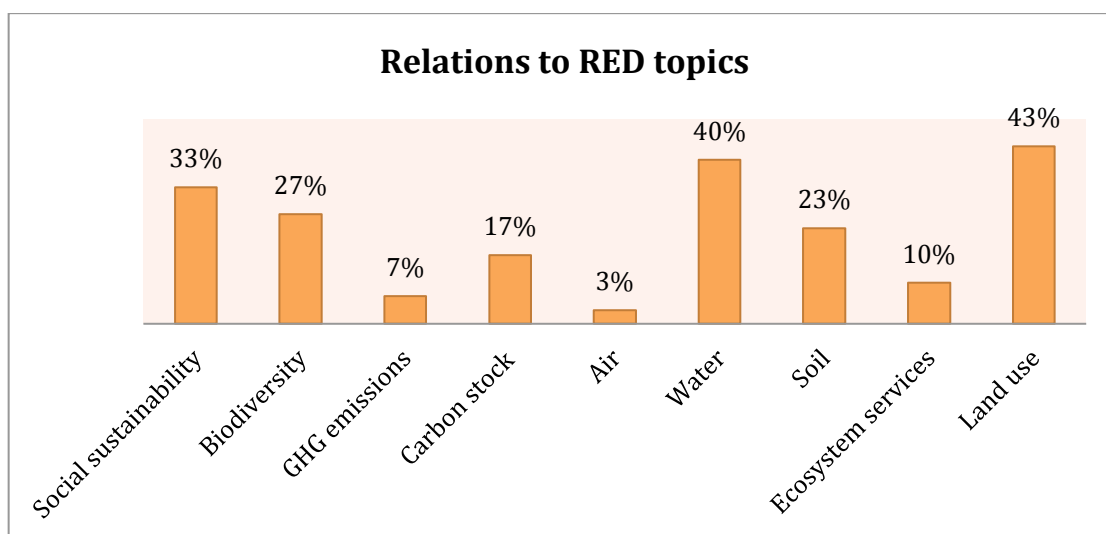


Figure 31: Share of Tanzania's biofuel related legislation that consider each RED topic

Relations to RED sustainability criteria

As seen in Figure 32, most relations were found for *Impacts on areas designated for nature protection purposes*. Few relations were found for *Conversion of grasslands*. No relations were found for *Drainage of peatlands*.

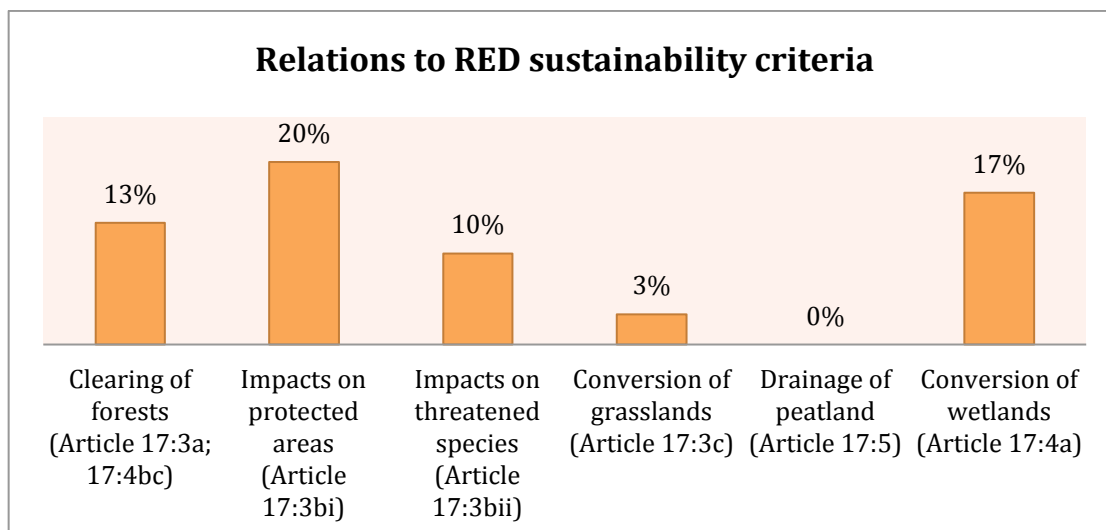


Figure 32: Share of Tanzania's biofuel related legislation that consider each RED criterion

Complementary analysis of regulations

Since no laws related to *Drainage of peatlands* were identified, an effort to identify such relations in regulations was made. One sub-national regulation was identified restricting drainage of peatlands, the “Ukerewe District Council (Planting and Conservation of Trees and Forests) By-laws, 1994 (G.N. No. 542 of 1994)”.

3.8.2 Enforcement

Enforcement is analysed both from the perspective of juridical responsibilities to enforce biofuel related legislation and practical potential to enforce legislation in general.

Enforcement of biofuel legislation in the juridical sense

19 of the 30 laws relevant for biofuels specify institutions responsible for enforcement. Examples of recurring institutions include Minister/Ministry/Commissioner responsible for land and Minister/Ministry responsible for agriculture.

Enforcement potential of legislation

This chapter presents and interprets the results for Tanzania on the CPI, GII, ID and EI indexes, with the purpose to provide for a discussion on how compliance with legislation in Tanzania is managed in the practical sense. Note that this chapter does not focus specifically on how compliance is managed with biofuel legislation, but rather on Tanzania's potential to enforce legislation in general.

Corruption Perception Index

Tanzania scores 2.7/10 on the Corruption Perception Index. That puts Tanzania in the 116th place of 178 countries globally, and in the 20th place of the 28 countries in the Sub-Saharan Africa region (Transparency International 2010). The interpretation of the score indicates that public sector corruption in Tanzania is perceived to be high.

Target countries with similar CPI scores include: Mozambique (2.7), Ethiopia (2.7), Indonesia (2.8) and Bolivia (2.8).

Global Integrity Index

On the 2007 Global Integrity Index (Global Integrity 2009), Tanzania scores 60/100, which means that the anti-corruption framework is classified as “weak”. The following highlights from the GII analysis was published along the result:

“Despite occasional bright spots (like an improving audit agency), Tanzania scores weak or very weak in many areas assessed. Despite some very limited public access to information, there is no law codifying such access. The same holds true for election integrity. However, in political financing the opposite holds true: there are indeed regulations, but they are not effective. While there is an agency that monitors the political financing process, and there are requirements for independent auditing of the finances of political parties and candidates, the effectiveness is decidedly limited because there are no caps on total donations or expenditures.”

Target countries with similar GII scores include: Mozambique (59), Sudan (59) and Ukraine (58).

Index of Democracy

On the 2010 Index of Democracy (The Economist Intelligence Unit 2010), Tanzania scores 5.64/10. This puts Tanzania in the 92nd place of 167 countries globally. The score means that Tanzania is classified as a “hybrid regime”.

“Hybrid regimes (ranked the third best out of four groups): Elections have substantial irregularities that often prevent them from being both free and fair. Government pressure on opposition parties and candidates may be common. Serious weaknesses are more prevalent than in flawed democracies - in political culture, functioning of government and political participation. Corruption tends to be widespread and the rule of law is weak. Civil society is weak. Typically there is harassment of and pressure on journalists, and the judiciary is not independent.”

Target countries with similar ID scores include: Bolivia (5.92), Malawi (5.84) and Uganda (5.05).

Enforcement Index

Tanzania scores 4.8/10 on the Enforcement Index. This means that the potential to enforce legislation is classified as “low”. Compared to other target countries, Tanzania ranks similar to Uganda (4.8), Ukraine (4.8) and Pakistan (4.7). In total, 14 target countries ranks higher and 6 ranks lower.

Rule of Law Index

Tanzania is not covered by the RLI index.

3.8.3 Country-specific conclusions

100 laws are available for Tanzania in the ECOLLEX database, of which 30 are relevant for biofuels. Most of the relevant laws have a national coverage.

Land-use, Water and *Social sustainability* seem to be the most considered RED topics in Tanzania’s biofuel related legislation. The least considered topics include *Ecosystem services, GHG emissions* and *Air*.

Regarding the RED sustainability criteria, most relations were found for *Impacts on areas designated for nature protection purposes*. Few relations were found for *Conversion of grasslands*. No relations were found for *Drainage of peatlands*.

Enforcement

19 of the 30 laws relevant for biofuels specify institutions responsible for enforcement. This corresponds to 63% of the relevant laws.

With regard to the score on the CPI, GII and ID indexes, Tanzania is classified as a “hybrid regime”. Public sector corruption is perceived to be high and the anti-corruption framework is considered to be weak. Tanzania’s potential to enforce legislation is classified as “low”.

3.9 Malawi

Malawi is part of the *Africa* region.

3.9.1 Biofuel legislation

Available environmental legislation in Malawi includes 19 laws, written in English (FAO et al. 2011). As seen in Figure 33, 12 of the laws are relevant for biofuels. All of the relevant laws have a national coverage.

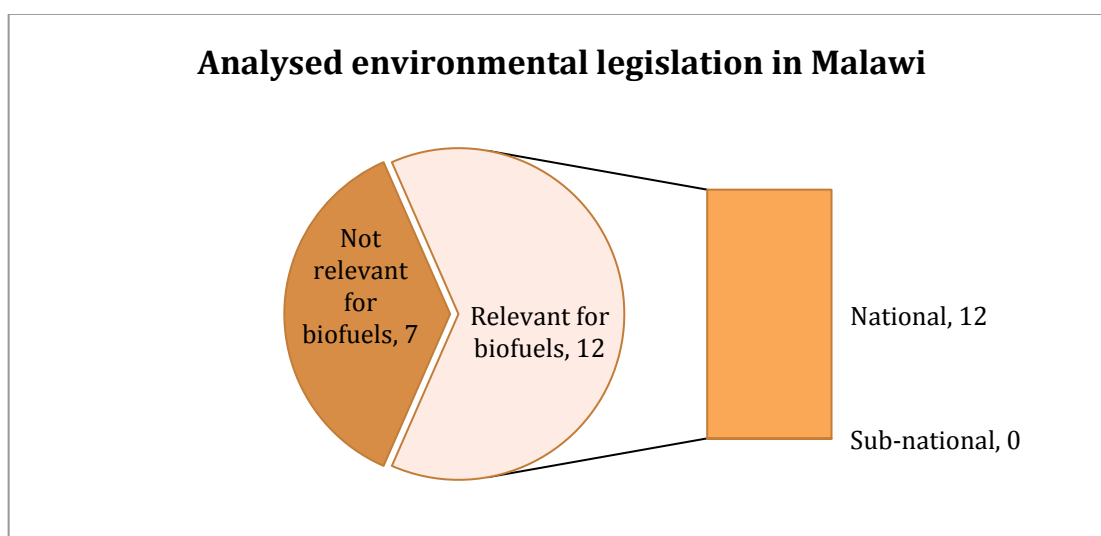


Figure 33: Overview of the analysed environmental legislation in Malawi, including number of laws relevant for biofuels and their national coverage

Connections to biofuels

As seen in Figure 34, almost all of the relevant laws have connections to the feedstock production phase, and particularly agriculture in general. No laws have specific connections to biofuel feedstock production.

One fourth of the relevant laws have connections to industrial activities, but no laws have specific connections to biofuel processing.

One fourth of the relevant laws have connections to biofuels in other ways than feedstock production or processing. These laws cover issues related to land-rights, seed imports and environmental awareness.

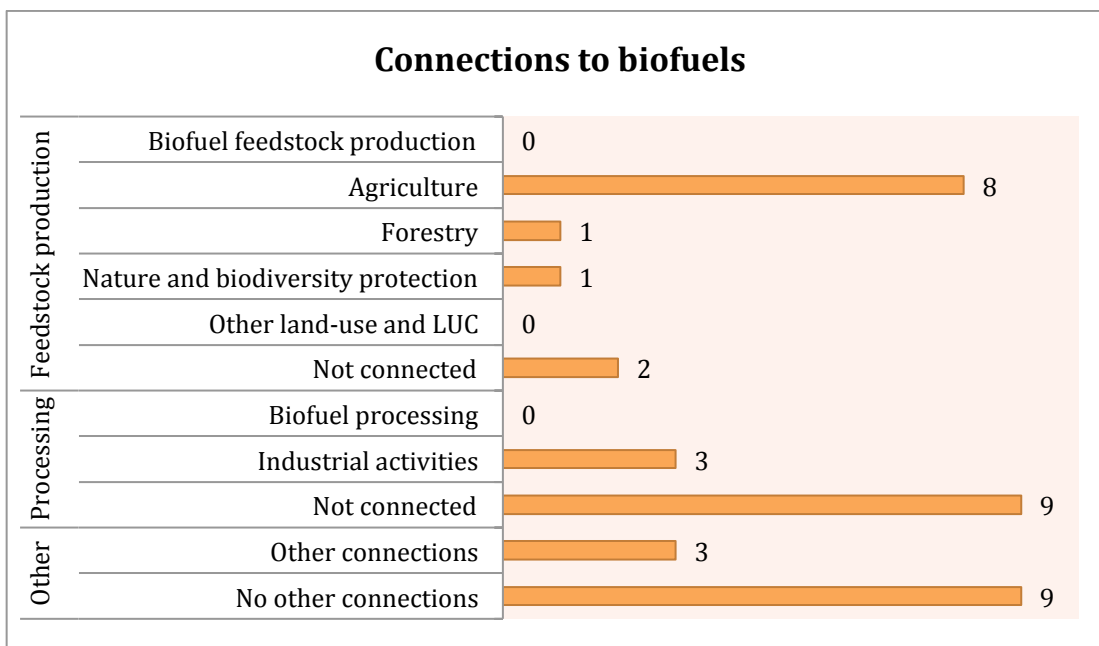


Figure 34: Connections between environmental legislation and biofuels in Malawi

Relations to RED sustainability considerations

As seen in Figure 35, *Social sustainability* and *Water* seem to be the most considered RED topics in Malawi's biofuel related legislation. The least considered topics include *Ecosystem services*, *Air*, *Carbon stock* and particularly *GHG emissions*, for which no relations were found.

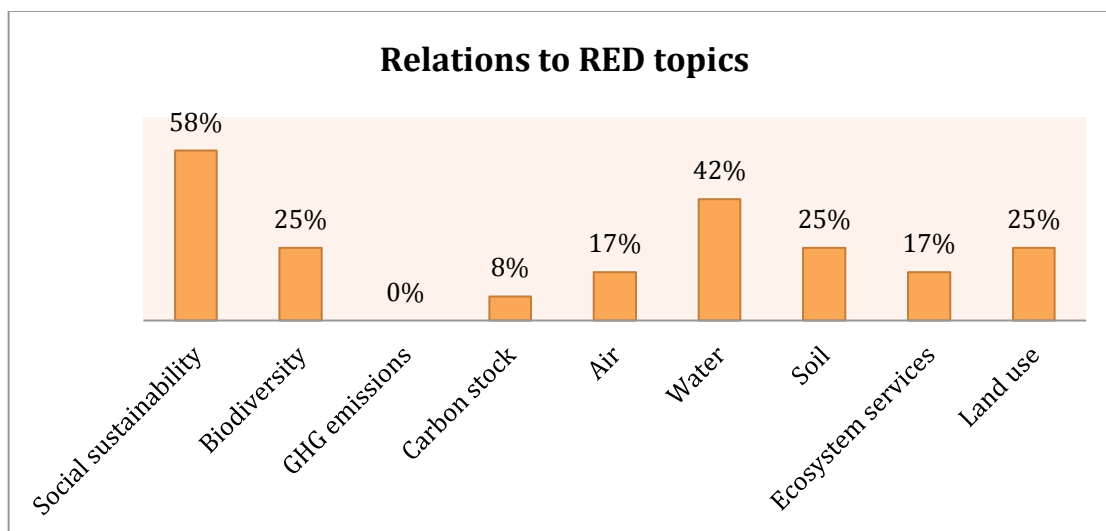


Figure 35: Share of Malawi's biofuel related legislation that consider each RED topic

Relations to RED sustainability criteria

As seen in Figure 36, most relations were found for *Impacts on areas designated for nature protection purposes* and *Impacts on rare, threatened and endangered species*. Few relations were found for *Clearing of forests*. No relations were found for *Conversion of wetlands*, *Conversion of grasslands* or *Drainage of peatlands*.

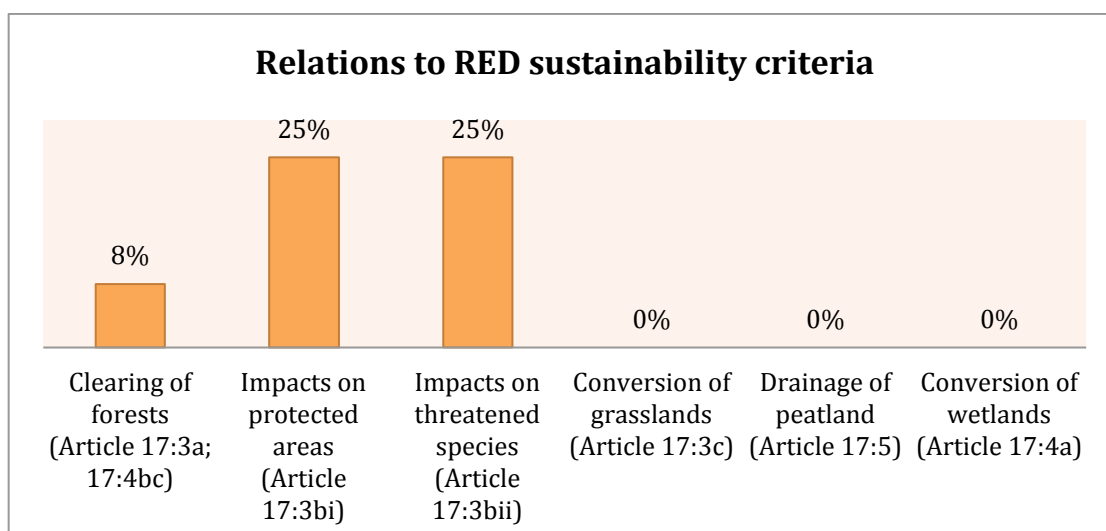


Figure 36: Share of Malawi's biofuel related legislation that consider each RED criterion

Complementary analysis of regulations

Since no laws related to *Conversion of grasslands*, *Drainage of peatlands* or *Conversion of wetlands* were identified, an effort to identify such relations in regulations was made.

No regulations restricting *Conversion of grasslands*, *Drainage of peatlands* or *Conversion of wetlands* were identified.

3.9.2 Enforcement

Enforcement is analysed both from the perspective of juridical responsibilities to enforce biofuel related legislation and practical potential to enforce legislation in general.

Enforcement of biofuel legislation in the juridical sense

11 of the 12 laws relevant for biofuels specify institutions responsible for enforcement. However, in 6 laws it is only stated that "The Minister" is responsible. Thus, 5 of the 12 relevant laws include more specific responsible institutions.

Enforcement potential of legislation

This chapter presents and interprets the results for Malawi on the CPI, GII, ID and EI indexes, with the purpose to provide for a discussion on how compliance with legislation in Malawi is managed in the practical sense. Note that this chapter does not focus specifically on how compliance is managed with biofuel legislation, but rather on Malawi's potential to enforce legislation in general.

Corruption Perception Index

Malawi scores 3.4/10 on the Corruption Perception Index. That puts Malawi in the 85th place of 178 countries globally, and in the 10th place of the 28 countries in the Sub-Saharan Africa region (Transparency International 2010). The interpretation of the score indicates that public sector corruption in Malawi is perceived to exist to a medium extent.

Target countries with similar CPI scores include: Peru (3.5), India (3.3) and Guatemala (3.2).

Global Integrity Index

On the 2009 Global Integrity Index (Global Integrity 2009), Malawi scores 73/100, which means that the anti-corruption framework is classified as “moderate”. The following highlights from the GII analysis was published along the result:

“Malawi boasts strong scores for voter participation and election integrity, but the election monitoring agency struggles to control the influence of money in politics. There are no controls or transparency over the funding of parties and candidates in Malawi, allowing the ruling party to funnel state resources to support friendly candidates' campaigns. A lack of post-government employment restrictions for members of the executive and judicial branches, combined with tax and customs exemptions granted to those same officials, provides ample room for senior officials to use their public positions for private gain. Meanwhile, the track-record of the Anti-Corruption Bureau (ACB) shows that low-level civil servants are more likely to be targeted than the "big fish" due to political pressure. Unfortunately, all investigations by the ACB have been stalled recently due to the lack of a deputy director; without the deputy's approval, investigations cannot begin. Staffing problems have also had an impact on the judiciary, where a lack of lawyers nationally has slowed the appeals process and the accessibility of legal aid. Good news can be found in Malawi's national ombudsman office, which is viewed as responsive to citizen concerns and active in initiating investigations.”

Target countries with similar GII scores include: Brazil (76), Indonesia (74), Pakistan (72) and India (70).

Index of Democracy

On the 2010 Index of Democracy (The Economist Intelligence Unit 2010), Malawi scores 5.84/10. This puts Malawi in the 85th place of 167 countries globally. The score means that Malawi is classified as a “hybrid regime”.

“Hybrid regimes (ranked the third best out of four groups): Elections have substantial irregularities that often prevent them from being both free and fair. Government pressure on opposition parties and candidates may be common. Serious weaknesses are more prevalent than in flawed democracies - in political culture, functioning of government and political participation. Corruption tends to be widespread and the rule of law is weak. Civil society is weak. Typically there is harassment of and pressure on journalists, and the judiciary is not independent.”

Target countries with similar ID scores include: Guatemala (6.05), Bolivia (5.92) and Uganda (5.64).

Enforcement Index

Malawi scores 5.5/10 on the Enforcement Index. This means that the potential to enforce legislation is classified as “intermediate”. Compared to other target countries, Malawi ranks similar to Peru (5.6), Indonesia (5.6) and Argentina (5.6). In total, 9 target countries ranks higher and 11 ranks lower.

Rule of Law Index

Malawi is not covered by the RLI index.

3.9.3 Country-specific conclusions

19 laws are available for Malawi in the ECOLEX database, of which 12 are relevant for biofuels. All of the relevant laws have a national coverage.

Social sustainability and *Water* seem to be the most considered RED topics in Malawi's biofuel related legislation. The least considered topics include *Ecosystem services*, *Air*, *Carbon stock* and particularly *GHG emissions*, for which no relations were found.

Regarding the RED sustainability criteria, most relations were found for *Impacts on areas designated for nature protection purposes* and *Impacts on rare, threatened and endangered species*. Few relations were found for *Clearing of forests*. No relations were found for *Conversion of wetlands*, *Conversion of grasslands* or *Drainage of peatlands*.

Enforcement

11 of the 12 laws relevant for biofuels specify institutions responsible for enforcement. However, in 6 laws it is stated that "The Minister" is responsible. Thus, 5 of the 12 relevant laws include more specific responsible institutions. This corresponds to 42%.

With regard to the score on the CPI, GII and ID indexes, Malawi is classified as a "hybrid regime". Public sector corruption is perceived to exist to a medium extent and the anti-corruption framework is considered to be moderate. Malawi's potential to enforce legislation is classified as "intermediate".

3.10 Mozambique

Mozambique is part of the *Africa* region.

3.10.1 Biofuel legislation

Available environmental legislation in Mozambique includes 24 laws, written in Portuguese (FAO et al. 2011). As seen in Figure 37, 10 of the laws are relevant for biofuels and all have a national coverage. Interesting to note is that two of the relevant laws were put into place by the Portuguese administration before Mozambique's independence in 1975. These are not unique for Mozambique but cover also other former Portuguese colonies. "Act No. 6/73 approving the Overseas Land Act" covers Mozambique, Cape Verde, Guinea-Bissau and Sao Tome and Principe. "Decree No. 44531 on Forest Resources" covers Mozambique, Angola and Guinea-Bissau.

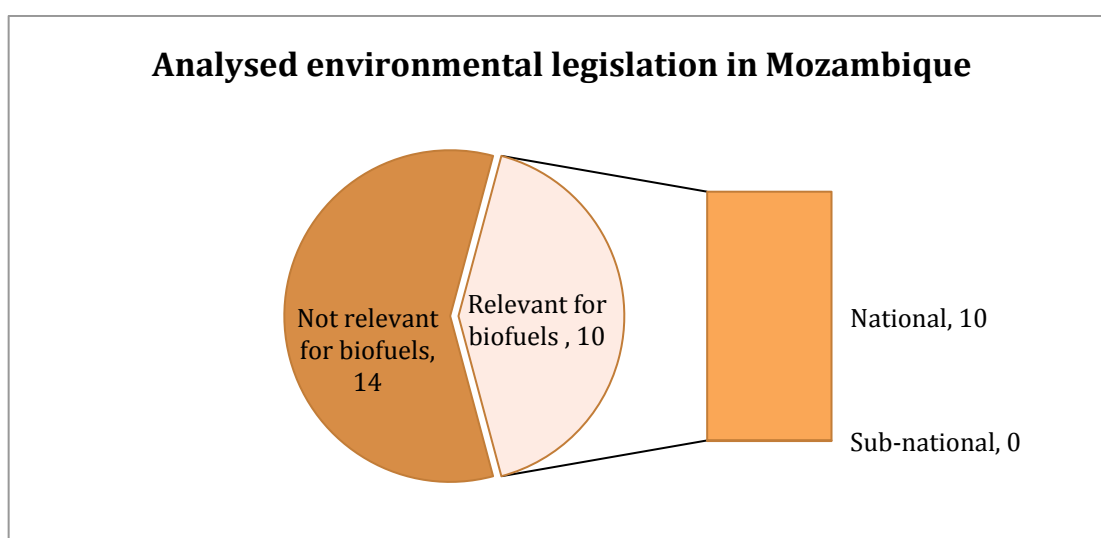


Figure 37: Overview of the analysed environmental legislation in Mozambique, including number of laws relevant for biofuels and their national coverage

Connections to biofuels

As seen in Figure 38, seven of the 10 relevant laws have connections to the feedstock production phase and primarily agriculture in general. No laws have specific connections to biofuel feedstock production.

Half of the laws have connections to industrial activities but no laws have specific connections to biofuel processing.

Seven of the 10 relevant laws have connections to biofuels in other ways than feedstock production or processing. Most commonly these laws cover issues related to land-rights or environmental education.

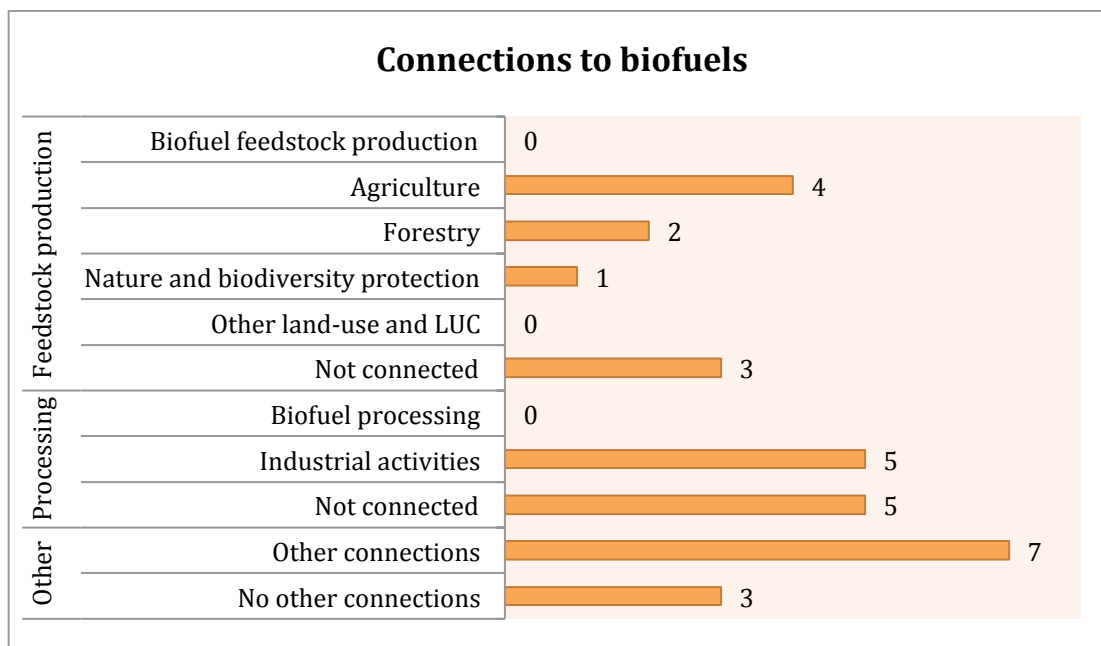


Figure 38: Connections between environmental legislation and biofuels in Mozambique

Relations to RED sustainability considerations

As seen in Figure 39, *Land-use*, *Social sustainability* and *Biodiversity* seem to be the most considered RED-topics in Mozambique's biofuel related legislation. The least considered topics include *Air* and particularly *GHG emissions*, for which no relations were found.

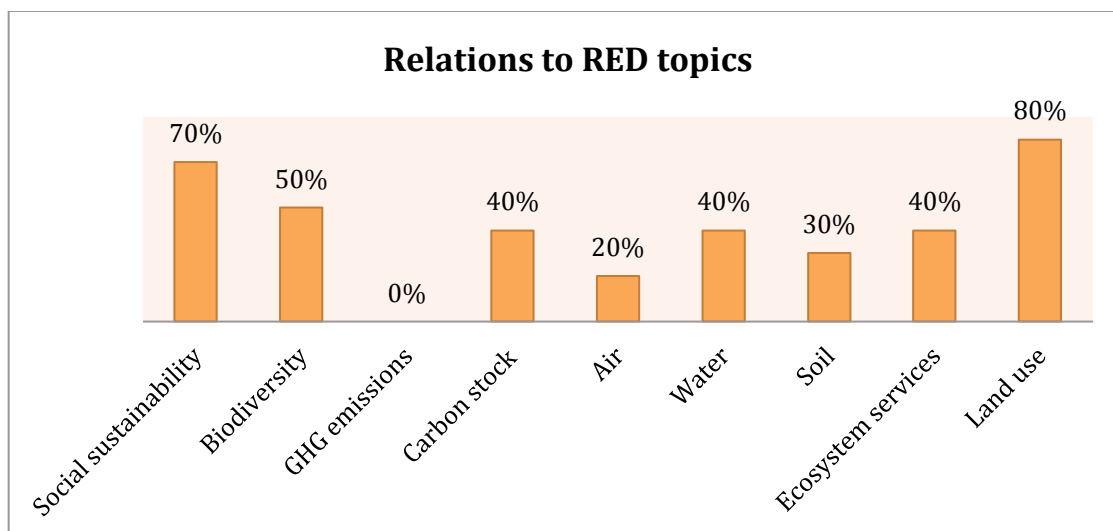


Figure 39: Share of Mozambique's biofuel related legislation that consider each RED topic

Relations to RED sustainability criteria

As seen in Figure 40, most relations were found for *Impacts on areas designated for nature protection purposes*, *Impacts on rare, threatened and endangered species* and *Clearing of forests*. Few relations were found for *Conversion of wetlands*. No relations were found for *Drainage of peatlands* or *Conversion of wetlands*.

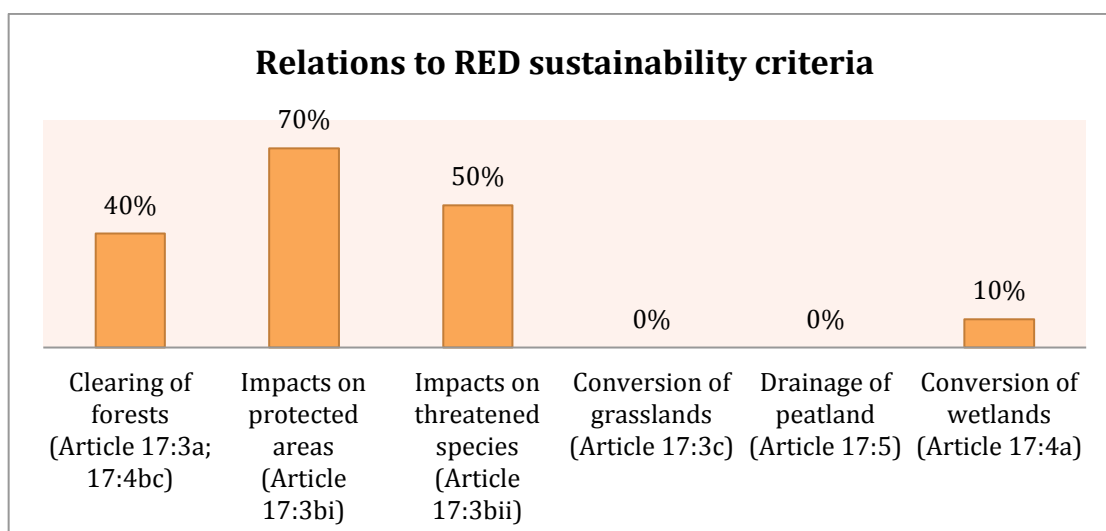


Figure 40: Share of Mozambique's biofuel related legislation that consider each RED criterion

Complementary analysis of regulations

No complementary analysis of regulations was made for Mozambique. It should be noted though that the number of Mozambique regulations in ECOLLEX (274) is far greater than the number of legislations (26). It is therefore likely that a complementary analysis of regulations could be very useful to better understand the Mozambique case.

3.10.2 Enforcement

Enforcement is analysed both from the perspective of juridical responsibilities to enforce biofuel related legislation and practical potential to enforce legislation in general.

Enforcement of biofuel legislation in the juridical sense

None of the 10 laws relevant for biofuels include specific institutions responsible for enforcement. However, in 7 laws it is stated that "The Government" is responsible.

Enforcement potential of legislation

This chapter presents and interprets the results for Mozambique on the CPI, GII, ID and EI indexes, with the purpose to provide for a discussion on how compliance with legislation in Mozambique is managed in the practical sense. Note that this chapter does not focus specifically on how compliance is managed with biofuel legislation, but rather on Mozambique's potential to enforce legislation in general.

Corruption Perception Index

Mozambique scores 2.7/10 on the Corruption Perception Index. That puts Mozambique in the 116th place of 178 countries globally, and in the 20th place of the 28 countries in the Sub-Saharan Africa region (Transparency International 2010). The interpretation of the score indicates that public sector corruption in Mozambique is perceived to be high.

Target countries with similar CPI scores include: Tanzania (2.7), Ethiopia (2.7), Indonesia (2.8) and Bolivia (2.8).

Global Integrity Index

On the 2007 Global Integrity Index (Global Integrity 2009), Mozambique scores 59/100, which means that the anti-corruption framework is classified as “very weak”. The following highlights from the GII analysis was published along the result:

“Mozambique has serious problems with its governance and anti-corruption framework. Government accountability (executive, legislative, judicial) and the civil service are all rated as very weak. Voting is generally inclusive, but lack of election monitoring mechanisms and regulations for political financing make for very weak elections in Mozambique. No laws limit individual or corporate donations to candidates and political parties and there are no limits on political party expenditure. Additionally, there is no law requiring disclosure of donations, auditing or oversight of the political financing process. Whistleblower protections are generally ineffective.”

Target countries with similar GII scores include: Tanzania (60), Sudan (59) and Ukraine (58).

Index of Democracy

On the 2010 Index of Democracy (The Economist Intelligence Unit 2010), Mozambique scores 4.90/10. This puts Mozambique in the 99th place of 167 countries globally. The score means that Mozambique is classified as a “hybrid regime”.

“Hybrid regimes (ranked the third best out of four groups): Elections have substantial irregularities that often prevent them from being both free and fair. Government pressure on opposition parties and candidates may be common. Serious weaknesses are more prevalent than in flawed democracies - in political culture, functioning of government and political participation. Corruption tends to be widespread and the rule of law is weak. Civil society is weak. Typically there is harassment of and pressure on journalists, and the judiciary is not independent.”

Target countries with similar ID scores include: Uganda (5.05) and Pakistan (4.55).

Enforcement Index

Mozambique scores 4.5/10 on the Enforcement Index. This means that the potential to enforce legislation is classified as “low”. Compared to other target countries, Mozambique ranks similar to Tanzania (4.8), Pakistan (4.7) and Russia (4.3). In total, 16 target countries ranks higher and 4 ranks lower.

Rule of Law Index

Mozambique is not covered by the RLI index.

3.10.3 Country-specific conclusions

24 laws are available for Mozambique in the ECOLEX database, of which 10 are relevant for biofuels. All of the relevant laws have a national coverage.

Land-use and *Social sustainability* seem to be the most considered RED-topics in Mozambique’s biofuel related legislation. The least considered topics include *Air* and particularly *GHG emissions*, for which no relations were found.

Regarding the RED sustainability criteria, most relations were found for *Impacts on areas designated for nature protection purposes*, *Impacts on rare, threatened and endangered species* and *Clearing of forests*. Few relations were found for *Conversion of wetlands*. No relations were found for *Drainage of peatlands* or *Conversion of wetlands*.

Enforcement

None of the 10 laws relevant for biofuels include specific institutions responsible for enforcement. However, in 7 laws it is stated that “The Government” is responsible.

With regard to the score on the CPI, GII and ID indexes, Mozambique is classified as a “hybrid regime”. Public sector corruption is perceived to be high and the anti-corruption framework is considered to be very weak. Mozambique’s potential to enforce legislation is classified as “low”.

3.11 Uganda

Uganda is part of the *Africa* region.

3.11.1 Biofuel legislation

Available environmental legislation in Uganda consists of 83 laws, written in English (FAO et al. 2011). As seen in Figure 41, 41 of the laws are relevant for biofuels and all but one have a national coverage.

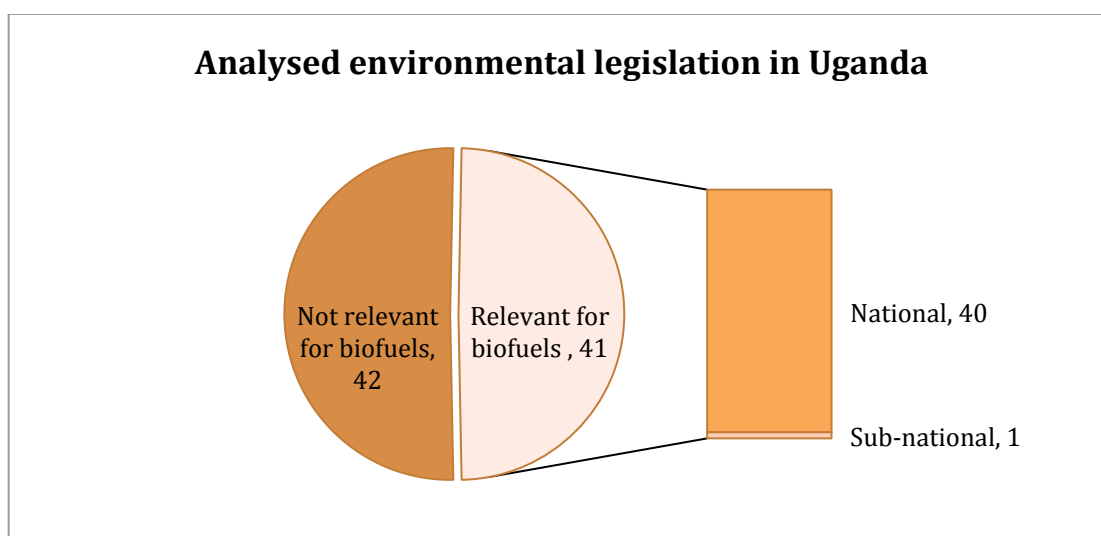


Figure 41: Overview of the analysed environmental legislation in Uganda, including number of laws relevant for biofuels and their national coverage

Connections to biofuels

As seen in Figure 42, about three fourth of the relevant laws have connections to the feedstock production phase and primarily agriculture in general. No laws have specific connections to biofuel feedstock production.

About one fifth of the relevant laws have connections to industrial activities but no laws have specific connections to biofuel processing.

Half of the relevant laws have connections to biofuels in other ways than feedstock production or processing. Most commonly these laws cover issues related to land-rights.

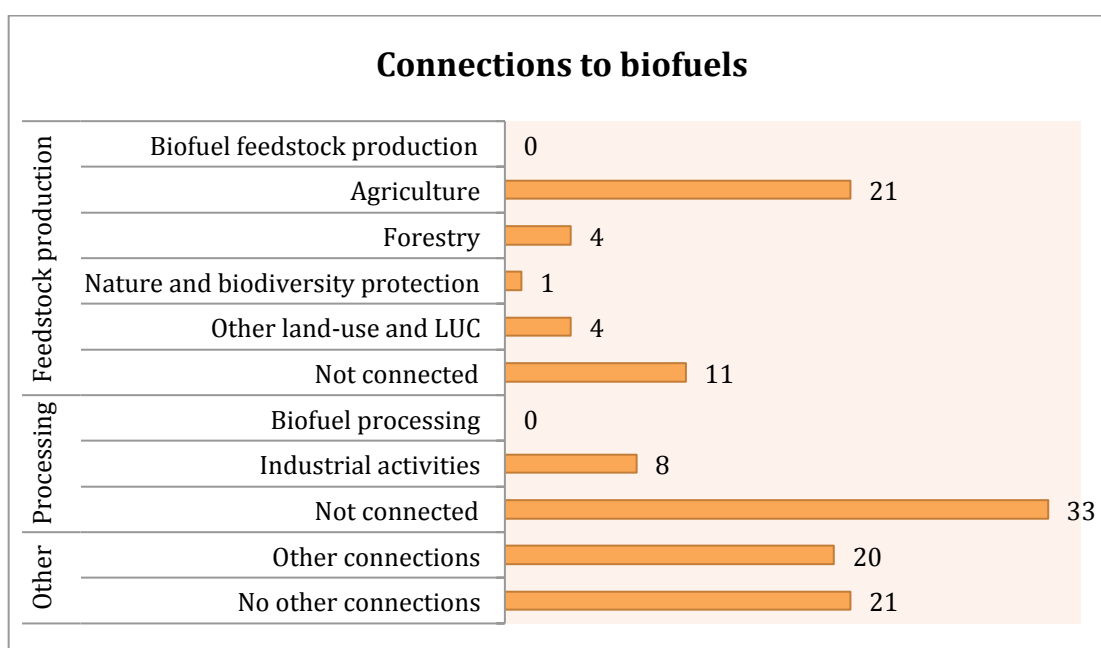


Figure 42: Connections between environmental legislation and biofuels in Uganda

Relations to RED sustainability considerations

As seen in Figure 43, *Social sustainability* seem to be the most considered RED topic in Uganda's biofuel related legislation. The least considered topics include *Carbon stock*, *Air*, *Ecosystem services*, *Soil* and particularly *GHG emissions*.

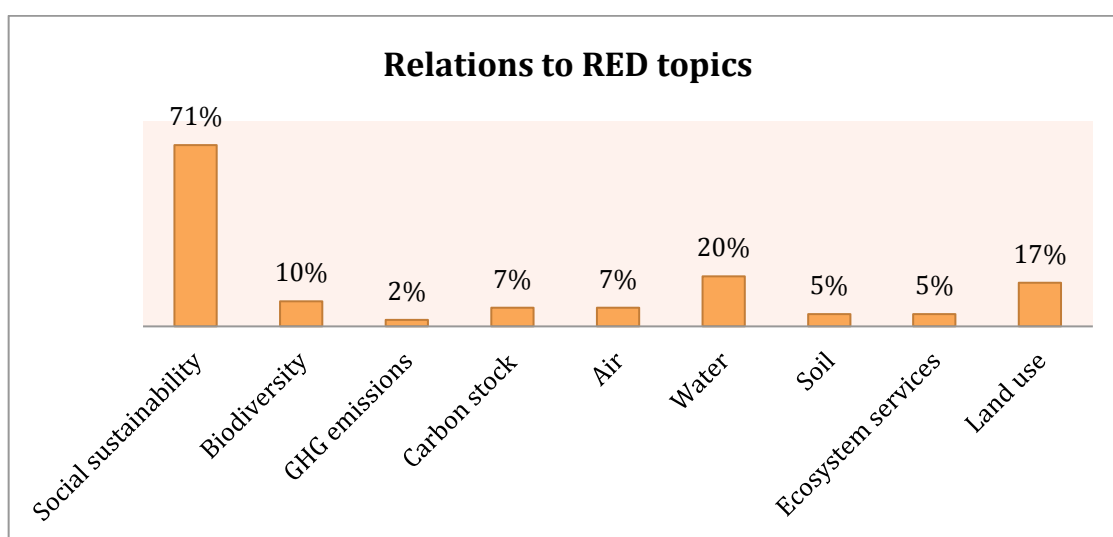


Figure 43: Share of Uganda's biofuel related legislation that consider each RED topic

Relations to RED sustainability criteria

As seen in Figure 44, most relations were found for *Impacts on areas designated for nature protection purposes*. Few relations were found for *Conversion of grasslands*. No relations were found for *Drainage of peatlands*.

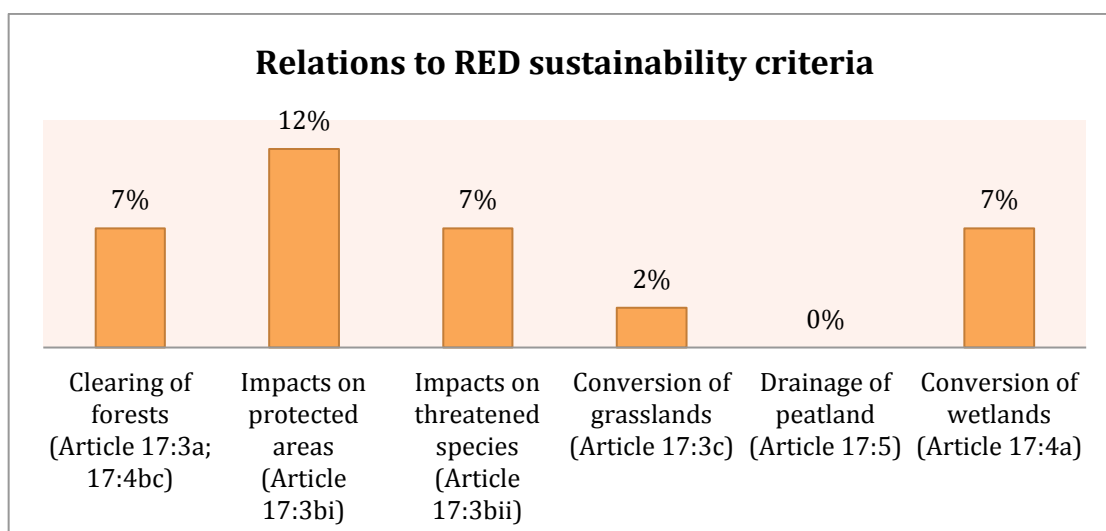


Figure 44: Share of Uganda's biofuel related legislation that consider each RED criterion

Complementary analysis of regulations

Since no laws related to *Drainage of peatlands* were identified, an effort to identify such relations in regulations was made. One national regulation was identified restricting drainage of peatlands, the “National Environment (Wetlands, River Banks and Lake Shores Management) Regulations, 2000 (No. 3 of 2000)”.

3.11.2 Enforcement

Enforcement is analysed both from the perspective of juridical responsibilities to enforce biofuel related legislation and practical potential to enforce legislation in general.

Enforcement of biofuel legislation in the juridical sense

21 of the 41 laws relevant for biofuels include specific institutions responsible for enforcement, particularly different ministers. In 15 laws it is stated that “The Government” is responsible while 5 laws do not specify a responsible institution at all.

Enforcement potential of legislation

This chapter presents and interprets the results for Mozambique on the CPI, GII, ID and EI indexes, with the purpose to provide for a discussion on how compliance with legislation in Uganda is managed in the practical sense. Note that this chapter does not focus specifically on how compliance is managed with biofuel legislation, but rather on Uganda's potential to enforce legislation in general.

Corruption Perception Index

Uganda scores 2.5/10 on the Corruption Perception Index. That puts Uganda in the 127th place of 178 countries globally, and in the 27th place of the 28 countries in the Sub-Saharan Africa region (Transparency International 2010). The interpretation of the score indicates that public sector corruption in Uganda is perceived to be high.

Target countries with similar CPI scores include: Tanzania (2.7), Ethiopia (2.7), Mozambique (2.7) and Nigeria (2.4).

Global Integrity Index

On the 2009 Global Integrity Index (Global Integrity 2009), Uganda scores 69/100, which means that the anti-corruption framework is classified as “weak”. The following highlights from the GII analysis was published along the result:

“The implementation gap between the existence and actual implementation of key anti-corruption safeguards in Uganda is one of the largest in the world. While the legal framework is strong on the books, in practice implementation falls short. Low levels of funding and insufficient capacity hinder almost all government oversight agencies including the Inspectorate General of Government (IGG). As a result, the IGG cannot effectively enforce existing conflicts of interest regulations. Recognizing the need to build capacity, new training requirements have been put in place for procurement officials. Citizens also report problems accessing government information due to low internet penetration rates and political influence over the disclosure of sensitive information. The media is relatively free to report on corruption issues but there have also been cases of political pressure being put on reporters in the past year.”

Target countries with similar GII scores include: India (70), Argentina (70), Peru (69) and Russia (69).

Index of Democracy

On the 2010 Index of Democracy (The Economist Intelligence Unit 2010), Uganda scores 5.05/10. This puts Uganda in the 98th place of 167 countries globally. The score means that Uganda is classified as a “hybrid regime”.

“Hybrid regimes (ranked the third best out of four groups): Elections have substantial irregularities that often prevent them from being both free and fair. Government pressure on opposition parties and candidates may be common. Serious weaknesses are more prevalent than in flawed democracies - in political culture, functioning of government and political participation. Corruption tends to be widespread and the rule of law is weak. Civil society is weak. Typically there is harassment of and pressure on journalists, and the judiciary is not independent.”

Target countries with similar ID scores include: Mozambique (4.90).

Enforcement Index

Uganda scores 4.8/10 on the Enforcement Index. This means that the potential to enforce legislation is classified as “low”. Compared to other target countries, Uganda ranks similar to Ukraine (4.8), Tanzania (4.8) and Pakistan (4.7). In total, 12 target countries ranks higher and 8 ranks lower.

Rule of Law Index

Uganda is not covered by the RLI index.

3.11.3 Country-specific conclusions

83 laws are available for Uganda in the ECOLLEX database, of which 41 are relevant for biofuels. All but one of the relevant laws have a national coverage.

Social sustainability seem to be the most considered RED topic in Uganda's biofuel related legislation. The least considered topics include *Carbon stock*, *Air*, *Ecosystem services*, *Soil* and particularly *GHG emissions*.

Regarding the RED sustainability criteria, most relations were found for *Impacts on areas designated for nature protection purposes*. Few relations were found for *Conversion of grasslands*. No relations were found for *Drainage of peatlands*.

Enforcement

21 of the 41 laws relevant for biofuels include specific institutions responsible for enforcement, particularly different ministers. This corresponds to 51%.

With regard to the score on the CPI, GII and ID indexes, Uganda is classified as a "hybrid regime". Public sector corruption is perceived to be high and the anti-corruption framework is considered to be weak. Uganda's potential to enforce legislation is classified as "low".

3.12 Ethiopia

Ethiopia is part of the *Africa* region.

3.12.1 Biofuel legislation

Available environmental legislation in Ethiopia consists of 93 laws, written in English (FAO et al. 2011). As seen in Figure 45, 48 of the laws are relevant for biofuels and all but two have a national coverage.

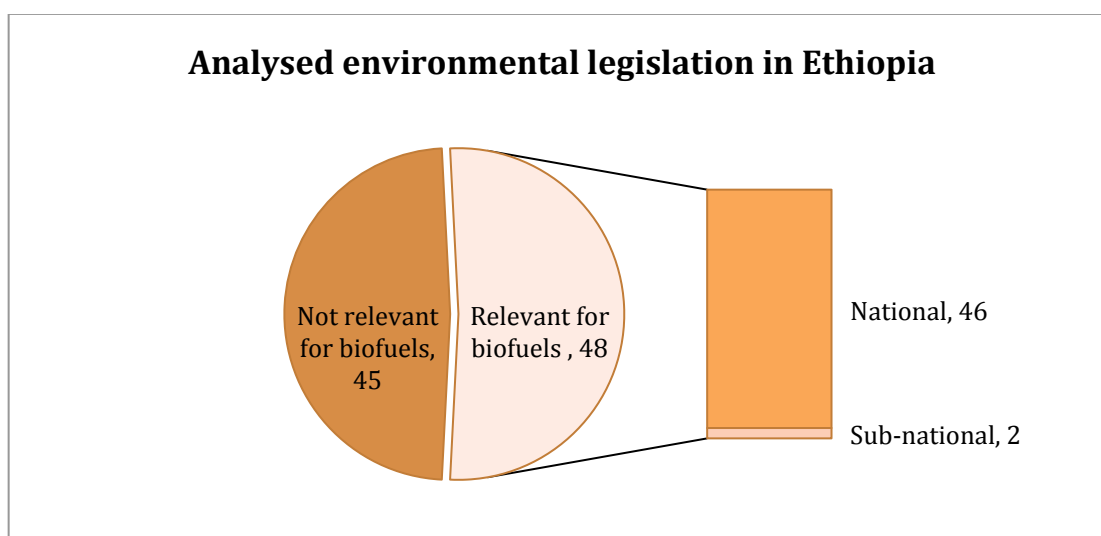


Figure 45: Overview of the analysed environmental legislation in Ethiopia, including number of laws relevant for biofuels and their national coverage

Connections to biofuels

As seen in Figure 46, about three fourth of the relevant laws have connections to the feedstock production phase and primarily agriculture in general. No laws have specific connections to biofuel feedstock production.

About one fifth of the relevant laws have connections to industrial activities but no laws have specific connections to biofuel processing.

About two fifth of the relevant laws have connections to biofuels in other ways than feedstock production or processing. Most commonly these laws cover issues related to land-rights. Other examples include ratifications of international treaties and rights of cooperative societies.

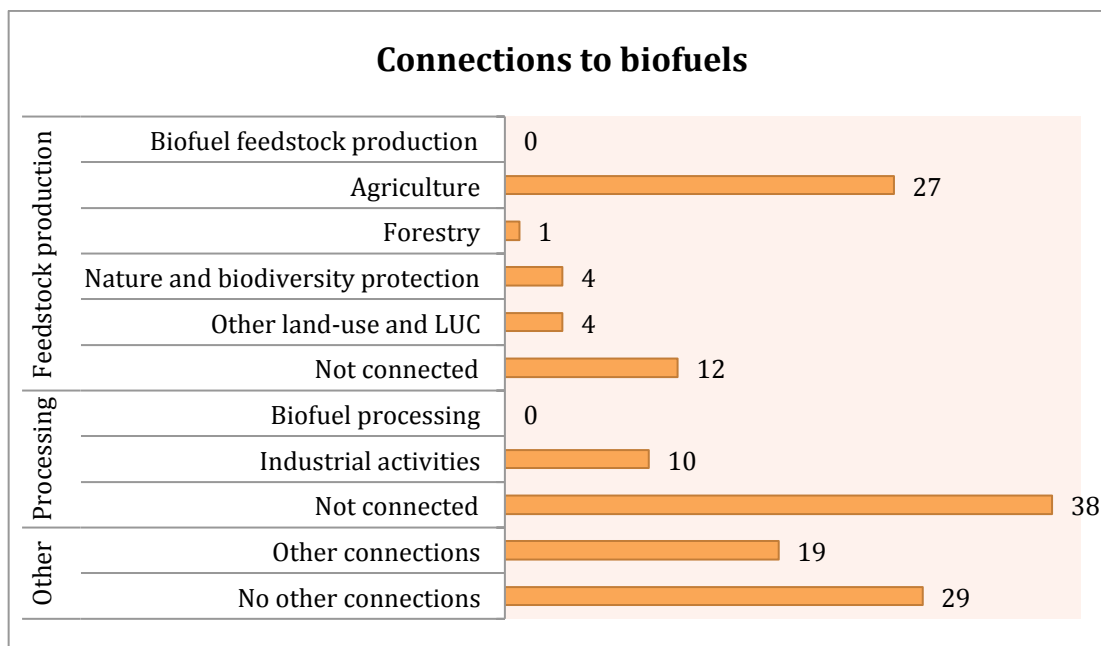


Figure 46: Connections between environmental legislation and biofuels in Ethiopia

Relations to RED sustainability considerations

As seen in Figure 47, *Social sustainability* and *Water* seem to be the most considered RED topics in Ethiopia's biofuel related legislation. The least considered topics include *Air*, *Ecosystem services*, *Carbon stock* and *GHG emissions*.

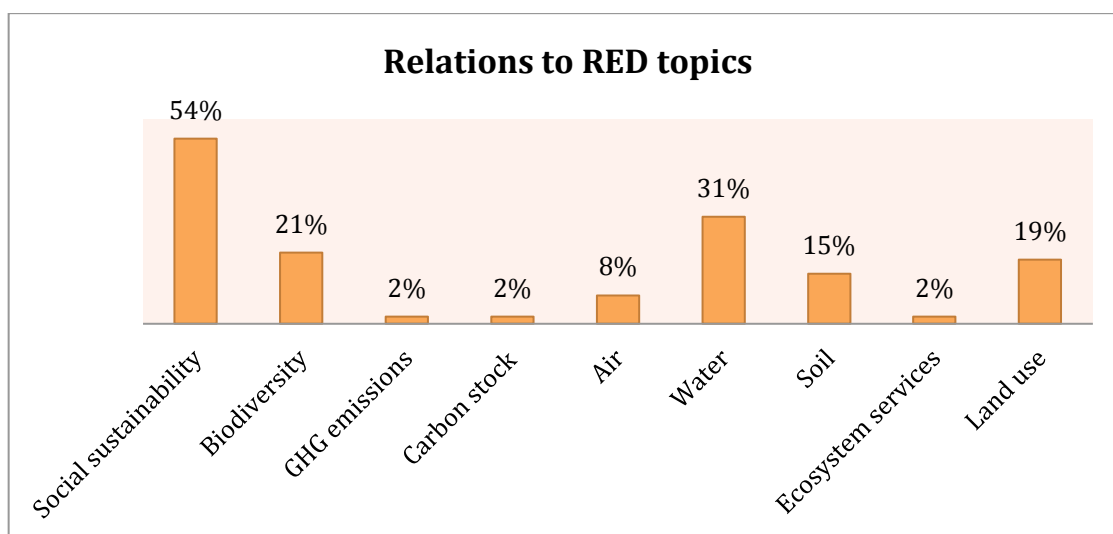


Figure 47: Share of Ethiopia's biofuel related legislation that consider each RED topic

Relations to RED sustainability criteria

As seen in Figure 48, most relations were found for *Impacts on areas designated for nature protection services*. Overall, few relations were found for the RED criteria in Ethiopia's biofuel related legislation, particularly *Drainage of peatlands* and *Conversion of grasslands*, for which no relations were found.

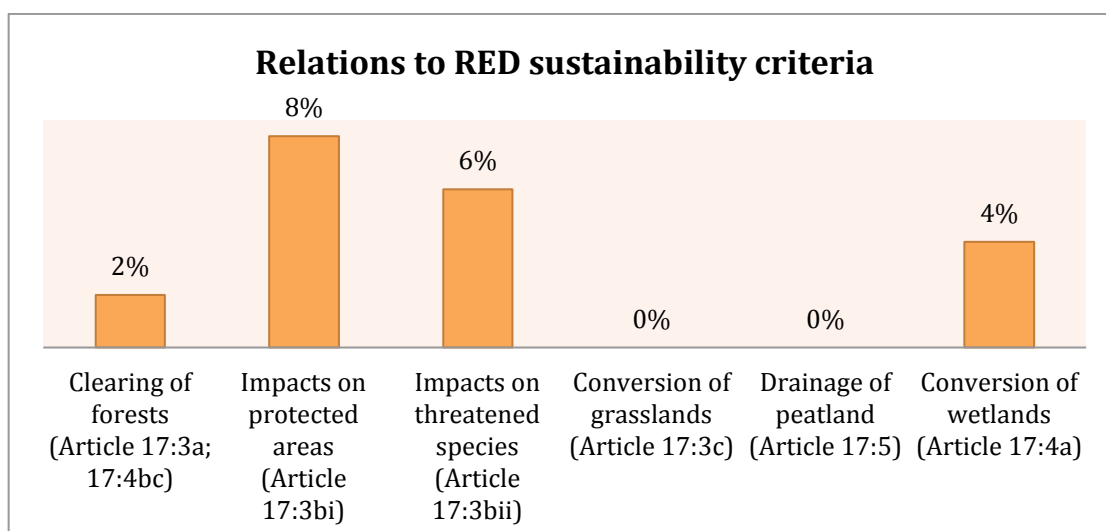


Figure 48: Share of Ethiopia's biofuel related legislation that consider each RED criterion

Complementary analysis of regulations

Since no laws related to *Conversion of grasslands* or *Drainage of peatlands* were identified, an effort to identify such relations in regulations was made.

No regulations were identified restricting *Conversion of grasslands* or *Drainage of peatlands*.

3.12.2 Enforcement

Enforcement is analysed both from the perspective of juridical responsibilities to enforce biofuel related legislation and practical potential to enforce legislation in general.

Enforcement of biofuel legislation in the juridical sense

17 of the 48 laws relevant for biofuels include specific institutions responsible for enforcement. Examples of recurring institutions include “The Environmental Protection Authority” and “The Ministry of Agriculture and Rural Development”. In 10 laws it is stated that “The Council of Ministers” is responsible, while 20 laws do not specify a responsible institution at all.

Enforcement potential of legislation

This chapter presents and interprets the results for Ethiopia on the CPI, GII, ID and EI indexes, with the purpose to provide for a discussion on how compliance with legislation in Ethiopia is managed in the practical sense. Note that this chapter does not focus specifically on how compliance is managed with biofuel legislation, but rather on Ethiopia's potential to enforce legislation in general.

Corruption Perception Index

Ethiopia scores 2.7/10 on the Corruption Perception Index. That puts Ethiopia in the 116th place of 178 countries globally, and in the 20th place of the 28 countries in the Sub-Saharan Africa region (Transparency International 2010). The interpretation of the score indicates that public sector corruption in Ethiopia is perceived to be high.

Target countries with similar CPI scores include: Argentina (2.9), Indonesia (2.8), Tanzania (2.7) and Mozambique (2.7).

Global Integrity Index

On the 2008 Global Integrity Index (Global Integrity 2009), Ethiopia scores 56/100, which means that the anti-corruption framework is classified as “very weak”. The following highlights from the GII analysis was published along the result:

“Excessive executive branch control and influence over much of government and the media characterizes the governance challenges in Ethiopia. As the assessment notes: “Rather than a question of regulations to promote accountability, the problem in Ethiopia is that the party and the state are virtually the same. Furthermore, state and/or party-owned business dominate key sectors of the economy.” The courts remain under pressure from government and cannot review the constitutionality of laws; only the legislature has that authority, and it remains largely controlled by the ruling party. The financing of political parties and candidates is virtually unregulated, and a proposed “NGO Law” introduced in the fall of 2008 would make life even more difficult for independent media and anti-corruption groups, especially in raising funds from international donors.”

Ethiopia scores the lowest of all target countries on the GII. Target countries with similar GII scores include: Mozambique (59), Sudan (59) and Ukraine (58).

Index of Democracy

On the 2010 Index of Democracy (The Economist Intelligence Unit 2010), Ethiopia scores 3.68/10. This puts Ethiopia in the 118th place of 167 countries globally. The score means that Ethiopia is classified as an “authoritarian regime”.

“Authoritarian regimes (the lowest rank out of four possible): In these states political pluralism is absent or heavily circumscribed. Many countries in this category are outright dictatorships. Some formal institutions of democracy may exist, but these have little substance. Elections, if they do occur, are not free and fair. There is disregard for abuses and infringements of civil liberties. Media are typically state-owned or controlled by groups connected to the ruling regime. There is repression of criticism of the government and pervasive censorship. There is no independent judiciary.”

Target countries with similar ID scores include: Nigeria (3.47).

Enforcement Index

Ethiopia scores 4.0/10 on the Enforcement Index. This means that the potential to enforce legislation is classified as “low”. Compared to other target countries, Ethiopia ranks similar to Russia (4.4) and Nigeria (4.1). In total, 18 target countries rank higher and one ranks lower.

Rule of Law Index

Ethiopia is not covered by the RLI index.

3.12.3 Country-specific conclusions

93 laws are available for Ethiopia in the ECOLEX database, of which 48 are relevant for biofuels. All but two of the relevant laws have a national coverage.

Social sustainability and *Water* seem to be the most considered RED topics in Ethiopia's biofuel related legislation. The least considered topics include *Air*, *Ecosystem services*, *Carbon stock* and *GHG emissions*.

Regarding the RED sustainability criteria, most relations were found for *Impacts on areas designated for nature protection services*. Overall, few relations were found for the RED criteria in Ethiopia's biofuel related legislation, particularly *Drainage of peatlands* and *Conversion of grasslands*, for which no relations were found.

Enforcement

17 of the 48 laws relevant for biofuels include specific institutions responsible for enforcement. This corresponds to 35%.

With regard to the score on the CPI, GII and ID indexes, Ethiopia is classified as an "authoritarian regime". Public sector corruption is perceived to be high and the anti-corruption framework is considered to be very weak. Ethiopia's potential to enforce legislation is classified as "low".

3.13 Nigeria

Nigeria is part of the *Africa* region.

3.13.1 Biofuel legislation

Available environmental legislation in Nigeria consists of 55 laws, written in English (FAO et al. 2011). As seen in Figure 49, 19 of the laws are relevant for biofuels and all but one have a national coverage.

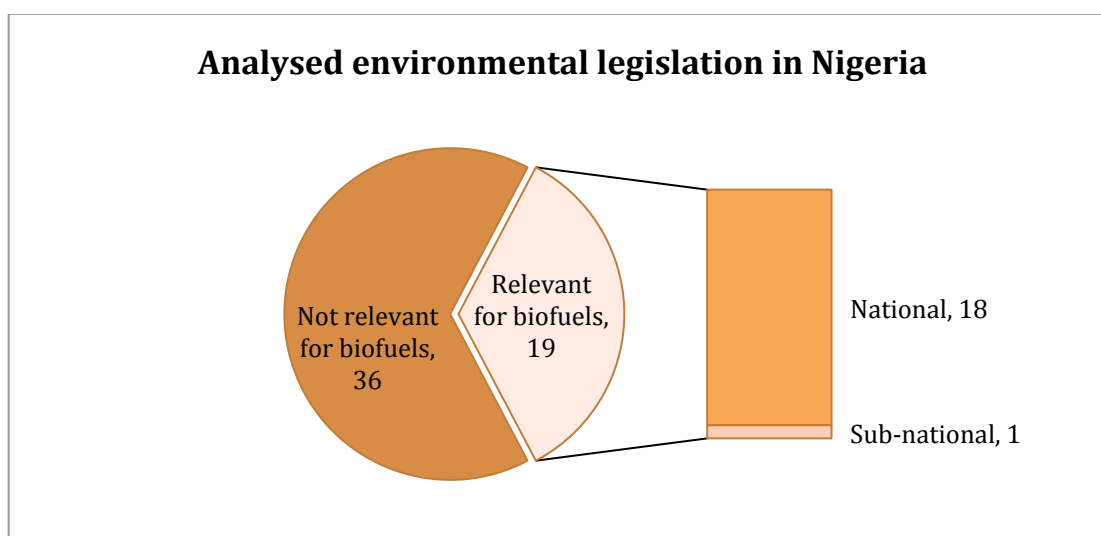


Figure 49: Overview of the analysed environmental legislation in Nigeria, including number of laws relevant for biofuels and their national coverage

Connections to biofuels

As seen in Figure 50, all but one of the relevant laws have connections to the feedstock production phase and primarily agriculture in general. No laws have specific connections to biofuel feedstock production.

About one fifth of the relevant laws have connections to industrial activities but no laws have specific connections to biofuel processing.

About one fourth of the relevant laws have connections to biofuels in other ways than feedstock production or processing. These laws cover issues like land-rights, access to environmental information and promotion of “new” energy.

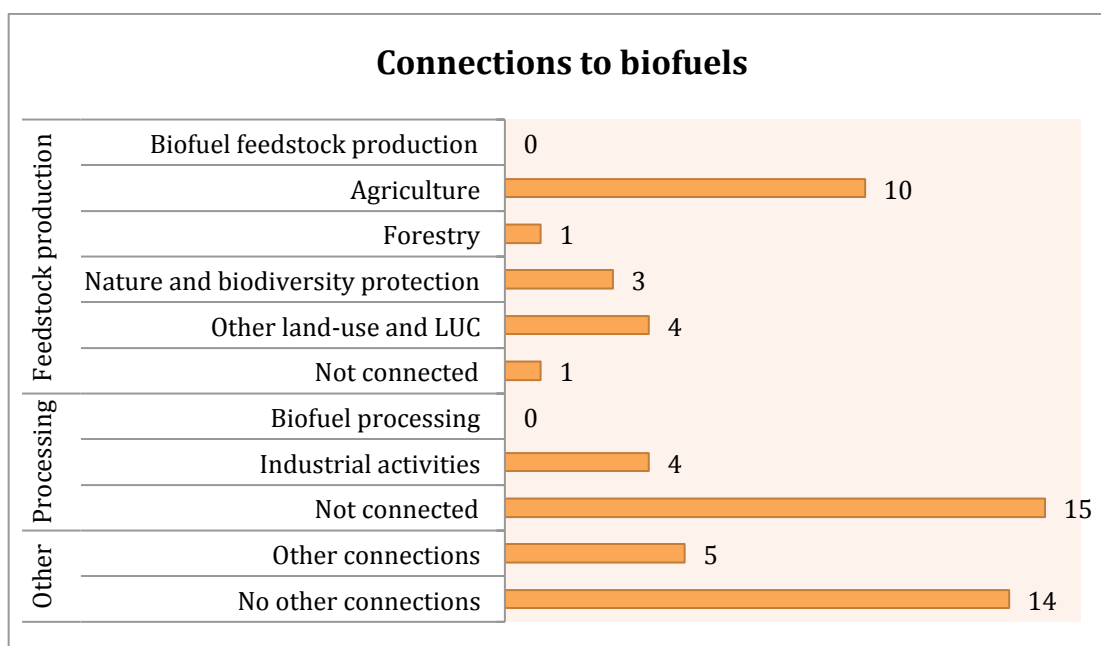


Figure 50: Connections between environmental legislation and biofuels in Nigeria

Relations to RED sustainability considerations

As seen in Figure 51, *Social sustainability* and *Land-use* seem to be the most considered RED-topics in Nigeria's biofuel related legislation. The least considered topics include *Carbon stock*, *Air* and particularly *Ecosystem services* and *GHG emissions*, for which no relations were found.

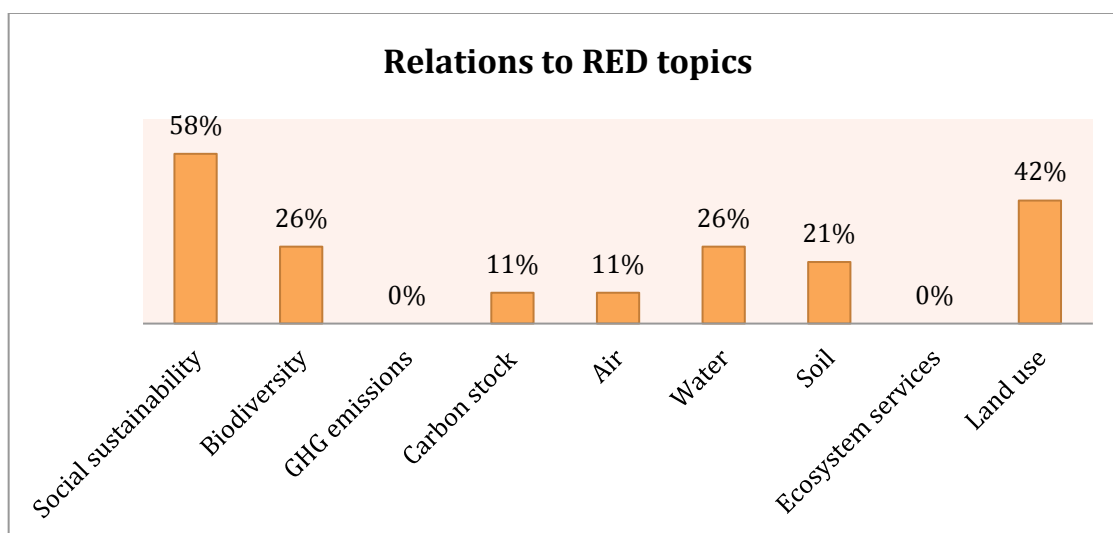


Figure 51: Share of Nigeria's biofuel related legislation that consider each RED topic

Relations to RED sustainability criteria

As seen in Figure 52, most relations were found for *Impacts on areas designated for nature protection purposes* and *Clearing of forests*. Few relations were found for *Conversion of wetlands*. No relations were found for *Drainage of peatlands* and *Conversion of grasslands*.

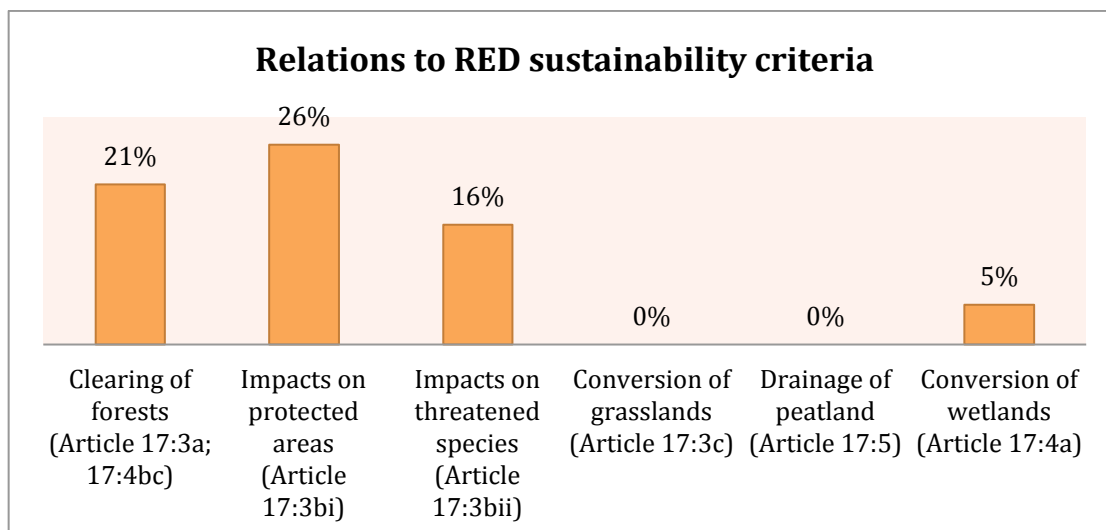


Figure 52: Share of Nigeria's biofuel related legislation that consider each RED criterion

Complementary analysis of regulations

Since no laws related to *Clearing of natural forests*, *Conversion of wetlands* or *Drainage of peatlands* were identified, an effort to identify such relations in regulations was made. One national regulation was identified restricting *Conversion of natural forests*, the “Forest Regulations of 1963”.

No regulations were identified restricting *Conversion of wetlands* or *Drainage of peatlands*.

3.13.2 Enforcement

Enforcement is analysed both from the perspective of juridical responsibilities to enforce biofuel related legislation and practical potential to enforce legislation in general.

Enforcement of biofuel legislation in the juridical sense

14 of the 19 laws relevant for biofuels include specific institutions responsible for enforcement, for example the “Federal Environmental Protection Agency”. One law states that “The President” is responsible, while 4 laws do not specify a responsible institution.

Enforcement potential of legislation

This chapter presents and interprets the results for Nigeria on the CPI, GII, ID, EI and RLI indexes, with the purpose to provide for a discussion on how compliance with legislation in Nigeria is managed in the practical sense. Note that this chapter does not focus specifically on how compliance is managed with biofuel legislation, but rather on Nigeria's potential to enforce legislation in general.

Corruption Perception Index

Nigeria scores 2.4/10 on the Corruption Perception Index. That puts Nigeria in the 134th place of 178 countries globally, and in the 28th place of the 33 countries in the Sub-Saharan Africa region (Transparency International 2010). The interpretation of the score indicates that public sector corruption in Nigeria is perceived to be high.

Target countries with similar CPI scores include: Uganda (2.5), Ukraine (2.4) and Pakistan (2.3).

Global Integrity Index

On the 2008 Global Integrity Index (Global Integrity 2009), Nigeria scores 64/100, which means that the anti-corruption framework is considered to be weak. The following highlights from the GII analysis was published along the result:

“Nigeria continues to suffer from poor accountability across all branches of government and the civil service. While citizens' right to access information is embedded in the regulations of some specific agencies, a general freedom of information act has been sitting in the Nigerian legislature since 1999. There continues to be little protection for whistleblowers, however the creation of internal anti-corruption units in government ministries does provide some hope for effective whistleblower outlets in the future. The Public Procurement Act of 2007 is still in the process of being fully implemented, but it is viewed as having already had a positive effect on Nigerian procurement practices.”

Target countries with similar GII scores include: Guatemala (64) and Tanzania (60).

Index of Democracy

On the 2010 Index of Democracy (The Economist Intelligence Unit 2010), Nigeria scores 3.47/10. This puts Nigeria in the 123th place of 167 countries globally. The score means that Nigeria is classified as an “authoritarian regime”.

“Authoritarian regimes (the lowest rank out of four possible): In these states political pluralism is absent or heavily circumscribed. Many countries in this category are outright dictatorships. Some formal institutions of democracy may exist, but these have little substance. Elections, if they do occur, are not free and fair. There is disregard for abuses and infringements of civil liberties. Media are typically state-owned or controlled by groups connected to the ruling regime. There is repression of criticism of the government and pervasive censorship. There is no independent judiciary.”

Target countries with similar ID scores include: Ethiopia (3.68).

Enforcement Index

Nigeria scores 4.1/10 on the Enforcement Index. This means that the potential to enforce legislation is classified as “low”. Compared to other target countries, Nigeria ranks similar to Mozambique (4.5), Russia (4.4) and Ethiopia (4.0). In total, 18 target countries ranks higher and two ranks lower.

Rule of Law Index

Nigeria is part of the “low” income group and is located in the “Sub-Saharan Africa” region (Agrast et al. 2010). The most relevant results on the Rule of Law Index for Nigeria is presented in Table 12.

Table 12: Relevant results for Nigeria on the Rule of Law index

Rule of Law Index – Nigeria								
Principle	Factor	Score	Global ranking		Regional ranking		Income group ranking	
Accountable Government	1. Limited Government Powers	0.39	30/35	27/35	4/5	4/5	3/5	3/5
	2. Absence of Corruption	0.46	24/35		3/5		2/5	
Open Government and Regulatory Enforcement	6. Open Government	0.30	28/35	25/35	4/5	3/5	3/5	2/5
	7. Regulatory Enforcement	0.51	22/35		2/5		1/5	

Nigeria's ranking for the RLI principle on *accountable government* (27/35) compared to the CPI, both globally (134/187) and regionally (28/33), indicates that challenges related to corruption and government accountability in Nigeria are most likely to exist.

Nigeria is ranked 25/35 for the principle on *open government and regulatory enforcement*. This is similar to Peru (22/35) and Bolivia (28/35). Peru is classified as a country with an intermediate potential to enforce legislation while Bolivia is classified as having a low potential, although with a higher EI score than Nigeria. Therefore, it is relevant to assume that Nigeria might have a higher potential to enforce legislation than what is indicated by the EI score. However, it is not sufficient to question the classification for Nigeria as a country with a low potential to enforce legislation.

3.13.3 Country-specific conclusions

55 laws are available for Nigeria in the ECOLEX database, of which 19 are relevant for biofuels. All but one of the relevant laws have a national coverage.

Social sustainability and *Land-use* seem to be the most considered RED-topics in Nigeria's biofuel related legislation. The least considered topics, for which no relations were found, include *Ecosystem services* and *GHG emissions*.

Regarding the RED sustainability criteria, most relations were found for *Impacts on areas designated for nature protection purposes* and *Clearing of forests*. Few relations were found for *Conversion of wetlands*. No relations were found for *Drainage of peatlands* and *Conversion of grasslands*.

Enforcement

14 of the 19 laws relevant for biofuels include specific institutions responsible for enforcement. This corresponds to 74%.

With regard to the score on the CPI, GII, ID and RLI indexes, Nigeria is regarded to be an "authoritarian regime". Public sector corruption is perceived to be high and the anti-corruption framework is considered to be weak. Nigeria's potential to enforce legislation is classified as "low".

4 – REGIONAL PROFILES

Presenting results on a regional level provides for a better overview of the results and better possibilities to draw comparative conclusions. In this chapter, results from the country profiles are presented on a regional level for three regions; *Asia*, *America* and *Africa*.

4.1 Legislation

In this chapter, results regarding biofuel related national legislation are presented on a regional level for the three regions; *Asia*, *America* and *Africa*. National levels of consideration for RED topics/criteria are described in Table 13 and regional levels of consideration are described in Table 14.

Table 13: National level of consideration for RED topics/criteria in legislation

National level of consideration for RED topics/criteria	Code
RED aspect/criteria <i>well considered</i> (considered by relatively many laws)	+
RED aspect/criteria <i>relatively considered</i>	
RED aspect/criteria <i>poorly considered</i> (considered by relatively few laws)	-

Table 14: Regional levels of consideration for RED criteria and topics

Regional levels of consideration	Code
Universally well considered	+++
Generally well considered	++
Relatively well considered	+
Relatively considered	
Relatively poorly considered	-
Generally poorly considered	--
Universally poorly considered	---

4.1.1 Asia

Four countries are included in the *Asia* region; Indonesia, Malaysia, Pakistan and India.

As seen in Table 15, there are rather many laws available for the countries in this region, besides for Indonesia, although few laws are specifically aimed for biofuels.

The coverage of legislation varies between 100% national to 76% sub-national within the region. Indonesia and Malaysia typically have laws with a national coverage while Pakistan and India typically have laws with a sub-national coverage.

Table 15: Regional overview of environmental legislation relevant for biofuels: Asia

	Available laws	Relevant for biofuels	Aimed for biofuels	Coverage of relevant laws
Indonesia	27	18	0	100% national
Malaysia	134	54	4	59% national
Pakistan	111	59	0	76% sub-national
India	219	91	1	64% sub-national

As seen in Table 16, *Social sustainability* is *universally well considered*, *Land-use* is *generally well considered* and *Biodiversity* and *Soil* are both *relatively considered*. Carbon stock is *relatively poorly considered* and Air and particularly GHG emissions are both *universally poorly considered*. There does not seem to be any large variations between the countries regarding how they consider the RED topics in their biofuel related legislation.

Table 16: Regional overview of RED-topics considered in biofuel related legislation: Asia

	Social sustainability	Bio-diversity	GHG emissions	Carbon stock	Air	Water	Soil	Ecosystem services	Land-use
Indonesia	+		0		-				+
Malaysia	+		-	-	-			-	+
Pakistan	+	-	0		-	+			
India	+		0	-	-	+		-	+
Asian region ¹⁾	+++		---	-	---	+		-	++

As seen in Table 17, *Clearing of forests* and *Impacts on areas designated for nature protection purposes* are both **relatively well considered**. *Impacts on rare, threatened and endangered species*, *Conversion of wetlands*, *Drainage of peatlands* and particularly *Conversion of grasslands* are all **universally poorly considered**.

Table 17: Regional overview of RED-criteria considered in biofuel related legislation: Asia

	Clearing of forests	Impacts on protected areas	Impacts on threatened species	Conversion of grasslands	Drainage of peatlands	Conversion of wetlands
Indonesia	-	+	-	0	-	-
Malaysia	+	+	-	-	-	-
Pakistan	+		-	0	0	0
India	+		-	0	-	-
Asian region	+	+	---	---	---	---

4.1.2 America

Three countries are included in the *America* region; Brazil, Argentina and Guatemala.

As seen in Table 18, there are rather many laws available for the countries in this region, particularly for Brazil and Argentina, rather many laws are also specifically aimed for biofuels.

The coverage of legislations varies largely within the region. Notable is that 86% of the laws in Argentina are sub-national, higher than any other country in this study.

Table 18: Regional overview of environmental legislation relevant for biofuels: America

	Available laws	Relevant for biofuels	Aimed for biofuels	Coverage of relevant laws
Brazil	257	150	7	54% national
Argentina	454	237	12	85% sub-national
Guatemala	46	28	2	86% national

As seen in Table 19, *Social sustainability*, *Land-use* and *Water* are all *universally well considered*, *Biodiversity* is *generally well considered* and *Ecosystem services* is *relatively considered*. *Carbon stock* and *Air* are both *relatively poorly considered* and *GHG emissions* is *universally poorly considered*. There does not seem to be any large variations between the countries regarding how they consider the RED topics in their biofuel related legislation.

Table 19: Regional overview of RED-topics considered in biofuel related legislation: America

	Social sustainability	Bio-diversity	GHG emissions	Carbon stock	Air	Water	Soil	Ecosystem services	Land-use
Brazil	+		-			+			+
Argentina	+	+	-			+	+		+
Guatemala	+	+	0	-	-	+			+
American region	+++	++	---	-	-	+++	+		+++

As seen in Table 20, *Clearing of forests* and *Impacts on areas designated for nature protection purposes* are both **universally well considered** and *Impacts on rare, threatened and endangered species* is *relatively considered*. *Conversion of wetlands*, *Drainage of peatlands* and *Conversion of grasslands* are all **universally poorly considered**

Table 20: Regional overview of RED-criteria considered in biofuel related legislation: America

	Clearing of forests	Impacts on protected areas	Impacts on threatened species	Conversion of grasslands	Drainage of peatlands	Conversion of wetlands
Brazil	+	+		-	0	-
Argentina	+	+		-	-	-
Guatemala	+	+		0	0	-
American region	+++	+++		---	---	---

4.2.3 Africa

Six countries are included in the *Africa* region; Tanzania, Malawi, Mozambique, Uganda, Ethiopia and Nigeria.

As seen in Table 21, there are generally fewer laws available for the countries in this region compared to the *Asia* and the *America* regions, and laws specifically aimed for biofuels seem very rare.

Laws in the *Africa* countries generally seem to have a national coverage. Sub-national laws are almost entirely restricted to Tanzania, where they cover either the Tanganyika or the Zanzibar region.

Table 21: Regional overview of environmental legislation relevant for biofuels: Africa

	Available laws	Relevant for biofuels	Aimed for biofuels	Coverage of relevant laws
Tanzania	100	30	1	63% national
Malawi	19	12	0	100% national
Mozambique	24	10	0	100% national
Uganda	83	41	0	98% national
Ethiopia	93	48	0	96% national
Nigeria	55	19	0	95% national

As seen in Table 22, Social sustainability is **universally well considered**, Water is **generally well considered**, Land-use is **relatively well considered** and Biodiversity and Soil are both relatively considered. Carbon stock and Air are **relatively poorly considered** and Air and GHG emissions are both **universally poorly considered**. Variations within the region regarding how they consider RED topics in their biofuel related legislation is found for Biodiversity and Ecosystem services.

Table 22: Regional overview of RED-topics considered in biofuel related legislation: Africa

	Social sustainability	Bio-diversity	GHG emissions	Carbon stock	Air	Water	Soil	Ecosystem services	Land-use
Tanzania	+		-		-	+		-	+
Malawi	+		0	-	-	+		-	
Mozambique	+	+	0	+	-	+		+	+
Uganda	+	-	-	-	-		-		
Ethiopia	+		-	-	-	+		-	
Nigeria	+		0	-	-			0	+
African region	+++		---	-	---	++		-	+

As seen in Table 23, *Impacts on areas designated for nature protection purposes* is **generally considered** and *Clearing of forests* and *Impacts on rare, threatened and endangered species* are both *relatively considered*. *Conversion of wetlands*, *Drainage of peatlands* and *Conversion of grasslands* are all **universally poorly considered**

Table 23: Regional overview of RED-criteria considered in biofuel related legislation: Africa

	Clearing of forests	Impacts on protected areas	Impacts on threatened species	Conversion of grasslands	Drainage of peatlands	Conversion of wetlands
Tanzania		+		-	0	
Malawi	-	+	+	0	0	0
Mozambique	+	+	+	0	0	-
Uganda				-	0	
Ethiopia	-		-	0	0	-
Nigeria	+	+		0	0	-
African region		++		---	---	--

4.2 Enforcement

In this chapter, results regarding enforcement of legislation are presented on a regional level for the three regions; *Asia*, *America* and *Africa*.

4.2.1 Asia

As seen in Table 24, all countries in the *Asia* region seem to face challenges related to public sector corruption, particularly Indonesia and Pakistan.

All four countries are considered to have a *moderate* anti-corruption framework (second best level, of four possible).

Indonesia, Malaysia and India are considered to be *Flawed democracies* (second best level, of four possible), while Pakistan is classified as a *Hybrid regime* (third best level, of four possible).

Indonesia, Malaysia and India are all classified as having an *Intermediate* potential to enforce legislation (second best level, of three possible). Pakistan is considered to have a *Low* potential to enforce legislation (lowest level, of three possible).

Table 24: Regional overview of enforcement potential and share of biofuel related laws that specify institutions responsible for enforcement: Asia

	Perceived public sector corruption	Anti-corruption framework	Democracy level	Potential to enforce legislation	Share of biofuel related laws that specify institutions responsible for enforcement
Indonesia	High	Moderate	Flawed democracy	Intermediate	17%
Malaysia	Medium	Moderate	Flawed democracy	Intermediate	30%
Pakistan	High	Moderate	Hybrid regime	Low	22%
India	Medium	Moderate	Flawed democracy	Intermediate	0%

Enforcement in the juridical sense

In general, the *Asian* countries seldom specify institutions responsible for enforcement in-text in their legislation. This is particularly the case in India. It is unknown if such responsibilities are specified in other ways, but if the responsibilities are not sufficiently clear; it is likely to negatively affect the level of enforcement.

For more details regarding enforcement in the juridical sense, see the country profiles or the supplementary online information.

4.2.2 America

As seen in Table 25, all countries in the *America* region seem to face challenges related to public sector corruption, particularly Argentina.

Brazil is considered to have a *moderate* anti-corruption framework (second best level, of four possible), while Argentina and Guatemala are considered to have *weak* anti-corruption frameworks (third best level, of four possible).

All three countries in the *America* region are considered to be *Flawed democracies* (second best level, of four possible).

Brazil is classified as having an *Intermediate* potential to enforce legislation (second best level, of three possible). Argentina and Guatemala are considered to have a *Low* potential to enforce legislation (lowest level, of three possible).

Table 25: Regional overview of enforcement potential and share of biofuel related laws that specify institutions responsible for enforcement: America

	Perceived public sector corruption	Anti-corruption framework	Democracy level	Potential to enforce legislation	Share of biofuel related laws that specify institutions responsible for enforcement
Brazil	Medium	Moderate	Flawed democracy	Intermediate	0%
Argentina	High	Weak ¹⁾	Flawed democracy	Intermediate ²⁾	53%
Guatemala	Medium	Weak	Flawed democracy ³⁾	Low	57%

1) Close to *Moderate*

2) The RLI score indicates a significantly lower potential to enforce legislation than the EI

3) Close to *Hybrid regime*

Enforcement in the juridical sense

Compared to other countries in this study, rather many laws in Argentina and Guatemala specify institutions responsible for enforcement. However, this is not the case in Brazil. It is unknown if such responsibilities are specified in other ways, but if the responsibilities are not sufficiently clear; it is likely to negatively affect the level of enforcement.

For more details regarding enforcement in the juridical sense, see the country profiles or the supplementary online information.

4.2.3 Africa

As seen in Table 26, all countries in the *Africa* region seem to face challenges related to public sector corruption. Malawi seems to face less problematic corruption challenges than the other countries.

Malawi is considered to have a *Moderate* anti-corruption framework (second best level, of four possible). Tanzania, Uganda and Nigeria are considered to have *Weak* anti-corruption frameworks (third best level, of four possible). Mozambique and Ethiopia are considered to have *Very weak* anti-corruption frameworks (lowest level, of four possible).

Tanzania, Malawi, Mozambique and Uganda are considered to be *Hybrid regimes* (third best level, of four possible). Ethiopia and Nigeria are considered to be *Authoritarian regimes* (lowest level, of four possible).

Malawi is classified as having an *Intermediate* potential to enforce legislation (second best level, of three possible). The five other countries in the *Africa* region are classified as having a *Low* potential to enforce legislation (lowest level, of three possible).

Table 26: Regional overview of enforcement potential and share of biofuel related laws that specify institutions responsible for enforcement: Africa

	Perceived public sector corruption	Anti-corruption framework	Democracy level	Potential to enforce legislation	Share of biofuel related laws that specify institutions responsible for enforcement
Tanzania	High	Weak	Hybrid regime	Low	63%
Malawi	Medium	Moderate	Hybrid regime	Intermediate	42%
Mozambique	High	Very weak	Hybrid regime	Low	0%
Uganda	High	Weak	Hybrid regime	Low	51%
Ethiopia	High	Very weak	Authoritarian regime	Low	35%
Nigeria	High	Weak	Authoritarian regime	Low	74%

Enforcement in the juridical sense

There is a large variation between the *African* countries regarding whether or not they specify institutions responsible for enforcement in-text in their legislation. Nigeria, Tanzania and Ethiopia typically do so, while Ethiopia and particularly Mozambique do not. It is unknown if such responsibilities are specified in other ways, but if the responsibilities are not sufficiently clear; it is likely to negatively affect the level of enforcement.

For more details regarding enforcement in the juridical sense, see the country profiles or the supplementary online information.

5 - CONCLUSIONS

A total of 1185 laws have been individually assessed in this study, but there is a significant variation between countries in the number of laws that are available. In addition, some countries primarily use national laws while others primarily use sub-national laws. It is therefore difficult to compare the performance of individual countries in the analysis. Instead of grading countries on their performance, this study has focused on identifying the target countries' general legislative readiness to produce RED-sustainable biofuels.

The target countries' general legislative readiness to produce biofuels complying with the existing RED sustainability requirements is based on the number of laws in each target country that restrict activities in ways similar to the RED criteria. By complementing with a more detailed analysis of the specific activities that the individual laws restrict, it would become possible to also determine each country's individual legislative readiness.

In addition to the legislative readiness regarding the existing RED criteria, RED topics that are well considered (covered by many laws) and poorly considered (covered by few laws) in national legislation have been identified. This provides for an illustration of the target countries' general legislative readiness to produce biofuels that would comply with potential mandatory requirements related to the different RED topics, which could be added to the RED when revised.

Legislation

Legislative readiness for producing biofuels that comply with the RED sustainability criteria

On a regional level, the RED sustainability criteria can be considered in seven different ways in legislation, depending on the number of laws in each country that restrict activities in similar ways. The regional levels of consideration are defined in Table 27.

Table 27: Regional levels of consideration for RED criteria and topics

Regional levels of consideration	Code
Universally well considered	+++
Generally well considered	++
Relatively well considered	+
Relatively considered	
Relatively poorly considered	-
Generally poorly considered	--
Universally poorly considered	---

Table 28 shows the regional levels of consideration for the RED criteria in the three regions. For the assessed target countries' legislation, it can be concluded that:

Impacts on areas designated for nature protection purposes seems to be *universally well considered* (+++) in the assessed American countries, *generally well considered* (++) in the assessed African countries and *relatively well considered* (+) in the assessed Asian countries.

Clearing of forests seems to be *universally well considered* (+++) in the assessed American countries, *relatively well considered* (+) in the assessed Asian countries and *relatively considered* () in the assessed African countries.

Impacts on rare, threatened and endangered species seems to be *relatively considered* () in the assessed American and African countries and *universally poorly considered* (---) in the assessed Asian countries.

Conversion of wetlands seems to be *generally poorly considered* (--) in the assessed African countries and *universally poorly considered* (---) in the assessed Asian and American countries.

Drainage of peatlands and Conversion of grasslands seem to be *universally poorly considered* (---) in legislation in all assessed countries.

Table 28: Consideration of RED sustainability criteria in biofuel related legislation: global overview

	Impacts on protected areas	Clearing of forests	Impacts on threatened species	Conversion of wetlands	Conversion of grasslands	Drainage of peatlands
Asia	+	+	---	---	---	---
America	+++	+++		---	---	---
Africa	++			--	---	---

In summary, the assessed target countries' general legislative readiness for producing biofuels complying with the RED criteria seems to be *good*, what regards *Impacts on areas designated for nature protection purposes* and *Clearing of forests*, provided that legislation is sufficiently enforced.

However, the assessed target countries' general legislative readiness for producing biofuels complying with the RED criteria seems to be *poor*, what regards *Conversion of grasslands*, *Drainage of peatlands* and *Conversion of wetlands*.

Legislative readiness for additional RED sustainability criteria

Table 29 shows the regional levels of consideration for the RED topics in the three regions. For the assessed target countries' legislation, it can be concluded that:

Social sustainability seems to be *universally well considered* (+++) in all assessed countries.

Land-use seems to be *universally well considered* (+++) in the assessed American countries, *generally well considered* (++) in the assessed Asian countries and *relatively well considered* (+) in the assessed African countries.

Water seems to be *universally well considered* (+++) in the assessed American countries, *generally well considered* (++) in the assessed African countries and *relatively well considered* (+) in the assessed Asian countries.

Biodiversity seems to be *generally well considered* (++) in the assessed American countries and *relatively considered* () in the assessed Asian and African countries.

Soil seems to be *relatively well considered* (+) in the assessed American countries and *relatively considered* () in the assessed Asian and African countries.

Ecosystem services seems to be *relatively considered* () in the assessed American countries, and *relatively poorly considered* (-) in the assessed Asian and African countries.

Carbon stock seems to be *relatively poorly considered* (-) in all the assessed countries.

Air seems to be *relatively poorly considered* (-) in the assessed American countries and *universally poorly considered* (---) in the assessed Asian and African countries.

Greenhouse gas emissions seems to be *universally poorly considered* (---) in all the assessed countries.

Table 29: Consideration of RED topics in biofuel related legislation: global overview

	Social sustainability	Land-use	Water	Bio-diversity	Soil	Ecosystem services	Carbon stock	Air	GHG emissions
Asia	+++	++	+			-	-	---	---
America	+++	+++	+++	++	+		-	-	---
Africa	+++	+	++			-	-	---	---

In summary, if additional mandatory requirements related to *Social sustainability*, *Land-use* or *Water* are to be added to the RED, the results indicate that these are likely to be *well considered* in national legislation.

If additional mandatory requirements related to *GHG emissions*, *Air* or *Carbon stock* are to be added to the RED, the results indicate that these are likely to be *poorly considered* in national legislation.

Enforcement

Unless legislation is sufficiently enforced, the legislative readiness, as previously determined, is of little value. The results, as summarised in Table 30, show that seven of the assessed countries were classified as having a low potential to enforce legislation, six countries were classified as having an intermediate potential while no countries were classified as having a high potential to enforce legislation. In addition, most countries do not specify institutions responsible for enforcement in-text in their biofuel related legislation. It is unknown if such responsibilities are specified in other ways in the different countries, but if the responsibilities are not sufficiently clear; it is likely to negatively affect the level of enforcement.

Table 30: Global overview of enforcement potential and share of biofuel related laws that specify institutions responsible for enforcement

	Perceived public sector corruption	Anti-corruption framework	Democracy level	Potential to enforce legislation	Share of biofuel related laws that specify institutions responsible for enforcement
Indonesia	High	Moderate	Flawed democracy	Intermediate	17%
Malaysia	Medium	Moderate	Flawed democracy	Intermediate	30%
Pakistan	High	Moderate	Hybrid regime	Low	22%
India	Medium	Moderate	Flawed democracy	Intermediate	0%
Brazil	Medium	Moderate	Flawed democracy	Intermediate	0%
Argentina	High	Weak ¹⁾	Flawed democracy	Intermediate ²⁾	53%
Guatemala	Medium	Weak	Flawed democracy ³⁾	Low	57%
Tanzania	High	Weak	Hybrid regime	Low	63%
Malawi	Medium	Moderate	Hybrid regime	Intermediate	42%
Mozambique	High	Very weak	Hybrid regime	Low	0%
Uganda	High	Weak	Hybrid regime	Low	51%
Ethiopia	High	Very weak	Authoritarian regime	Low	35%
Nigeria	High	Weak	Authoritarian regime	Low	74%

1) Close to *Moderate*

2) The RLI score indicates a significantly lower potential to enforce legislation than the EI

3) Close to *Hybrid regime*

Implications

The results indicate that the legislative readiness cannot be determined other than on a theoretical level, since challenges related to enforcement seem to be consistent among the assessed exporting countries. This means that the EU cannot expect countries to be well prepared to produce biofuels complying with the RED criteria, even though the legislative readiness in some cases indicates so. It is therefore essential that the EU supports the development, or consolidation, of third-party institutions, either national or international, which can monitor developments of biofuel projects and verify that biofuels aimed for the EU-RED market are produced in compliance with the RED criteria.

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