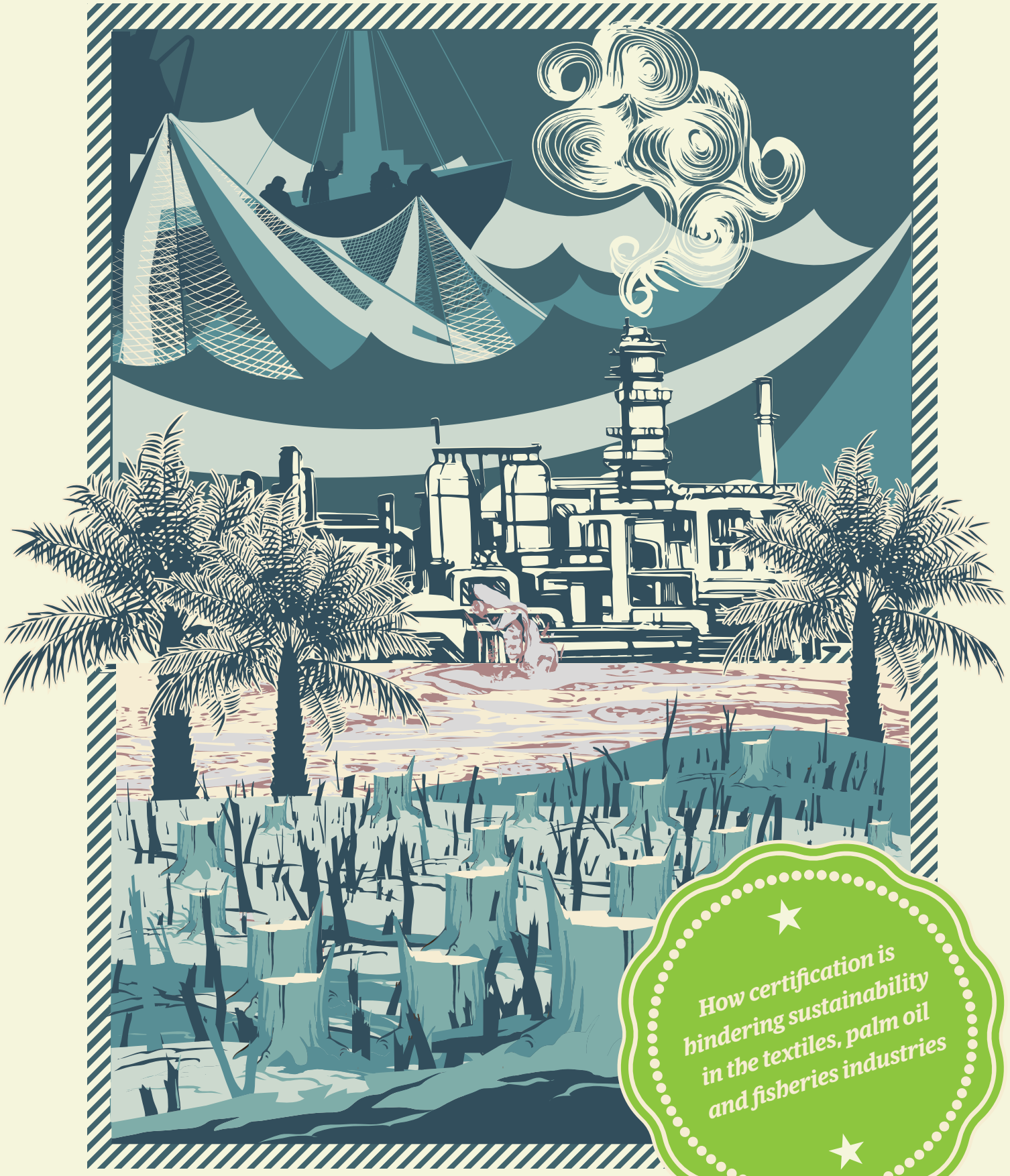
The false promise of certification



How certification is hindering sustainability in the textiles, palm oil and fisheries industries

Changing Markets FOUNDATION

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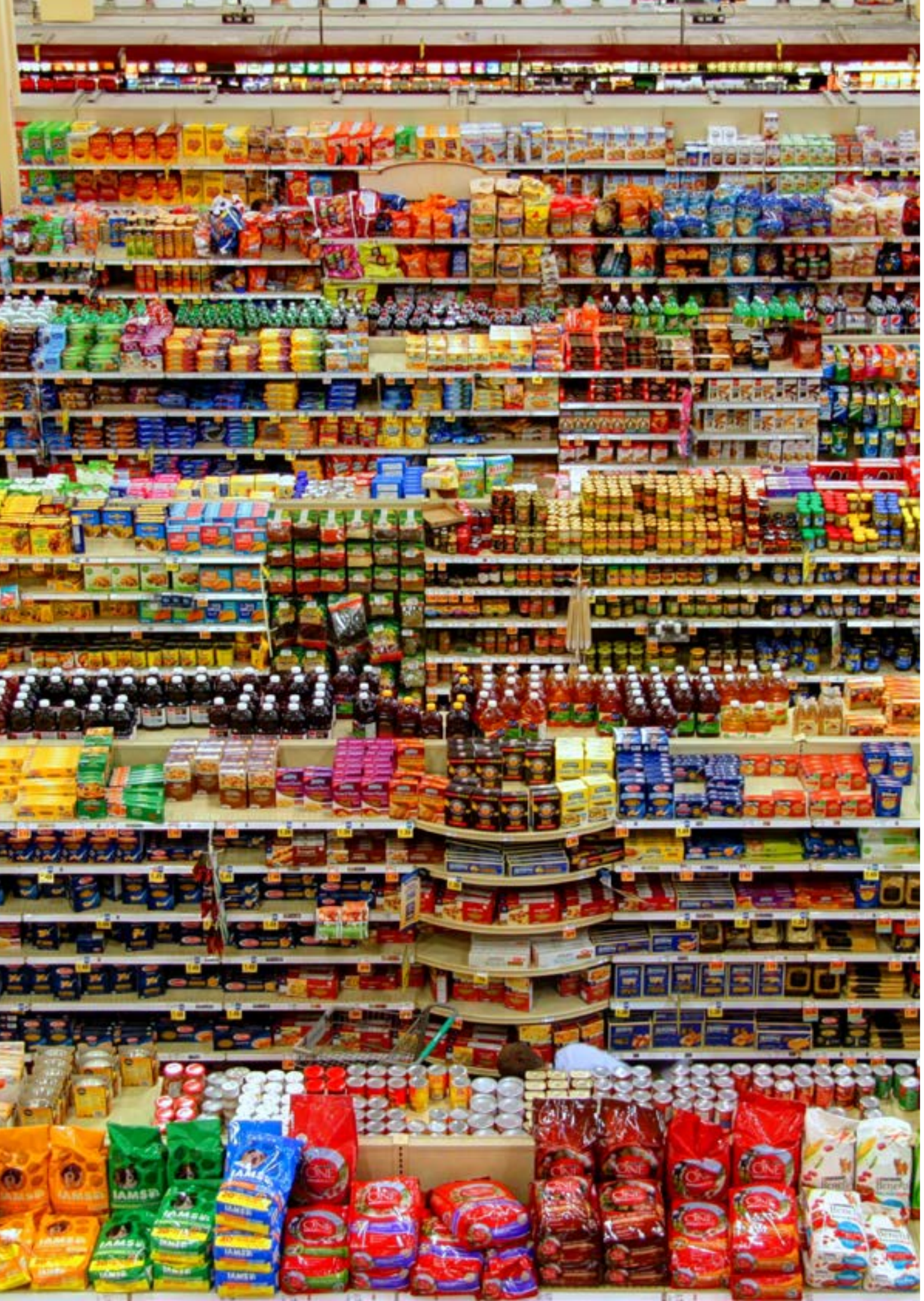
1. Executive summary

Faced with the gravity of today's environmental and social problems, consumers are increasingly seeking out sustainable products that minimise negative impacts on people and the planet. In 2015, a survey of 30,000 consumers in 60 countries found that 66% of consumers are willing to pay more for products or services from companies committed to positive social and environmental impact (Nielsen, 2015). In the UK alone, the market for ethical products grew to more than £81.3 billion in 2017, with demand for sustainable fish growing by nearly 37% in 2016 (Ethical Consumer, 2017). Studies also show that many shoppers rely on labels and certifications as a quick and easy way to identify more responsibly made products without having to become supply chain experts (e.g. Nielsen, 2014).

As sustainability goes mainstream, more and more companies are keen to show off their credentials by adopting different types of certification, labels and ethical commitments. The number of different schemes and voluntary initiatives has grown exponentially in recent years. The Ecolabel Index, the largest global directory of ecolabels, currently lists over 460 labels in 25 different sectors (Ecolabel Index, 2018). Most of these have emerged in the past two decades. But are they any good? This report shows that, rather than being an accelerator for positive change, this 'flood' of certification creates confusion for consumers and the industry and is standing in the way of genuinely sustainable consumption.

We investigated voluntary initiatives in three sectors where growing consumption and unsustainable sourcing have caused serious environmental problems: palm oil, fisheries and textiles. Palm oil is one of the leading drivers of deforestation, greenhouse gas (GHG) emissions, forest fires and loss of habitat for charismatic and endangered species such as orangutans, elephants and rhinos. Industrial fishing has devastated the planet's oceans; nearly 90% of global fish stocks are either fully fished or overfished (FAO, 2016a). It is also a hugely wasteful industry. Nearly 10 million tonnes of good fish are thrown back into the ocean every year, while damaging fishing methods have wreaked havoc on ecosystems: gill nets commonly kill dolphins, porpoises and whales, longline fishing is a particular problem for birds and discarded fishing gear continues to kill sea life for many decades in what is called 'ghost fishing'. Last but not least, the textile industry uses one-quarter of the world's chemicals and has been blamed for 20% of global water pollution, making it the second biggest polluter of freshwater on the planet. Violations of human and workers' rights are also rife in all three sectors.

In the absence of effective national and international legislation to tackle these problems, and with increasingly globalised supply chains, voluntary schemes are seen as a convenient way to fill the gap. In



The market for sustainable and ethical products is growing.
(credit-Peter Bond/Unsplash)

this report, we analyse the context in which such voluntary initiatives emerge, what their role is and how they set out to address some of the challenges identified. We investigate an array of voluntary initiatives that provide a company, product or service with a sustainability endorsement, ranging from product labels to industry-wide initiatives aiming to improve the environmental performance of a sector as a whole. We review key schemes in each of the three sectors, evaluating how they work, their achievements and their failures. Our focus is mostly environmental issues, although in some cases we also look at reports on human rights violations.

This report comes at a time when many of these schemes are under pressure to reform from NGOs and scientists – and, in some cases, even progressive companies. But despite the fact that the tide is turning, there is still a massive push for certification – and not always for the right reasons. This report demonstrates that many of these schemes are being used as a cover, which makes it more difficult for NGOs and academics to question the sustainability of some products and companies. For example, McDonald's has used the Marine Stewardship Council (MSC) label to deflect criticism over the sustainability of the New Zealand Hoki Fishery, which has been criticised for its high discard levels and trawling methods (McGrath, 2016). Governments are also increasingly using schemes as evidence of sustainability, as demonstrated by the use of certified palm oil to comply with biofuels targets, despite doubts about its success in stopping deforestation. The following section presents the key findings of this report.

2. Key findings

2.1. Fisheries

In 2015, 14% of global seafood production was certified – up from only 0.5% nearly a decade earlier. Certified-sustainable wild catch accounts for 20% of global wild catch supply and has been growing ten times faster than conventional seafood production (Potts et al., 2016). This report focuses on two of the biggest schemes: Friend of the Sea (FOS) and the MSC, which certified over 9 million metric tonnes of fish in 2015. Other schemes are relatively insignificant in comparison. Both the MSC and FOS certification schemes cover the prohibition of destructive fishing techniques, management of by-catch, environmental risk, impact assessment and the management of stock regulation, among other issues.

MSC and FOS were both found to be certifying numerous fisheries as sustainable – even when they overfished, had very high levels of by-catch and, in some cases, were even at odds with national legislation. The MSC has also been found to certify a number of fisheries in a 'compartmentalised' approach, which means a vessel and crew can use their nets to catch tuna 'sustainably' (receiving MSC certification), and then – on the same day and using the same equipment – haul in tuna along with protected species: a practice that is unsustainable and therefore non-certified. Although some certification experts (Froese and Proelss, 2012) say certified seafood is still a better choice (because those fisheries are more likely to reflect healthy, moderately exploited stocks and to ensure labelled fish has not been caught illegally), critics charge that the MSC system has compromised its standards to keep up with booming demand from Wal-Mart[1] and other retailers. Booming demand for sustainable seafood, and the desire to meet it, are actively threatening the MSC's credibility, as there are not enough truly sustainable fisheries to supply demand.[2]

FOS does not have much support from NGOs and the scientific community due to its lack of transparency and stakeholder involvement; hence, it should probably be abolished. MSC, which looks better on paper, has come under a lot of criticism from NGOs and scientists and is also losing credibility in the eyes of many retailers. In a last-ditch attempt to reform the scheme, many dozens of NGOs sent a letter to the MSC Board in January 2018, requesting that it deliver on commitments to finally make urgently-needed reforms to both the standard and the certification process itself. The aim is to re-establish MSC as a gold standard in seafood certification. Unless this happens within a short timeframe (the deadline given in the letter is the end of 2018), NGOs may be forced to recommend that the public, partner organisations, producers and retailers move away from seafood labels altogether (Ziegler, 2017). Until (and if) this scheme is reformed, consumers and restaurants need to find other tools to enable them to source genuinely sustainable fish that contributes to the long-term sustainability and health of the oceans and livelihoods connected to it.

Bottom trawler in the Barents Sea
(credit-Nick Cobbing/ Greenpeace)

2.2. Palm oil

Palm oil is now so common that is estimated to be present in half of all supermarket products (Amnesty International, 2016a). In addition, a third of all biodiesel burned in cars and trucks in the EU is now estimated to be palm oil (Transport & Environment, 2017). Since palm oil cultivation is centred around tropical areas, it is in direct competition with tropical rainforests for land, and is one of the leading drivers of deforestation. Besides massive biodiversity loss, deforestation is also responsible for large amounts of GHG emissions. Indonesia alone, which is the largest palm oil-producing country, is ranked second in the world for tropical deforestation; land-use change and peatland draining are responsible for 79% of Indonesian GHG emissions (WRI, n.d.). While Indonesia and Malaysia currently represent 85% of global palm oil production, the plantations are quickly moving into new areas and countries, such as in Africa and Latin America, leading to similar problems there.

Founded in 2004, the Roundtable on Sustainable Palm Oil (RSPO) has become the most prominent

1 Wal-Mart committed to using only MSC-certified sources by 2011, but still hadn't fulfilled this commitment by 2015, due to lack of sufficient certified supply (Potts et al., 2016).

2 The MSC actually has a specific target: to make 20% of all wild caught fish MSC-certified by 2020, and 30% by 2030 (up from the current 12%).

Palm oil products by Procter & Gamble
(credit- Fred Dott/ Greenpeace)

Palm oil production is a leading cause of deforestation
(credit-Ulet Ifansasti/ Greenpeace)

voluntary palm oil certification scheme worldwide, now certifying 2.6 million hectares – or around 19% of global palm oil production (RSPO, 2017). Since then, other certification initiatives in the palm oil sector have emerged, leading to continuous growth in the amount of certified palm oil on the market. These include International Sustainability and Carbon Certification (ISCC) and the Roundtable on Sustainable Biomaterials (RSB), which mostly focus on palm oil used in biofuels, and the Rainforest Alliance (RA), which mostly focuses on sustainable agriculture. The Malaysian and Indonesian governments have also set up their own schemes: Malaysian Sustainable Palm Oil (MSPO) and Indonesian Sustainable Palm Oil (ISPO). ISPO certification, which is now a requirement for Indonesian plantations, has rapidly increased in recent years to cover 16.7% of all plantations, or 1.9 million ha (Indonesia Investments, 2017). However, as this report shows, ISPO represents a race to the bottom, as it merely requires compliance with already weak Indonesian legislation.

This report shows that none of the schemes has been effective at slowing down deforestation, peatland draining or the loss of biodiversity. While RSPO is often referred to as the best scheme in the sector, it has several shortcomings; most notably, it allows the conversion of secondary forests and the draining of peatlands, it has not prevented human rights violations and it does not require GHG emissions reductions. All of the schemes investigated also have consistency issues: they offer numerous different standards within each scheme. These 'modules' have different levels of ambition (tailored to the market of destination) and different traceability requirements (ranging from full segregation of certified products to just selling green certificates via trading platforms). RSB and ISCC have developed several modules, depending on which biofuel market the company wants to sell to. In response to criticism, RSPO has developed a voluntary add-on module called RSPO NEXT, which raises the bar on sustainability by prohibiting peatland and secondary forest conversion. The first 2,000 tonnes of this certified palm oil reached the market in February 2018, but were sold on the trading platform PalmTrace, which offers no traceability back to the source (RSPO, 2018). This lack of traceability is a major problem (and is criticised in this report) because it reduces the incentive for companies to take responsibility for their own operations further down the supply chain.

The report also reviewed the schemes set up by the Malaysian and Indonesian governments, which are now trying to merge their two schemes into one weak standard and solidify it via trade agreements and cooperation with other palm oil-producing countries. This is a blatant effort to 'greenwash' the sector and allow further expansion into new areas, and is driven by continuing growth in demand for biofuels and processed food products. In light of this, we call for action to reduce demand for palm oil, such as ditching biofuels targets, as well as channelling new plantations into non-forested areas by putting in place a strong moratorium on palm oil expansion to forests and peatlands. Most schemes in this sector should be abolished in light of their failures on multiple fronts.

2.3. Textiles

The textile sector has seen a proliferation of voluntary schemes and green labels – over 100 are listed in the Ecolabel Index, and several other initiatives, such as the Higg Index, are analysed in this report. Raw material sourcing, manufacturing and processing of textiles are largely located in countries with very low wages and weak environmental regulations, which has historically led to problems, ranging from environmental pollution with toxic chemicals to the exploitation of workers. This report focuses on schemes that set out to address the environmental performance of the textile industry as a whole, and at key schemes covering two fibre types: cotton and viscose. We found that, despite the proliferation of different initiatives, there is no overarching scheme that satisfactory addresses sustainability performance across the whole supply chain. The EU Ecolabel covers different types of textiles using a life-cycle approach – but in the case of viscose, it does not cover all parameters, notably water pollution indicators during the manufacturing of viscose fibres.

The Higg Index, which is widely used by fashion brands and counts several NGOs among its members, is often referred to as a key tool for improving the environmental performance of the sector as a whole.

Hidden discharge pipe coming from a textile factory in Thailand
(credit-John Novis/Greenpeace)

However, this report shows that it has many shortcomings; namely, a reliance on self-assessment and a lack of transparency, which would be a real incentive for fashion brands to continuously improve. While the Higg Index has promised full transparency by 2020, it remains to be seen how thorough this will be. A similar tool, MADE-BY's ModeTracker, also scores brands on their environmental and social performance – and suffers from incompleteness, allowing brands to pick and choose the areas on which they are assessed. This report also evaluates different types of OEKO-TEX Standards – not only the OEKO-TEX Standard 100 module, which deals with chemicals in the final product, but also the MADE IN GREEN and Sustainable Textile Production (STeP) modules, which deal with chemicals in the production process.

The report takes a closer look at schemes for cotton and viscose, based on the potential for these two fibres to be produced in an environmentally friendlier way. On cotton, it was found that a weak scheme – the Better Cotton Initiative (BCI), which allows for the use of toxic chemicals and genetically modified (GM) seeds – has grown very rapidly at the expense of organic cotton. A recent investigation broadcast on French television (Lucet, 2017), showed how BCI has overtaken organic cotton's market share and that many farmers have switched from organic to GM cotton as a result of their participation in BCI. Even some well-intentioned and successful schemes (such as the CanopyStyle initiative, which addresses raw material sourcing in viscose production) can provide a misleading picture, because they only cover one part of the supply chain. As the Canopy initiative only covers the sourcing of wood pulp, but not the use of chemicals in the manufacturing of viscose, it can give companies that are continuing to pollute the environment an unjustified 'green glow' – which is then often used as a selling point with customers.

3. The way forward for certification

The main conclusion of this report is that certification has lost its way and that its contribution to creating a more sustainable world is minute. We argue that it can even cause active damage; it lowers the bar to certify higher product volumes and in many cases fails to enforce greater transparency, thereby providing cover for unsustainable companies and practices. If there is to be a role for certification in the transition to a sustainable economy, it must undergo some serious reforms. First of all, the majority of schemes in the three sectors examined here should be abolished, because they are leading to confusion and 'label shopping', which waters down the ambition of certification in general. Second, certification schemes should aim for the highest possible level of ambition – not develop different modules with differing requirements, based on their target markets and to satisfy different companies' priorities. Why has RSPO developed a voluntary add-on module (RSPO NEXT) to drive more sustainable practices, which will affect only a small share of supply, rather than prohibiting all expansion of palm oil to forested areas and peatlands? This piecemeal approach has to change.

Parmarkhedi women, India, collecting water supplied by Grasim since November 2017 (the village fell ill in October 2017) . Aditya Birla, which owns Grasim, was ranked as the no.1 producer by Canopy, despite evidence of widespread pollution at its sites

The general problem with certification is that all these schemes come in the context of growing demand for commodities, as well as insufficient national and international regulation to protect the environment and safeguard human rights. These schemes also exist within the framework of globalised production and consumption, where complex and opaque supply chains often obscure relevant information and reduce the level of external scrutiny. Certification exists to address this problem, in part – but therein lies the problem: for all three sectors featured in this report, most of the schemes only certify a very small part of overall production volumes, or only one aspect of the 'problem' (e.g. only one part of the supply chain, only chemicals used at a specific part of the production process, etc.). Schemes should become more comprehensive and aim to cover the whole life-cycle of the product – as is, for example, the intention of the EU Ecolabel.

Schemes must also be selective about their membership, with high entry requirements and a continuous drive for improvement. Currently, schemes are all too often focused on getting all industry players on board, or trying to lower their bar to meet the growing demand for certified products, which leads to a race to the bottom. This report calls for significant reforms, which should be based on the following four principles:

1. **Transparency**, which includes availability of criteria and reporting on the performance of different members of the scheme, and encourages supply chain transparency.

2. **Independence**, which includes removing conflicts of interest, such as decoupling membership revenue from certification and compliance outcomes, and ensuring independent bodies set the standards.

3. **Holistic approach with high traceability**, aiming to cover the whole life-cycle of a product, and not allowing companies to pick and choose criteria or to be certified with conditions.

4. **Aiming for continuous improvements**, which includes setting the bar high enough to only certify companies that demonstrably go above and beyond average performance and are committed to continuous improvement. Schemes should also be science-based, reflect regulatory improvements and prevent backsliding.

While voluntary initiatives and certification can play a role in driving more sustainable practices, this report also concludes that they cannot – and should not – replace governmental and international regulations. The report proposes several measures that governments, companies and consumers can take, in the absence of effective certification schemes, and what can be done to put all three sectors on a more sustainable track. This includes: prioritising small-scale sustainable fisheries; establishing marine reserves and science-based fishing quotas, and enforcing them in the fisheries sector; a moratorium on deforestation and peatland draining in the palm oil sector; and establishing zero-pollution policies and greater supply chain transparency in the textile sector.

These measures are ultimately also beneficial for companies operating in these sectors, as they guarantee the long-term viability of their business operations. It is evident that without healthy oceans there can be no fish for human consumption, and that without healthy forests we risk dangerous climate change, which will affect all agricultural production everywhere. For the fashion industry, the lack of access to clean and sufficient water supplies represents a major business risk, which is already affecting their operations. Industry must realise that the scale of the challenge requires actions that go beyond the weak requirements of voluntary initiatives, and live up to its own commitments and market demands for greater sustainability.

Chapter 1.

About standards

1.1. Introduction

Outside of government regulation, there is a whole universe of private, voluntary schemes and initiatives to help consumers make environmentally friendly purchasing decisions. These are designed to deliver improvements in companies' environmental and social practices; at their best, they represent an easy way for consumers to identify responsibly manufactured products and more sustainable services without having to become experts on each and every problematic issue in a given supply chain. This report investigates an array of voluntary initiatives that provide a company, product or service with a sustainability endorsement, ranging from product labels to industry-wide initiatives. It finds that voluntary sustainability certification has largely been derailed from its original promise and that, in the vast majority of cases, consumers are not getting what they pay for with their well-intentioned purchasing decisions.

How did we come to this place? The short answer is that current levels of global production and consumption are at odds with attempts to protect the environment. Neoliberal ideology, which favours competition and free trade, undermines the perceived utility of government regulation in conducting socially and environmentally responsible business. In the absence of binding legal measures, voluntary mechanisms driven by partnerships between large corporations and non-governmental organisations (NGOs) could be seen as a good response to the problem of environmental destruction.

Against this backdrop, this report focuses on three sectors notorious for causing extensive harm to the environment: palm oil, fisheries and textiles. In all of these sectors, we find that many of the voluntary schemes used as proof of sustainability are failing to ensure that companies raise their production standards or improve their practices, resulting in harm to forests, oceans, air and water sources. While human and workers' rights violations are endemic in all three sectors (and often go hand in hand with environmental impacts), we mainly focus on the environmental aspects of these schemes.

Based on qualitative research, interviews with NGO experts and an extensive review of the academic literature, we assess how well the identified schemes measure up and to what extent they are driving genuine improvements within their given sector. We identify fltaws and shortcomings, highlighting issues specific to particular schemes and other problems typical across a broader range of initiatives. While we focus on three sectors in particular, we have also encountered the highlighted problems elsewhere in our campaigning work. On that basis, we view the lack of credible and robust sustainability certification and verification frameworks as a systemic problem, which is actively impeding the transition to a genuinely sustainable economy. With certification and labelling schemes failing to distinguish truly sustainable practices from greenwashing, it could be argued that they are actually creating a market failure: by rewarding good and bad corporate practices alike and misleading consumers who are unable to tell the difference, there is no 'virtuous circle' whereby responsible companies are able to benefit commercially from their efforts.[3] This being the case, it is important to understand how we got here – and what needs to change.

3 This market failure is further reinforced by the fact that many certification schemes are paid for by the participants themselves. This creates inequalities, as it allows only participants with the financial means and technical capacity to benefit from being a certified brand, retailer or producer (Mori Junior et al., 2016: 595f).

BOX 1.1: **Types of standards**

The International Organization for Standardization (ISO) identifies three categories of environmental labelling* (UNOPS, 2009):

Type 1: Ecolabels (ISO 14024:1999)

These are independent, reliable labels that consider the criteria across the life-cycle impacts of products or services. Usually, the criteria are developed by a large number of stakeholders and are intended to be ambitious, guaranteeing that the labelled products have a reduced environmental impact throughout their life cycle. Examples include the European Union (EU) Ecolabel, Germany's Blue Angel and the Nordic countries' Nordic Swan.

Within Type 1 is a subgroup of schemes that certify a single product or criteria, therefore not covering the impacts across the whole life cycle. Examples include the Forest Stewardship Council (FSC) and Marine Stewardship Council (MSC). These do not qualify as Type 1 ecolabels, although such ecolabels sometimes use these labels to cover part of the supply chain. For example, the European Commission (2017) states that companies that have obtained FSC certification can use this to prove they meet certain criteria of the EU Ecolabel paper-based products certification.

Type 2: Self-declared environmental claims (ISO 14021:1999)

These are not awarded by an independent authority; rather, they are self-declared claims of environmental stewardship by industry. Companies develop their own label or environmental claim, knowing that consumers are increasingly aware of environmental issues and more likely to feel positive about a company that appears to be more sustainable than its competitors. These voluntary self-declarations are called 'environmental' or 'green' claims. They might provide useful information, but unfortunately are not always true, and are not subject to independent monitoring. For example, industry-led carpet certification scheme GUT has established a label for chemicals in carpets, but independent analysis showed that it restricts only 13 of the 59 identified hazardous chemicals (HEAL and EPHA, 2018, p.3).

Type 3: Environmental impact labels (ISO 14025: 2006)

These labels show qualified product information that is independently verified and designed to enable a comparison between different products. Type 3 labels do not assess a product's environmental performance; they only show the objective data, leaving evaluation to the buyer or consumer. There is significant organisational and administrative effort involved in Type 3 labels because they require exhaustive life-cycle data sheets, which are called environmental product declarations.

This report also looks at voluntary initiatives that fall outside these three categories but are nevertheless used by companies as proof of sustainability, or as a measure of performance that helps to differentiate themselves or their suppliers.

** It is worth noting that other types of binding labels also have environmental relevance, such as the EU Energy Label, which is mandatory for all products sold on the EU market.*

1.2. What are sustainability standards?

Sustainability standards and certification schemes have proliferated over the past two decades, as the private sector and environmental advocates have sought to improve companies' social and environmental performance against a backdrop of government deregulation.

In a climate of heightened consumer concern about the environment, animal welfare and respect for human rights, the stated goal of labelling schemes and other voluntary initiatives is to give companies and industries an incentive to do the right thing for the environment, and consumers the ability to opt for sustainable products and services. This is often – though not always – accompanied by a modest price premium.

It is important here to distinguish between regulatory and voluntary standards. In the EU, for example, regulatory standards on food safety comprise mandatory sanitary and phytosanitary rules. Similarly, many everyday products, such as washing machines and refrigerators, carry a mandatory EU energy label, which helps consumers choose more efficient products (European Commission, 2018a). In general, government standards tend to be more comprehensive in terms of what they cover and are often mandatory. At the same time, governments can also develop labels (such as the EU or national ecolabels) that are voluntary rather than regulated by legislation, meaning that companies can decide whether or not to use the label. Even the EU Ecolabel sometimes has to rely on private certification schemes to verify part of production or the supply chain (for example, the FSC certification is used to verify the sustainable sourcing of wood for paper products).

The multiplication of voluntary standards and codes of conduct for sustainable production – especially in the agricultural, fishery and forestry sectors – reflects the growing influence of the private sector and an erosion of state power. The development of non-governmental standards has given rise to a set of new semi-governance institutions: standards-setting organisations (often multi-stakeholder groups involving industry associations and NGOs, although some are managed exclusively by companies or industries), auditors to enforce those standards and certification agencies.

BOX 1.2: **The role of standards**

The role of standards is to provide credible information about the sourcing, production and specific properties (for example, the absence of harmful chemicals) of products, while certification is responsible for verifying these standards to maintain credibility (Barry et al., 2012; Mori Junior et al., 2016, Seele/Gatti, 2017), and labelling is responsible for signaling to consumers that a higher level of ambition has been set and met.

Motives for developing and participating in sustainability certification schemes vary. In some cases, a company might want to take proactive steps out of a conviction that production conditions can and should be improved, and to distinguish itself from its competitors. More frequently, they might feel pressure from workers, regulators, the media, NGOs or their investors in the wake of crises, such as the collapse of the Rana Plaza building in Bangladesh in 2013. Such pressure includes calls for regulations, which companies sometimes seek to stave off with promises of voluntary action.

But perhaps the strongest motivation for voluntary standards and certification comes from the role con-

sumers play in the marketplace. The public often lacks deep knowledge of the specifics, but nevertheless, in recent decades consumers have become more aware of and concerned about the consequences of their purchasing decisions. They are on the lookout for products that minimise harm to the environment, take animal welfare into account and provide workers with decent wages and safe working conditions.

This is why consumer-facing companies, such as fashion brands and food conglomerates, are particularly vulnerable to bad publicity, which can create a lasting damage to their brand. As such, they often proactively incorporate sustainability as part of their Corporate Social Responsibility (CSR) policy. These are the companies most likely to engage in sustainability initiatives and certification schemes. Sustainability labels can improve a company's reputation, and consumers see them as evidence of social or environmental responsibility.

In other words, standards and their related certification schemes can be seen as a communications tool between company and consumer. They are also a way of improving production conditions, while avoiding price disadvantage by making the higher standards visible to the consumer through product labelling – for which the consumer pays a bit more.

BOX 1.3: **Demand for certified products on the rise**

Committing to sustainability can pay off for companies. In 2015, a Nielsen survey of 30,000 consumers in 60 countries found that 66% were willing to pay more for products or services from companies committed to positive social and environmental impact – this is an increase risen from 55% in 2014 and 50% in 2013 (Nielsen, 2015).

Retail analysis showed sales of products that demonstrated commitment to sustainability grew faster than comparable products without these commitments. Consumers in Latin America, Asia, Africa and the Middle East are more aware of the needs in their surrounding communities and, as such, more likely to seek out and pay for sustainable products. Yet consumers across regions, income levels and categories are willing to pay more, if this means they can be loyal to their values. Interestingly, people earning 20,000 USD or less are actually 5% more willing than those with incomes greater than 50,000 USD to pay more for products from companies committed to positive social and environmental impact (Nielsen, 2015).

Respondents say their purchase decisions partly depend on the packaging – they check the labelling before buying, to ensure the brand is committed to positive social and environmental impact (Nielsen, 2014). This shows how important ecolabels are for consumers.

A Eurobarometer poll released in 2016 found that 64% of UK citizens would be prepared to pay an additional 5% or more for groceries that support people in developing countries, such as Fairtrade. This compares with an EU average of 50%, with respondents in Luxembourg, Sweden (both 80%) and the Netherlands (77%) most likely to pay more (European Commission, 2016; Jones, 2016).

More and more people in the UK are seeking out ethical and sustainable options. An Ethical Markets Report in 2017 showed the value of ethical spending in the UK alone has grown to £81.3 billion GBP – the highest to date. Furthermore, sales of ethical food and drink in the UK saw 9.7% annual growth in 2015, while conventional foods struggle (Ethical Consumer, 2016).

Demand for sustainable fish in the UK grew rapidly (by nearly 37%) in 2016, surpassing the growth of free-range eggs and vegetarian products. The MSC's annual league table of sustainable fish retailers shows that Sainsbury's led the way, with nearly three-quarters of their wild-catch fish range carrying the MSC label (Ethical Consumer, 2016).

According to a June 2017 Cargill consumer survey, 88% of Americans were willing to pay more for seafood that is sustainably and responsibly sourced (Cargill, 2017). Furthermore, a recent review of academic literature on consumers' willingness to pay for certified wild-catch seafood showed that interest in ecolabel seafood is growing worldwide (Vitale et al., 2017).

When it comes to palm oil, there is a greater disconnect between sustainability and consumer action. However, in 2015, Rabobank forecast that global demand for palm oil certified by the Roundtable on Sustainable Palm Oil (RSPO) would double in five years (Rabobank, 2015). One of the big drivers of demand for sustainable palm oil is EU biofuels policy, which has mandatory sustainability criteria – one of the ways to prove compliance with which is through certification. In addition, the 2017 Amsterdam Declaration – signed by the UK, Danish, Dutch, French, German and Norwegian ministers – called for fully sustainable palm oil supply chains by 2020. Although it is still very unclear what this will mean in practice, it will likely provide another boost to certification (Dutch Ministry of Foreign Affairs, 2017).

1.3. The history of voluntary standards and certification

Voluntary standards for organic products emerged during the early 1920s, but the concept received its first big push with the Blue Angel environmental label, which Germany's Federal Ministry for the Interior created in 1978 (UNOPS, 2009).

However, it was not until the 1990s that the trend really picked up speed, focusing on sectors such as forestry, agriculture and fisheries, as well as specific issues such as labour conditions and wages. The EU introduced the 'EU Ecolabel' (sometimes referred to as the 'EU Flower') in 1992, in the wake of the United Nations (UN) Earth Summit. Since then, standards and certification schemes have proliferated. Industry initiatives and agreements have also adopted a larger role as companies and environmental advocates seek to establish a new form of governance to improve production practices and minimise social and environmental impacts.

The Blue Angel environment label was created by the German government in 1978

Over the past decade, as consumers have grown more aware of the impacts of climate change, animal cruelty and modern-day slavery in many global supply chains, the number of standards and certification schemes has soared. The Ecolabel Index lists no fewer than 464 ecolabels in 199 countries and 25 different sectors (Ecolabel Index, 2018), while the ISEAL Alliance (a London-based organisation that calls itself 'the global membership association for credible sustainability standards') grew from eight members in 2005 to more than twenty in 2018 (ISEAL, 2018).

Since 2004, various commodity-based 'roundtables' have been established, mainly as a result of a World Wildlife Fund for Nature (WWF) strategy to develop standards and certification systems for specific commodities (e.g. palm oil, soy, sugar) that have significant environmental impacts. The participation of major global corporations is a core element and seen as a marker of success.

It is important to understand some of the factors that took sustainability standards-setting out of the purview of governments and placed it in the hands of private, non-state actors. Starting in the 1970s and

intensifying in the 1990s, globalisation restructured the global division of manufacturing in ways that allowed companies to take advantage of cheaper labour and natural resources in under-regulated countries in the Global South. Because different parts of a single product might be sourced and assembled in multiple places around the world, this model of manufacturing created a more diffuse supply chain; government regulations differed, depending on the country, which made it more difficult for companies to oversee the enforcement of standards throughout their supply chains. These shifts often resulted in harmful impacts on the environment and worker welfare.

In addition, corporate mergers and acquisitions during this time led to the concentration of business operations in fewer, but larger, multinational corporations. Because of their size, these corporations wielded greater political influence and power, which allowed them to oppose strong regulations more effectively.

Seeking the economic benefits that would come from attracting these multinational corporations, many governments and state bureaucracies began to focus on creating favourable investment conditions for business in what Hirsch (1997) called 'national competition states'. Nations felt they were in competition with each other in the drive to attract big corporations; under the conditions of global competition, this undermined labour and environmental protections and resulted in a 'race to the bottom'. While many countries established environmental ministries in the 1990s, these remained subordinate to the more powerful economics and finance ministries, showing that strong environmental and social standards were not a priority for governments.

These shifts, and growing scepticism towards state regulation, helped give rise to the proliferation of voluntary standards and certification schemes driven by non-state actors. Standards and certification schemes represent a 'governance beyond the state' and a shift towards non-state actors driving policy formulation (Brand, 2005; Kütting/Lipschutz, 2009). Unlike national governments, non-state actors can, in theory, implement and oversee standards across national and even continental boundaries. Global standards make more sense for corporations as well – from a company's perspective, complying with one universal standard is arguably preferable to adapting to new regulatory requirements, which differ from country to country.[4]

Industry also prefers the voluntary nature of private agreements to the mandatory restrictions of governmental regulation. Companies are given more of a role in developing voluntary standards because their cooperation is needed to make the standards work; at the same time, they can back out if the scheme fails to deliver their expected benefits, or if the effort required to gain certification is more than they are willing to invest.

That does not mean that all mandatory standards are necessarily more efficient or effective in bringing about sustainable production. In some cases, governments are in the driving seat of either creating voluntary standards or making them de facto mandatory (see, for example, the Indonesian palm oil scheme discussed in Chapter 2). Governments also sometimes push voluntary standards, by making them a compliance pathway or adopting them in legislation or public procurement. In some cases, voluntary certification sets out higher requirements than government standards. But – as we will see in the next chapter – more often than not, voluntary schemes also pursue the lowest common denominator and fail to drive transformation towards greater sustainability.

4 With the development of private standards, new institutions that set rules and undertake conformity assessments and enforcement – including standards-setting bodies, auditors and certification agencies – have evolved, forming an audit 'industry' that promotes standards as a key mode of regulation and governance (Henson and Humphrey, 2010, p.8).

BOX 1.4: Governments lowering ambition of certification schemes

The Indonesian and Malaysian governments established their own weak certification schemes to respond to the trend of the growing demand for sustainable palm oil. The Indonesian scheme is mandatory for all producers, but its ambition is low – it barely requires compliance with national laws. These schemes present major flaws in terms of their design and independent functioning; their driving purpose seems to be to satisfy the priorities of the palm oil industry in the two countries (Kusumaningtyas, 2018).

Deforestation and drainage for palm oil in West Kalimantan, Indonesia *(credit- Ardiles Rante / Greenpeace)*

The following three chapters examine three sectors – palm oil, fisheries and textiles – widely acknowledged to cause significant environmental destruction, and the standards and certification schemes that have been established to move the industries in a more sustainable direction. We will analyse the effectiveness (or ineffectiveness) of sustainability certification for each sector and draw general conclusions based on that analysis.

OVERVIEW OF VOLUNTARY INITIATIVES ANALYSED IN THIS REPORT

Textile schemes

MADE-BY

Environmental Benchmark for Fibres

Wet Processing Benchmark

MODE Tracker
Performance-tracking tool for brands, gives a numeric score based on a number of criteria

Offers 5 consultancy packages:

- Detox
- Sustainable Collection
- Cotton options
- People
- Leather

Higg Index

Established by the Sustainable Apparel Coalition (SAC); >100 brands, retailers, suppliers and NGOs are members of SAC

Material Sustainability Index (MSI)
Compares sustainability of different fibres

Brand and Retail Module (BRM)

Product Module
Expected to launch in 2018

Facility Environmental Module (FEM)
Scores production facilities according to environmental performance

Design and Development Module

EU Ecolabel

Covers whole life-cycle of a range of different products

Ø ZDHC

- Focused on chemical management
- Established in response to the Greenpeace Detox campaign
- 92 members

COTTON

BCI Better Cotton Initiative

- 1,213 members
- Based on six 'pillars' of criteria

GLOBAL ORGANIC TEXTILE STANDARD · GOTS ·

- 2,788 certified companies
- Covers all parts of the supply chain
- One of the highest standards among certification schemes

Leather Standard

Standard 100
Certifies absence of harmful chemicals in textile products

Made in Green
Traceable product label for 'green' production and products

OEKO-TEX®

Detox to Zero
Option to confirm compliance with the Greenpeace Detox campaign

STeP
Managing chemicals used in production

Eco Passport
For textile chemical suppliers

MyStep
Supply chain database

VISCOSE

canopy

- 125+ brand partners
- Covers only pulp sourcing
- Ranks viscose manufacturers according to impact on protected and endangered forest, based on a range of criteria

Palm oil schemes

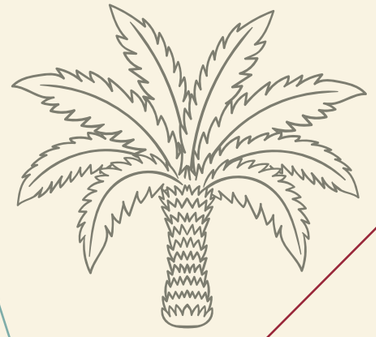
RSB

RSB EU RED

RSB Standard

Biofuel

Other add-ons possible, including ILUC



RSPO

RSPO Standard

RSPO-RED

RSPO-NEXT

Covers >19% of global palm oil production

Palm Oil Innovation Group (POIG)

Group founded by NGOs and palm oil producers in 2013, with the aim of limiting deforestation by going beyond RSPO requirements

Rainforest Alliance

Rainforest Alliance Sustainable Agriculture Standard

>35,000 members (small-holders) across all commodities

ISPO

Government initiatives plan to merge to create the Council of Palm Oil Producing Countries (CPOPC)

These schemes represent a 'race to the bottom'

MSPO

ISCC

ISCC

ISCC EU

ISCC PLUS

Other add-ons possible, including GMO, GHG emissions

Biofuel

Fisheries schemes

- Global coverage: 12% (2017)
- No. of fisheries certified: >300
- No. of companies committed to source certified seafood: >100

- Global coverage: 15% (2017)
- No. of fisheries certified: >500 (including aquaculture)
- No. of companies committed to source certified seafood: 27 retailers

Aerial shot of an oil palm nursery in Cameroon *(credit- Greenpeace/ Alex Yallop)*

Chapter 2.

Case study: Palm oil

2.1. Palm oil: the world's favourite vegetable oil

Few consumers realise how dominant a crop palm oil is – or the havoc inflicted on the environment to produce it. Palm oil is the most-used vegetable oil for food processing, cooking, cosmetics, oleo chemicals and fuel, amounting to more than half of the approximately 184 million tonnes of edible oils and fats consumed annually (Palmoil Research, 2017). Palm oil is now so common that is estimated to be present in half of all supermarket products (Amnesty International, 2016)

Since 1980, palm oil production has increased tenfold. Over 85% of palm oil production takes place in two countries: Malaysia and Indonesia (Indonesia Investments, 2017b). More recently, palm oil production has been increasing in African and South American countries (GreenPalm, 2016b).

The attractiveness of palm oil is easy to understand. The yield of oil palm fruits is more than four times that of other oil crops, which makes it one of the most cost-effective fats to produce. In addition, its functional properties (semi-solid at room temperature) make it a versatile raw material with a diverse range of product applications (GreenPalm, 2016a).

There has also been significant growth in palm oil use for biofuel in recent years. The EU has encouraged this through increased blending of vegetable oils with fossil varieties in diesel cars under the Renewable Energy Directive (RED). Currently, cars and trucks burn almost half of the palm oil used in the EU; a third of the biodiesel consumed in the EU also comes from imported palm oil (Transport & Environment, 2017).

2.2. The problem with palm oil production

A tropical crop, palm oil production is centred around the equator – in direct competition for land with vast areas of biodiversity-rich tropical rainforest on the continents of Asia, Africa and South America. The fast pace of palm oil expansion is creating numerous problems for the climate, environment, biodiversity loss and people living in the forest.

In Indonesia alone, more than 74 million hectares – an area twice the size of Germany –have been logged, burned or degraded in the last half-century (Greenpeace USA, n.d.), and palm oil production is considered a leading cause of land conversion (UNEP, 2007). Princeton University and the Swiss Federal Institute of Technology estimate that, between 1990 and 2005, 55–60% of palm oil expansion in Malaysia and Indonesia occurred at the expense of virgin forests (WWF, n.d.). In key areas of high biodiversity, such as Borneo, current deforestation rate stands at 1.3 million hectares per year – meaning that, outside of protected areas, most of Borneo's lowland rainforests could be lost by 2020 (WWF, n.d.).

The preparation of rainforest land for palm oil plantations involves burning less-valuable wooded areas and draining peatlands, which are responsible for huge greenhouse gas emissions. Tropical deforestation is estimated to be responsible for about 10% of all greenhouse gas emissions (UCS, 2013); palm oil cultivation in Indonesia alone made up an estimated 2–9% of all such emissions from 2000–2010, making it a significant contributor to climate change (Carlson and Curran, 2013).

The destruction of peatlands – which involves draining swamps and adding chemical inputs to the soil, and is often associated with forest fires – is closely linked with the expansion of palm oil cultivation. Some studies estimate that, between 2010 and 2015, about 20% of plantation expansion occurred on peatlands (Austin et al., 2017). This is particularly problematic for climate change; it is estimated that these carbon-rich soils in South East Asia alone store an amount of carbon comparable to that in the above-ground vegetation of the Amazon rainforest (van der Werf et al., 2008). In addition, fires on drained peatlands release hundreds of years' worth of sequestered carbon; for example, fires burning peat and vegetation in Indonesia released as much CO_2 into the atmosphere as the United States released that whole year (Page et al., 2002; EPA, 2013).

Moreover, palm oil production is threatening the habitat of many critically endangered plants and animals, including orangutans, elephants and tigers, among other species. A recent study estimated that half of the Bornean orangutan population was affected by logging, deforestation or industrialised plantations between 1999 and 2015 (Voigt et al. 2018).

Finally, millions of people who depend on forests for their food, shelter and livelihoods have been victims of land-grabbing by palm oil plantation companies. NGOs have frequently reported the involvement of Wilmar International, the biggest palm oil company, in land-grabbing incidents – including intimidating and harassing villagers (Forest Peoples Programme, 2017b) – and in joint operations with the security forces and Indonesian police (Forest Peoples Programme, 2018).

The impacts associated with palm oil are likely to be significantly exacerbated, as production is expected to continue to increase to 84 million tonnes in 2020 (Greenpeace USA, n.d.). In Indonesia alone, only around half of the 21 million hectares of land leased to plantation companies is currently planted (Chain Reaction Research, 2017).

2.3. The rise of palm oil production standards and certification agreements

Standards and certification schemes in the palm oil industry were introduced in response to its production causing increasingly negative environmental impact and other problems, as well as increased public awareness in the early 2000s (Spaargaren and Oosterveer, 2010). In 2004, a number of companies and NGOs developed sustainability standards to govern the production of palm oil and to transform the market across international boundaries. To do so they established the Roundtable on Sustainable Palm Oil (RSPO), the founding members of which include Aarhus United (UK); Karlshamns AB (Sweden); Malaysian Palm Oil Association; Migros Genossenschafts Bund (Switzerland), Unilever NV (Netherlands) and Worldwide Fund for Nature (WWF). Also active on the RSPO's Executive Board from the beginning were Golden Hope Plantations Berhad (Malaysia), Loders Croklaan (Netherlands), Pacific Rim Palm Oil Ltd (Singapore) and The Body Shop (UK). RSPO has become the most prominent voluntary palm oil certification scheme worldwide; it now certifies 2.6 million hectares, or around 19%, of global palm oil production (RSPO 2017).

Since then, other certification initiatives have emerged in the sector, leading to continuous growth in the amount of certified palm oil. These include the Sustainable Agriculture Network (SAN), a coalition of independent not-for-profit organisations that operates a certification scheme with the Rainforest Alliance (RA). Two additional schemes – the International Sustainability and Carbon Certification (ISCC) and the Roundtable on Sustainable Biomaterials (RSB) – focus on palm oil used in biofuels and were established in response to EU biofuel policy.

More recently, the Malaysian (MSPO) and Indonesian (ISPO) governments have also set up their own sustainability standards. ISPO certification, which is now a requirement for Indonesian plantations, has rapidly increased in recent years to cover 16.7% of all plantations, or 1.9 million hectares (Indonesia Investments, 2017a).

The next sections take a closer look at the design and operation of these flagship certification schemes to evaluate their achievements and flaws.

BOX 2.1: EU biofuels policy as a driver of certification

One interesting example of a boost to certification of palm oil and other commodities was the EU RED, with its mandatory 10% target for renewable fuels, adopted in 2008. The RED established a set of sustainability criteria, including discouraging the conversion of land with high biodiversity value and requiring all biofuels to save at least a certain percentage of greenhouse gas (GHG) emissions compared to fossil fuels, which had to be respected to qualify for public support. One way of proving compliance was through certification schemes approved by the European Commission (EC).

ISCC and the Roundtable for Sustainable Biofuels (later renamed the Roundtable for Sustainable Biomaterials) were set up to enable companies to reach lucrative EU energy markets; both run specific modules (ISCC EU and RSB EU RED respectively) for operators interested in the EU biofuels market. RSPO also runs a different certification module to its standard process, which it established to prove compliance with RED (RSPO-RED). While the EC continues to recognise ISCC EU and RSB EU RED certification as sufficient proof, RSPO-RED's license expired at the end of 2017 and has not yet been renewed (European Commission, n.d.).

However, NGOs and scientists were quick to point out a major shortcoming of sustainability criteria and certification as tools for compliance. They drew public attention to indirect land-use change (ILUC), which occurs when land that had been used for agricultural production becomes certified for biofuels production while new plantations move into natural land areas, leading to deforestation and peat destruction. When ILUC was included in the calculation of GHG impacts of biofuels, the carbon footprint of these biofuels was several times worse than that of fossil fuels (Transport & Environment, 2016).

It is difficult for certification to respond to such concerns because it is traditionally only concerned with what happens on a particular part of land. However, certain certification schemes (such as RSB) have tried to develop specific criteria that operators can choose to adopt to minimise overall land expansion. This includes encouraging operators to prioritise low-carbon stock and low-biodiversity lands for the development of new plantations, to increase productivity of their land in a number of ways and/or to increase the use of biomass from waste and residues. Despite its good intentions, on-the-ground pilot schemes have struggled to overcome specific certification challenges; for example, how operators can credibly demonstrate their production is truly 'additional' to a business-as-usual scenario, so the overall problem – the growing demand for palm oil bringing forested areas into production – remains (ICCT, 2016).

As a result of such questions over the sustainability of palm oil and biodiesel, the European Parliament voted to remove biodiesel made from palm oil – the highest-emitting biofuel in the market – from the list of biofuels that can count towards the renewables target in 2021 (Transport & Environment, 2018). It remains to be seen whether other EU institutions will support this move.

2.4. The largest palm oil certification scheme: Roundtable on Sustainable Palm Oil (RSPO)

2.4.1. Introduction

RSPO is a non-profit association organised and overseen by a multi-stakeholder group, including palm oil growers; palm oil processors and traders; consumer goods manufacturers (e.g. Unilever); retailers (e.g. Tesco); banks and investors, and environmental, nature conservation and social/developmental NGOs (e.g. WWF). RSPO has more than 3,700 active members worldwide, at different points along the palm oil supply chain, which account for 40% of global palm oil production. The bulk of RSPO's certified palm oil comes from Indonesia (53%), Malaysia (32%), Papua New Guinea (6%) and Costa Rica (1%) (RSPO, n.d.).

RSPO focuses on large-scale processing industries, mainly for European and US markets. Some major brands currently licenced to use RSPO trademark include The Body Shop, Waitrose, Marks & Spencer, Carrefour and L'Occitane (RSPO, n.d.).

2.4.2. Coverage

The RSPO standard comprises eight principles, which are further defined through a number of criteria and indicators, to verify sustainability in the palm oil production process. Its principles and criteria were revised in 2007 and 2013, and will be reviewed again in November 2018 (RSPO, n.d.). Among other things, the principles require:

- 'use of appropriate best practices by growers and millers' (Principle 4);
- 'environmental responsibility and conservation of natural resources and biodiversity' (Principle 5);
- 'responsible development of new plantings' (Principle 7);
- 'commitment to transparency' (Principle 1).

For certification, RSPO requires full compliance with all criteria, or at least a plan (with timescales) for addressing minor non-compliance.

The indicators describe the types of records or proof necessary to demonstrate compliance, while the guidance stipulates additional instruction and interpretation of the criteria. RSPO standards have some strong and well-defined requirements on social and environmental issues, including human rights, child access to education and the rights of women and Indigenous people.

2.4.3. Criticism

NGOs have criticised RSPO for failing to limit negative environmental and social impacts associated with palm oil production. For example, Greenpeace and Friends of the Earth have criticised RSPO for failing to prevent environmental damage associated with palm oil expansion. This is because RSPO does not prevent the conversion of secondary or degraded forests and allows plantation development on peatland in some cases, and has not introduced binding requirements to address GHG emissions associated with palm oil production (Kusumaningtyas, 2018).

One of the main objectives of certification schemes in the palm oil sector is forest conservation. There are two approaches to identifying areas where new palm oil plantations should not be established: high conservation value (HCV) forests and high carbon stock (HCS) areas. HCV considers issues such as biodiversity, cultural values, critical ecosystems and effects on larger landscapes, but was criticised for being insufficient when it came to GHG emissions, which is why HCS was later developed. RSPO certification uses HCV standards, but not yet HCS, which would address many of RSPO's criticisms around GHG emissions.

One way in which RSPO has tried to defer such criticism has been developing different versions of its standard, which include more ambitious criteria. This means that, in addition to its original RSPO standard, the scheme offers operators the option to voluntarily certify against higher standards, such as RSPO-RED (requiring stronger protection against conversion of land, reductions on greenhouse gas emissions, etc.) and RSPO NEXT (requiring stronger protection against deforestation, fire and peatland protection, reduction of GHGs, respects for human rights and transparency, etc.).

Deforestation for palm oil in Indonesia *(credit- Kemal Jufri / Greenpeace)*

The proliferation of different sustainability modules is not necessarily helpful for addressing RSPO shortcomings; in addition to leading to a system of à la carte sustainability certification in terms of coverage, it does not address any of the systemic failures identified with the functioning of the RSPO. In 2015, the Environmental Investigation Agency (EIA) conducted an investigation that found certified economic operators committing systemic and serious breaches of RSPO principles. It also found that

companies auditing RSPO-certified plantations were failing to identify violations – and, in some cases, colluding with plantations to deliberately disguise them – leading to deforestation, human trafficking and intimidation of environmentalists (The Guardian, 2016). EIA recommendations to the RSPO included specific measures to ensure the quality of economic operators' assessments, improve members' monitoring and compliance and improve accountability for substandard audits (EIA, 2015).

In addition, RSPO's slow progress in addressing required improvements has led to the emergence of new, smaller, more ambitious initiatives, such as the Palm Oil Innovation Group (POIG). This group was founded by several environmental organisations (Greenpeace, Rainforest Action Network, WWF and the Forest Peoples Programme) and palm oil producers (Daabon Organic from Colombia, New Britain Palm Oil, Agropalma and Indonesia-based Golden Agri-Resources) in 2013, with the aim of reducing deforestation by going beyond the RSPO's requirements. Since its establishment, it has grown in membership to include many retailers and manufacturers, as well as operators involved in processing and trading (POIG, n.d.).

POIG's Charter and verification indicators build on RSPO's principles and criteria to 'prevent deforestation, expansion on peatlands of any depth, to uphold human and labour rights, and limit climate change'. POIG's goal is not to compete with RSPO or other schemes as a certification system, but to provide a smaller and more progressive forum to support their development (Ecobusiness, 2013).

The failure of RSPO to address negative impacts associated with palm oil production has also led transnational retailers, consumer goods companies and palm oil producers to pledge to eliminate production associated with deforestation from their supply chains (NDPE commitments: No Deforestation, No Peat, No Exploitation). By the end of 2014, companies controlling 96% of the global palm oil market had signed up to achieve zero deforestation by 2020 (Butler, 2015).

However, these pledges seem to have had limited effect in preventing environmental harm to date; plantations continue to expand on forests and peatlands. Indeed, 2.4 million hectares of forest were lost in Indonesia in 2016, 0.9 million of which were from primary forests. This level of forest loss is the highest on record – an increase of 0.7 million hectares on forest loss reported in 2015 (Illegal Deforestation Monitor, 2015). In this context, 16 leading multinational companies – including Unilever; PepsiCo; Ferrero; Nestlé; Colgate-Palmolive; Johnson & Johnson, Mars and Reckitt Benckiser – failed a recent challenge from Greenpeace to demonstrate they had made real progress towards a clean palm oil supply chain (Greenpeace International, 2018).

BOX 2.2: **RSPO accused of covering up abuses of workers' rights**

RSPO has come under fire for failing to prevent abuses of workers' rights in certified plantations.

In 2015, *The Wall Street Journal* conducted an investigation of concessions granted by the Malaysian government to the Federal Land Development Authority, the biggest palm oil company. It found evidence of foreign workers who had been trafficked from Bangladesh and Myanmar working under human slavery conditions (WSJ, 2015), as well as reporting that workers were often not paid or paid below minimum salary; had their passports removed so they could not leave the plantation; were handling toxic chemicals without receiving safety training or equipment, and were not offered healthcare when they fell ill or suffered accidents.

In 2016, AI investigated labour conditions in Indonesian plantations that supply Wilmar – the world's largest processor and merchandiser, which controls over 43% of the global palm oil trade – and reported that Wilmar and most of its buyers and suppliers are RSPO members.

Serious human rights abuses were also uncovered on the plantations investigated, including cases of 'forced labour, child labour, gender discrimination, as well as exploitative and dangerous working practices that put the health of workers at risk'. AI explained that 'the abuses identified were not isolated incidents but due to systemic business practices by Wilmar's subsidiaries and suppliers'. Working conditions encountered in these plantations were not only unethical but also in breach of multiple domestic and international conventions regarding maximum working hours, minimum salary and employment age.

Moreover, many workers were exposed to highly toxic herbicides – including paraquat, which is banned in the EU and restricted in several other countries because of its potential toxicity after ingestion, inhalation or dermal exposure. AI also documented reports of workers experiencing negative health effects after exposure to chemicals, including severe injuries, such as permanent damage to eyesight.

AI's report was very damning of RSPO certification, which it found was 'acting as a shield which deflects greater scrutiny of Wilmar's and other companies' practices'; companies that buy from Wilmar overly rely on its effectiveness, yet its 'implementation and monitoring are extremely weak and based on a superficial assessment system'. Amnesty International concluded that 'membership of the RSPO and certification assessments cannot and should not be used as proof of compliance with workers' human rights' (Amnesty International, 2016).

In 2016 and 2017, the International Labour Rights Forum, Rainforest Action Network and OPPUK investigated RSPO-certified plantations belonging to Indofood, Indonesia's largest food processing company. They painted a similar picture of workplace abuses, including union busting, poverty wages, routine exposure to toxic chemicals and a high risk of forced labour conditions. They also found that 'RSPO audits are failing to identify labour violations on Indofood's plantations', and that 'the RSPO complaint process has failed to suspend Indofood, allowing them to continue selling RSPO-certified oil while violating the RSPO standard for more than a year' (International Labour Rights Forum, 2017).

2.5. Other schemes

2.5.1. Rainforest Alliance (RA) / Sustainable Agriculture Network (SAN)

The RA was established in 1987 with the aim of improving land-use change and business practices to reduce negative impacts on biodiversity and local communities. It cooperates with the SAN (a coalition of independent NGOs formed in 1997) to certify sustainable production practices for various commodities, such as chocolate, coffee and bananas (Oxfam, 2016; ZDF, 2017). With a production area of 51,663 hectares, certified palm oil is the fifth most certified crop (SAN, 2015). While RA does not provide any information about its 35,000 members, different studies point to the weakness of its certification, particularly in working condition standards in the food crop sector.

SAN focuses on smallholders, which are organised into groups and verified by a group administrator. The SAN standard itself is organised according to ten principles and 99 criteria, which must be complied with to gain SAN certification. The ten principles cover the following areas (SAN, 2017):

1. social and environmental management system;
2. ecosystem conservation;
3. wildlife protection;

4. water conservation;
5. decent treatment of workers and good working conditions;
6. occupational health and safety;
7. good community relations;
8. integrated crop management;
9. soil conservation and soil management;
10. integrated waste management.

SAN's focus on smallholders is reflected in its strict requirements on the clearance of natural areas, deforestation and peatland development and social provisions. At the same time, it does not contain a specific reference to Indigenous peoples, and it only requires free, prior and informed consent (FPIC) when land-use rights are concerned (Forest Peoples Programme, 2017b).

It also only demands 50% compliance with criteria within each principle and 80% of the total criteria ('critical' criteria are an exception, which must be fulfilled in their entirety). SAN's certification process is less transparent; the accredited third-party certification bodies that carry out the verification processes do not have to publish their reports (Forest Peoples Programme, 2017b).

The RA merged with UTZ in January 2018 and the two organisations are in the process of being consolidated into a much larger scheme (Rainforest Alliance, 2018). It is unclear how this merger will impact existing certification arrangements.

BOX 2.3: **100% sustainable products?**

Some certification schemes allow the use of their sustainability seal on manufacturers' product packaging as long as they include minimum percentages of 'sustainable' product in their mix. One such case is the RA scheme. This encourages 'businesses to use 100% certified content' in any product bearing the RA-certified seal – but also allows products containing 30–90% certified content to bear the seal, as long as they include a small printed statement to this effect. As such, RA-certified batches of tea products from different brands may only contain 30%, 50% or 70% of actual certified material. While a certain amount of flexibility is understandable, it is difficult to grasp the benefits of providing certification to a brand that can only guarantee the sustainability of less than one-third of its product.

2.5.2. International Sustainability and Carbon Certification (ISCC)

ISCC was initially set up to ensure compliance with the German sustainability act (BioNach) and later with EU RED. It emerged out of a multi-stakeholder process in 2006, involving representatives from agriculture, the processing and refining industries and traders, as well as NGOs.

According to ISCC, in June 2017 some 353 palm-processing companies were ISCC-certified and, in 2016, about 22 million tonnes of ISCC-compliant palm fresh fruit bunches were produced. ISCC certification is mostly pursued by Indonesian producers that want to access the European biofuels market (EPOA, n.d.).

Similarly to RSPO, ISCC offers companies different certification categories to match their ambition or the requirements of their destination market. These include ISCC EU (compliant with EC legal sustainability criteria for bioenergy) and ISCC PLUS (for EU markets other than bioenergy, such as food, feed, chemical/technical markets or non-EU bioenergy markets). ISCC PLUS can be customised by applying voluntary add-ons, such as environmental management and biodiversity, restrictions on the use of hazardous chemicals, reporting on the amount of all relevant consumables (e.g. water, fuels, electricity) along the supply chain, and non-GM food and feed requirements.

Oil palm seed which has been separated for processing
(credit- Greenpeace/ Daniel Beltrá)

2.5.3. Roundtable on Sustainable Biomaterials (RSB)

The RSB was established in 2007, also in response to the EU RED. It emerged from a multi-stakeholder process, led by École Polytechnique Fédérale de Lausanne (EPFL) (Switzerland) in partnership with WWF. Its global certification scheme was launched in 2011 with a worldwide standard for sustainable biofuel production; later, this was extended to cover other biomaterials, and renamed to reflect this.

Subsequently, the RSB established various working groups, including on environmental impacts, GHG life-cycle efficiency analysis, social impacts and implementation. Besides palm oil, it also certifies bio-based feedstocks (perennial grasses, annual crops, oilseeds, algae, waste), biomass derived bio-products (biodiesel, ethanol, bioplastic, energy pellets, cosmetics, pharmaceuticals etc.) and by-products.

Similarly to other schemes, RSB provides two different standards: a more flexible (and thus weaker)

global RSB standard and a separate scheme aligned with EU biofuels sustainability criteria (RSB EU RED). In addition, RSB has developed a voluntary add-on ILUC module (Low-ILUC) for operators that want to minimise the land use change impacts associated with biofuel production (RSB, n.d.).

TABLE 1. At a glance: Major private-sector international palm oil certification schemes

	RSPO	RA/SAN	RSB	ISCC
YEAR ESTABLISHED	2004	Rainforest: 1987; SAN: 1997	2007	2010
MAIN CROPS CERTIFIED	Palm oil	Cocoa, tea, coffee, bananas, oil palm, oranges, pineapples, rubber	Various agricultural and forestry materials	Various agricultural and forestry materials
COVERAGE	19% global palm oil production; 3.43 million hectares of palm oil	0.1 million hectares of palm oil (2018)	n/a	n/a
AFFILIATION	3,779 members (palm oil)	35,000 members (all commodities)	n/a	357 certified companies (palm oil)
CERTIFICATION MODULES	RSPO, RSPO NEXT, RSPO-RED, GreenPalm	Rainforest Alliance Sustainable Agriculture Standard	RSB Standard; RSB EU RED. A number of add-ons are possible, including ILUC	ISCC; ISCC EU; ISCC PLUS. A number of add-ons are possible, including non-GMO, GHG, consumables, etc.
MARKETS	Focused on food/feed/chemical markets; also some bioenergy. Major brands using RSPO trademark products include M&S, Waitrose, Carrefour, Ferrero, Kellogg, Lactalis, Mars, Unilever, Cargill	Focus on personal care and food products	Traditionally focused on bioenergy markets; now also covering bio-based products and biomaterials	Strong focus on bioenergy; also covering chemicals/food and feed. Some users of certified palm oil include Cargill, ADM, British Petroleum, Repsol

Note: Malaysian and Indonesian schemes are addressed in Box 2.4.

BOX 2.4: A race to the bottom: Indonesian and Malaysian Sustainable Palm Oil

Despite the impressive growth in certification, hundreds of thousands of hectares of tropical forest continue to be lost each year to new palm oil plantations. Why is palm oil certification failing to stop deforestation?

One reason is the proliferation of increasingly unambitious schemes under the current drive towards mass certification of palm oil plantations and operations. This is illustrated by the fact that, despite its major limitations, the RSPO ranked top in a recent study by the Forest Peoples Programme (FPP, 2017).

In this context, sustainability standards endorsed by the Malaysian (MSPO) and the Indonesian (ISPO) governments, although referred to as 'sustainability schemes' by these governments, fail to meet basic requirements for international multi-stakeholder certification schemes. Shortcomings include lack of transparency, monitoring, enforcement and third-party audit (Kusumaningtyas, 2017). Such deficiencies have resulted in these initiatives lacking credibility and failing to gain international recognition, including being questioned by representatives of institutions such as the British Government (Kusumaningtyas, 2017) and European Parliament (European Parliament, 2017a).

Despite this, the coverage of ISPO and MSPO certification is likely to expand rapidly, given the intention of the Indonesian and Malaysian governments to roll out certification across their national producers. They have also announced a plan to merge the ISPO and MSPO to form the 'Council of Palm Oil Producing Countries', with the aim of creating a palm oil sustainability standard to control and influence the global market. However, uptake in the market of ISPO/MSPO-certified products is likely to remain limited if these schemes fail to gain international credibility.

2.6. Traceability: Roughly right or precisely wrong?

Another weakness of most existing certification schemes relates to their requirements for economic operators to trace specific batches of sustainable-certified palm oil across the supply chain (i.e. 'chain of custody'). When consumers buy a product bearing a sustainability logo, they believe they have a guarantee from the manufacturer that the physical product they have been sold was produced under responsible environmental and social conditions. However, in an attempt to provide flexibility to economic operators, certification under some schemes means this is not necessarily true.

Global agricultural commodity supply chains are complex; as such, economic operators often demand flexibility regarding traceability requirements from certification schemes as a condition for taking part. Consumers believe the physical products can be entirely traced to a specific 'sustainable' plantation (i.e. 'identity preserved system'), or at least entirely associated with 'sustainable plantations' (i.e. 'segregated system'). However, it is much more likely that only a *proportion* of 'sustainable' palm oil entered the economic operators' supply chain *somewhere* (i.e. 'mass balance system', which allows for sustainable and unsustainable production to be mixed).

WWF and Unilever successfully advocated that transactions should be transparent and controlled by RSPO. This finally cleared the way for RSPO (among other schemes) to adopt an international certification trading platform, called GreenPalm, in 2007. Greenpalm, which operated until 2017, was a 'book & claim' system introduced to reduce the complexity of the supply chain and give producers a platform for selling certificates and buyers a platform to purchase them. Its stated goal was to provide 'clear commercial value, [be] cost-effective and [meet] the existing demand immediately' (Richardson, 2015, p.551, in

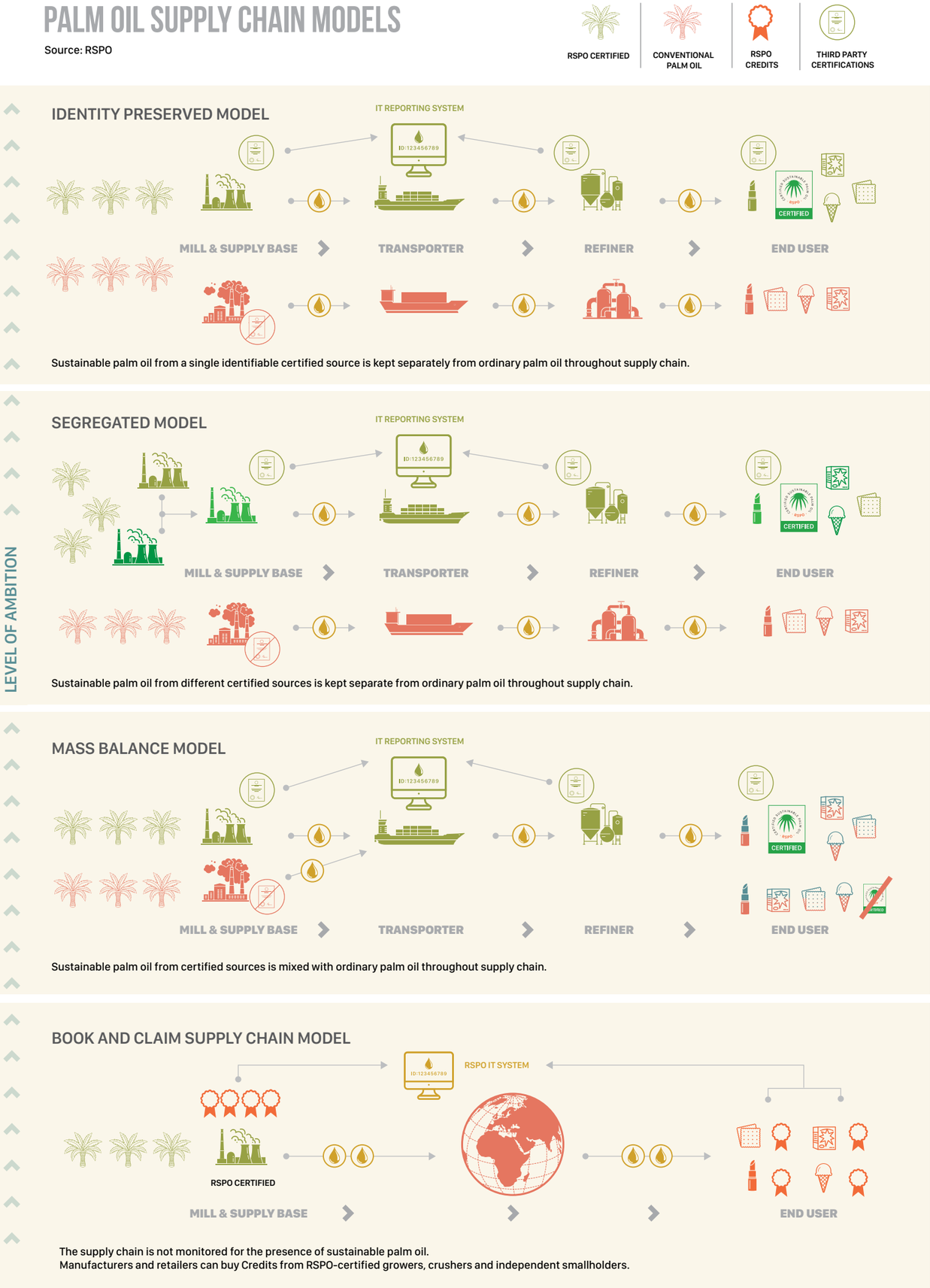


Figure 1: Supply chain traceability

RSPO, 2007, p.12). While GreenPalm attempted to offer buyers traceability back to the originating mill, its book & claim system circumvented the physical supply chain and consequently made traceability 'virtual' (Michail, 2016).

The trading of RSPO certificates became particularly attractive for buyers in Europe, as they were able to source certified sustainable palm oil without establishing and monitoring their own supply chains. Palm oil mills and independent smallholders that were exporting to countries with no demand for certified palm oil, such as China and India, also had an incentive for certification – they could sell their certificates via the trading platform directly to buyers in the Global North. Against this background, advocates for certificate trading argued that RSPO would became an industry standard, because all producers would eventually need to become certified to remain in business (Richardson, 2015, p.552).

In January 2017, RSPO established another online trading platform, PalmTrace, through which manufactures and retailers that produce palm oil products could bid for and buy certificates to offset their use of non-certified palm oil. PalmTrace also introduced additional features, such as the trading of certified palm oil using not only the book & claim system but also across all supply chain models (identity preserved, segregated and mass balance).

Recent certificate trading platforms, especially GreenPalm and PalmTrace, are a stark expression of the potential 'greenwashing' effect of palm oil certification schemes. The core principle of these platforms is separating the sustainability claim of a producer or retailer from the actual physical content of the product produced or sold.

For instance, a retailer can claim to fully support sustainable palm oil production while selling products that contain non-certified palm oil; all it has to do is purchase additional sustainability certificates on the trading platform. As a result, buyers (i.e. retailers) are absolved of the responsibility to monitor the sustainability of their own supply chains.

BOX 2.5: Lax traceability rules behind major illegal plantation scandals

Lax 'chain of custody' certification rules may not only leave customers feeling short-changed but also expose manufacturers to possible scandals, as they are not able to trace their products back to their point of origin. Such risks were highlighted in a 2015 report by the NGO Eyes of the Forest (EoF) following its investigation into illegal palm oil trade in Indonesia (Eyes of the Forest, 2016). During its investigation, EoF followed delivery trucks carrying palm oil fruit illegally grown in government-protected areas, which were habitats for critically endangered species like tigers, elephants and orangutans. Deliveries were made to subsidiaries of the biggest palm oil suppliers – such as Royal Golden Eagle group, Golden AgriResources of the Sinar Mas group, Wilmar and Musim Mas – suggesting that the majority of the world's palm oil supplies may be tainted with illegally grown palm oil fruit.

EoF found four RSPO Supply Chain Certificate holders from three groups were involved in the trade of illegal palm oil fruit. This led to their recommendation for buyers 'not to waste their resources on "mills to end user" traceability schemes but use that money to buy segregated oil based on RSPO "identity preserved" or "Segregated (SG)" Supply Chain Models'.

2.7. Friend or foe? Concluding notes on the effectiveness of current palm oil certification schemes

Generally speaking, sustainability standards for palm oil production were developed with the intention of guaranteeing that processed palm oil sold on the world market was produced in accordance with agreed environmental and social standards. However, a closer look reveals several reasons why, in their current form, certification schemes may actually be an obstacle to sustainable development.

On the most fundamental level, this pertains to the question of what is considered sustainable – and who defines this. Actors involved in the design of standards decide what is allowed and how to demarcate sustainable from unsustainable production. Based on the findings presented in this chapter, individual certification schemes all present major flaws, which are obstacles to promoting and ensuring environmentally and socially sustainable production. Some of the least ambitious schemes, such as ISPO, encourage perverse downward competition in a race to the bottom rather than contributing to an upward convergence of standards. This trend is problematic because unambitious certification schemes end up legitimising an industry that has seriously negative impacts on deforestation, the climate and peasant and Indigenous communities.

The border between an area destroyed for a palm oil plantation and an ancient forest in Riau province, Indonesia *(credit- Greenpeace / Ardiles Rante)*

This has led some NGOs, like Friends of the Earth (FoE), to oppose certification schemes as a way to tackle palm oil-related problems; they believe 'certifying palm oil as responsible or sustainable makes consumers feel good and encourages increased consumption, which is precisely the root cause of the problem' (FoE, 2009). Indeed, the proliferation of palm oil schemes is leading to meaningless mass certification; 60% of all palm oil used by the European food industry claims to be sustainable (ESPO, 2017).

Despite NGOs' call for governments to pass and enforce laws to control the damaging expansion of palm oil cultivation, major EU countries continue to emphasise private-sector-driven solutions as the way to address commodity-driven deforestation. The only exception to the rule seems to be a groundbreaking French law, which requires French companies to establish a risk assessment and report and act on environmental and social damage within their supply chains, including subcontractors and suppliers all over the world (Polsterer, 2018).

One example of a less ambitious initiative is the Amsterdam Declaration: a non-binding political commitment in support of achieving a 100% sustainable palm oil supply chain in Europe by 2020. This has been signed by seven countries so far (Denmark; Germany; The Netherlands; Norway; the UK, Italy and France) (Dutch Government, 2017), as well as some European food and feed federations (Danish and British), industry groups (Sustainable Palm Oil Alliances of Belgium; The Netherlands; Germany; France, Italy and Sweden) and European trade groups, such as the European Vegetable Oil and Protein-meal Industry Federation (FEDIOL), European Margarine Association (IMACE) and the Association of Chocolate, Biscuit and Confectionery Industries of Europe (Caobisco). Despite the concerns associated with existing certification schemes, the focus of this declaration is to increase the amount of certified palm oil, as sustainable palm oil is defined as 'a stepping stone approach, working towards RSPO certified (or equivalent) at minimum, and aim[ing] to build upon existing declarations and commitments on sustainable palm oil in Europe' (IDH and MVO, 2015).

Urgent reform of palm oil schemes is much needed. This report concludes that the most unambitious schemes – especially those set up by the Malaysian and Indonesian governments – should be abandoned, as they stand in the way of greater sustainability. In addition, biofuels policy is highly questionable, as palm oil-based biodiesel increases greenhouse gas emissions; these should also be abolished, together with the schemes that exist to prove compliance with them.

The RSPO, which has been ranked as having the most robust standards for sustainable production of palm oil (FEPP, 2017), urgently needs to implement reforms. Its reputation as a credible scheme has been damaged by systemic and serious failure to tackle the malpractices of some of its members regarding environmental and social abuses. More generally, the effectiveness of RSPO's certification, in terms of limiting the most damaging deforestation and fires at Indonesian oil palm plantations from 2001 to 2015, has been questioned by a recent study (Carlson et al., 2017). While the study found that RSPO certification was associated with reduced deforestation, it also revealed that certification was mostly adopted in older plantations, which contained little remaining forest (certified areas held fewer than 1% of forests remaining within oil palm plantations), and had no causal impact on peatland clearance or active fire detection rates.

For these reasons, the RSPO needs to adopt improvements in terms of coverage to:

1) ensure all HCS areas such as secondary forests and peatlands are covered;
2) address issues around GHG emissions associated with production, including tackling fires occurring in forests and plantations;
3) ensure labour and human rights of plantation workers are fully respected, including protecting them from handling dangerous chemicals (Kusumaningtyas, 2018).

Moreover, the RSPO should also work on ways to increase efficient use of land and mitigate ILUC, in line with RSB's work in this area. In this context, the RSPO should focus on the quality, not quantity, of certification, and should not compromise its standards by operating different certification systems with lower levels of ambition. It should also make all requirements mandatory.

Second, the RSPO should ensure that small- and medium-sized companies, which offer opportunities for local communities to improve their livelihoods, are no longer disadvantaged (Oosterveer et al., 2014). Currently, it reinforces the existing gap between large-scale industries and smallholders in terms of access to the world market.

Third, the RSPO must address concerns around its governance and functioning as a scheme. This includes better monitoring of its members' operations, ensuring that complaints are dealt with effectively and transparently and that offending members are adequately sanctioned.

In this context, the RSPO should look to POIG to recognise the leadership practices of certain industry actors. POIG developed a Charter for members, who commit to certifying all of their palm oil production under RSPO and demonstrating environmental responsibility, partnerships with communities and workers' rights and corporate and product integrity through third-party verification. The POIG standards apply HCS and HCV assessments and promote palm oil production free of deforestation, peatland destruction, the use of toxic pesticides and human and labour rights violation (as well as the FPIC). The formulated objectives pertain to palm oil producers, retailers and manufacturers, as well as traders and processors. While its indicators and verification mechanism are significantly stronger than the RSPO's, certification by the RSPO is a precondition for POIG membership (POIG, n.d.).

Moreover, RSPO schemes should not operate under non-segregated traceability schemes. This chapter shows how too much flexibility for economic operators in this area can actually compromise the effectiveness of certification altogether. The problem with lax traceability is illustrated by recent certificate trading platforms, such as GreenPalm and PalmTrace. These trading platforms attack the core founding principle of certification, i.e. the need to link the sustainability claim of a producer or retailer with the actual physical content of the product produced or sold. Such approaches lay schemes open to claims of 'greenwashing', as manufacturers can claim to be selling sustainable palm oil products while physically selling unsustainable products, just because they have purchased sustainability certificates on the trading platform. Through paying for these 'indulgences', operators are absolved of the responsibility to monitor the sustainability of their supply chains, and cannot be held accountable for any direct links to production processes (Richardson, 2015, p.558).

Regardless of the success of the reform of certification, complementary strategies must be implemented to ensure sustainable development of the palm oil sector. An important strategy includes moratoria based on private companies' pledge to avoid purchasing products related to deforestation, or other negative social and/or environmental impacts, in an attempt to clean up their supply chains. However, companies must step up their efforts for these pledges to deliver meaningful results – including providing full transparency on their supply chain and ensuring independent audits on their suppliers are conducted – and non-compliant operators must be suspended until corrective action has taken place. A successful example exists in the Brazilian Amazon with regard to soy expansion.

Palm oil fruits in West Kalimantan, Indonesia *(credit- Ardiles Rante/ Greenpeace)*

Another complementary action could include state policies preventing deforestation and conversion of key areas. Policy interventions in both exporting and importing countries are required to guarantee deforestation-free production of palm oil without negative social and environmental impacts. These should include demand-side sustainability criteria for market access to importing countries, or even effective quantity restrictions, to foreclose the further expansion of unsustainable palm oil production.

(credit- Athit Perawongmetha/ Greenpeace)

Chapter 3.

Case Study: Fisheries

3.1. The problem

Industrial fishing has been identified as one of the world's most pressing environmental issues; it causes systemic ecological collapse across the world's oceans and waterways (Monbiot, 2017). While environmental changes are affecting ocean temperatures, nutrient availability and currents, industrial fishing is simultaneously and drastically reducing global fish stocks. Damage also results from industrial pollution, coastal development for urbanisation and aquaculture. Despite the introduction of a range of national and international actions aiming to preserving marine resources, most current large-scale fishing practices remain destructive.

The pressure on the oceans is fuelled by growing demand for fish, as a result of larger populations and rising incomes in China, Mexico, South Korea and other countries. About 87% of the fish produced globally is consumed by people as food (FAO, 2016a, p.6). Global human consumption of seafood has doubled from 1980 to the present; wild-capture fisheries produced 93.4 million tonnes in 2014, and aquaculture production rose to 73.8 million tonnes (FAO, 2016a, pp.4–5). If China has its way, the pressure will grow; as the world's largest consumer, producer and exporter of seafood, China has proposed new goals to increase seafood consumption by 50% over the next six years (MoA of China, 2014).

Based on current trends, total demand is projected to grow to 186 million tonnes by 2030, with aquaculture providing close to two-thirds of that, according to collaborative research by the World Bank, the Food and Agriculture Organization of the UN (FAO) and the International Food Policy Research Institute (World Bank, 2013, p.xv). By 2030, China is expected to account for 38% of global fish consumption and Asia overall for 70% (World Bank, 2013, p.46).

While human population growth is expected to have the greatest effect on availability of fish per capita, climate change and bad fishing practices are projected to reduce fish availability and harm other marine species (Merino et al., 2012, Bell et al., 2013).

Destructive fishing practices are responsible for much of the fish species depletion and degradation of ocean habitats. Wild-capture fisheries reduce the abundance, spawning potential and maturation of species; they modify the age, size structure, sex ratio and genetics of not only their target species but also other species in the ecosystem (Garcia et al., 2003, p.10) In addition to bad fishing practices, damage to ocean health is caused by pollution from fish-processing plants, use of ozone-depleting refrigerants, dumping at sea of plastic debris that can entangle marine animals or be swallowed by turtles and loss of fishing gear (Garcia et al., 2003, p.10).

BOX 3.1: Examples of bad fishing practices

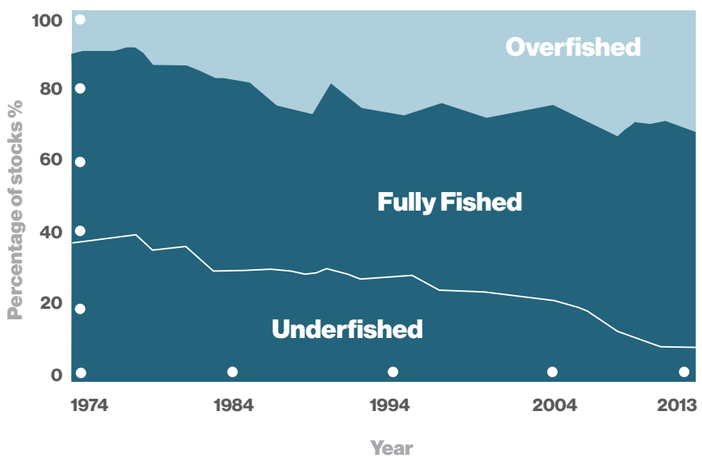
- **Blast fishing:** Fishing crews light sticks of dynamite and throw them into the water. The explosion stuns nearby fish and can make their swim bladders rupture, causing them to float to the surface for easy capture. With up to 2,000 USD worth of fish being caught from a single blast, the process can be lucrative for fishermen, but destroys coral reef and other coastal habitats in the process (Njoroge, 2014; Actman, 2015).
- **Dredging:** A common clam-harvesting technique, which uses a large metal scoop that drags along the seafloor to pick up clams. This practice removes large parts of the seabed and dumps it elsewhere. This can have a major impact on the ecosystem, particularly on sensitive areas such as coral reefs and fish nurseries. It has also been blamed for releasing toxic chemicals, increasing water turbidity and littering harmful metals throughout the food chain (Milman, 2013).
- **Bottom trawling:** The practice of pulling a fishing net along the sea bottom behind trawlers is the most widespread human activity affecting seabed habitats. A recent study showed trawling removes 6–40% of an area's seabed life on a single run (Hiddink et al., 2017). It is like forest clear-cutting on land; it unearths everything in its path, destroying crucial habitat communities and marine animals.
- **Fish-aggregating devices:** Floating mats that attract marine life in the open ocean. Many juvenile tuna and shark are caught before they can reproduce and other species, such as turtles, end up as bycatch (Carrington, 2017).
- **Pollution:** Oil spills and waste (including abandoned gear) from fishing vessels and sewage from processing plants all end up polluting the oceans. Much of the oil in the world's seas comes from other, smaller sources, such as tankers' discharged ballast water. Ballast water taken up at sea and released in port is a major source of unwanted exotic marine life (Farmer, 1997).
- **Ghost fishing:** The result of fishing vessels abandoning or losing their fishing nets, lines and other gear in the ocean. The FAO estimates that lost and discarded fishing gear makes up one-tenth of all marine litter – 640,000 tonnes per year, or more than one tonne every minute (Sea Around Us, 2016).

The state of the world's fish stocks continues to deteriorate; in its latest report, using 2014 data, the FAO (2016a, p.6) stated that 58% of fish stocks are fully exploited. This means they are producing or close to producing their maximum sustainable limits, with little or no potential for catch increases. A further one-third of fish stocks are close to being overfished. In other words, nearly 90% of global fish stocks are either fully fished or overfished (FAO, 2016a, pp.5–6). In the Mediterranean and the Black Sea, catches have dropped by one-third since 2007 (FAO, 2016a, p.16).

Illegal, unregulated and unreported fishing accounts for up to 26 million tonnes of fish per year, or more than 15% of the world's total annual capture fisheries output (FAO, 2016a, p.iii). In West Africa alone, about 37% of all fish caught are caught illegally (EJF, 2017). In an article entitled 'Trawling for Trouble', *The Economist (2016)* exposed the growing pattern of illegal fishing infractions among Chinese fishers, who have also been detained for illegal fishing in Japan; the Philippines; Taiwan; Vietnam; Russia, North Korea and Sri Lanka.

Figure 2: Global fish-stock trends over 40 years

Source: FAO, 2016a, p.39.



BOX 3.2: Definition of illegal fishing

According to the FAO, the term 'illegal, unreported and unregulated fishing' ('IUU fishing') describes a wide range of irresponsible fishing activities. Some fishers do not respect fishing rules, including those found in the Code of Conduct for Responsible Fisheries (adopted by 170 countries in 1995) and other international instruments. For example, some fishers do not respect rules concerning fishing gear and fishing areas, while others fail to report (or misreport) their catches (FAO, 2016b).

Aside from catching too many fish, industrial fishing results in bycatch (fish and other marine organisms that are caught incidentally) and discards fish and other marine life that are caught and thrown overboard). Not all bycatch is discarded and some discards are not bycatch; for example, sometimes fishers will discard low-value fish to take on board more valuable fish. Tropical shrimp trawl fisheries have the highest discard rate; they throw away up to 90% of the catch, and account for over 27% of total estimated discards (Kelleher, 2005). The scale of the problem is difficult to measure, as fishing fleets often do not report what they do not land. Different types of fishing practices result in different species being killed as bycatch: gill nets commonly kill dolphins, porpoises and whales; longline fishing is a particular problem for birds, which dive on the baited hooks, are pulled underwater and drowned; and bottom trawling devastates corals and sponges growing on the seabed (Garcia, 2003; Greenpeace, 2016).

New research has shown that industrial fishing fleets dump nearly 10 million tonnes of good fish back into the ocean every year. Almost 10% of the world's total catch in the last decade was discarded due to poor fishing practices and inadequate management –equivalent to throwing back enough fish to fill 4,500 Olympic sized swimming pools, every year (Zeller et al., 2017).

The consequences of bycatch are often far-reaching, as species become functionally extinct in many areas. For example, leatherback turtles are major predators of jellyfish, capable of consuming more than 600 jellyfish in a single day (Heaslip et al., 2012). When turtles are gone, jellyfish populations boom in some areas, making the waters dangerous for swimmers and thus harming tourism – a vital source of revenue for some countries. Green sea turtles and manatees are herbivores, which graze in seagrass beds and keep the grass at a healthy level; without them, many seagrass ecosystems have suffered large die-offs, unable to sustain a wide range of marine life.

The growing aquaculture sector exacerbates the pressure on overfished stocks because of its appetite for forage fish. About two-thirds of farmed fish production requires feed (FAO, 2014). Although there are herbivorous species of fish that consume feed from crops, other species – such as salmon, cod and trout – are carnivorous and have to be fed fish or animal protein. Using forage fish and low-value fish to feed the aquaculture industry raises concern of overfishing, disruption to aquatic food webs, food insecurity and a potential net loss of seafood available for human consumption (Cao et al., 2015).

3.2. Certification schemes

NGOs have been the front-runners in developing labelling schemes in the fisheries sector. Of the more than 50 voluntary seafood standards currently in operation (Potts et al., 2016), the Marine Stewardship Council (MSC) is the most prominent market-based seafood certification scheme globally; the only scheme that certifies a similar volume of wild-catch fish is Friend of the Sea (FOS).

Wild catch provides only half of the fish consumed globally (FAO, 2016a). In the future, aquaculture and its certification will play an even more crucial role in the supply of certified seafood. The challenges of the two supply chains are so different that they require mostly separate standards and certification schemes. The focus of this case study is on wild capture.

Even though FOS and MSC certify nearly equal portions of production, FOS has grown five times as fast as MSC over the last few years and, by 2015, the total production volumes of the two initiatives converged at just over 9 million metric tonnes. Other schemes cover fairly insignificant volumes by comparison (Potts et al., 2016).

BOX 3.3: Global certification schemes for wild-capture fisheries

- **Marine Stewardship Council (MSC):** The most prominent market-based international seafood certification scheme.
- **Friend of the Sea (FOS):** Certifies a similar volume of wild-catch fish to MSC.
- **Naturland**: Developed standards for sustainable wild-capture fisheries in 2006 but has less than 0.1% of global coverage.

Table 2: At a glance: FOS and MSC schemes

	FOS	MSC
Year established	2008	1997
Global coverage	15% (2017)	12% (2017)
No. fisheries certified	>500 (including aquaculture companies)	>300
No. companies committed to source certified seafood	27	>100
What does it certify?	Aquaculture farms, fishmeal plants, feed mills and wild-catch fisheries	Only wild-catch fisheries
Top certified species	Peruvian anchovy, skipjack and yellowfin tuna, Chilean jack mackerel	Alaska pollock, Atlantic cod, herring, skipjack tuna

Sources: FOS and MSC websites; Potts (2016); MSC (2017b).

The amount of certified seafood has multiplied many times over in recent years. In 2015, 14% of global seafood production was certified by any of the larger schemes (MSC; FOS; ASC; GlobalG.A.P., ChinaG.A.P. and GAA BAP) – up from only 0.5% nearly a decade earlier. Certified-sustainable wild catch accounts for 20% of global wild-catch supply and has been growing ten times faster than conventional seafood production (Potts et al., 2016). The problem is that 'sustainable catch' labels often don't mean as much as consumers think they do.

3.2.1. Marine Stewardship Council (MSC)

The MSC was established through a collaboration between WWF and Unilever. It has developed two sets of standards:

- **The MSC Fisheries Standard**: Assesses fisheries activities up to the point at which the fish are landed.
- **The MSC Chain of Custody Standard**: Ensures the fish can be traced from point of landing to sale and allows the use of the blue MSC label on packaging at fish counters and on restaurant menus.

The MSC Fisheries Standard is designed to assess if a wild-capture freshwater or marine fishery is well-managed and sustainable. The certification can relate to a whole fishery or a small part of it – even down to an individual fishing vessel. To ensure only seafood originating from MSC-certified fisheries carry the MSC label, all companies in the supply chain must be certified according to the MSC Chain of Custody Standard. MSC's annual budget from 2016–2017 was over £24 million; while a proportion of its income comes from foundation grants, most of it comes from the licensing fees it charges businesses for the right to use its label (MSC, 2017a). Indeed, these licensing fees have become an increasingly large share of the MSC budget; logo licensing currently constitutes 76% of its annual income – up from 7% in 2006 (Christian et al., 2013; MSC, 2017a). MSC has also received millions of dollars in grant money from the Walton Family Foundation, which Wal-Mart's founder created and his descendants govern; the Foundation has become one of the MSC's largest donors (Zwerdling and Williams, 2013).

3.2.2. Friend of the Sea (FOS)

FOS was founded by the Earth Island Institute, which has been managing the Dolphin-Safe project for the elimination of dolphin bycatch in tuna fishing. FOS now is one of the most diversified seafood labelling initiatives, certifying both aquaculture and wild-catch fisheries. Like MSC, FOS also certifies particular fisheries – but, because of lower certification costs, FOS wild-catch certification has certified many species destined for fish meal or fish feed. Of FOS-certified companies, 22% are in the fish oil and fishfeed markets (Potts et al., 2016). FOS has also grown a supply base in the Global South; more than half of certified products originate from artisanal fisheries and aquaculture producers in developing countries (FOS, 2016; Potts et al., 2016).

Nearly one-quarter of the global catch of tuna is certified as sustainable through FOS, making it the largest certifier of tuna in the world (FOS, 2016). Tuna companies are required to be Dolphin-Safe-approved to gain FOS certification. The FOS Chain of Custody Standard is designed to ensure that certified seafood can be traced back to a sustainable and well-managed source. DNA tests are carried out on a sample basis on certified products to monitor traceability (FOS, 2016).

Bottom trawlers use huge nets to scoop up fish, damaging the sea bed. Bottom trawling is not prohibited by MSC (credit- Nick Cobbing/ Greenpeace)

FOS is entirely funded by royalties from the use of the 'Friend of the Sea' logo and sporadic sponsorships strictly related to single marketing events (FOS, n.d.). Its revenues are a small fraction of that of MSC, which has 25 times its annual income (FOS, 2016; MSC, 2017a).

3.2.3. Main criticisms of FOS and MSC certification procedures

Both the MSC and FOS certification standards cover prohibiting destructive fishing standards, managing bycatch, environmental risk and impact assessment and managing stock regulation. Neither addresses GHG emissions or protecting high-value conservation areas (Potts et al., 2016).

Both schemes depend on auditors from accredited third-party certification bodies (also called Conformity Assessment Bodies), which monitor the fishery operations. Producers pay a fee to these third-party certification bodies to be assessed against the standards and, if certified, to use the sustainability label. Crucially, these third-party certification bodies are selected, appointed and paid for by the fishery or the business.

Auditors often fail to identify and mitigate unsustainable practices, and the regulatory regimes of all certifying schemes are ill-equipped to screen the operations they oversee. One analysis (Christian et al., 2013) found that MSC allows third-party certifiers too much leeway in deciding whether a fishery operation has met the mark. A random sample of about twenty FOS assessment reports showed that reporting was poor and inconsistent, using simplified checklists with minimal information to back up the assessment (Greenpeace, 2009). Recent anecdotal evidence suggests that MSC auditing might take place without the auditors inspecting the vessels or gear or meeting the fishermen (Kochen, 2017).

Both MSC and FOS provide access to independent dispute-resolution processes. In theory, these procedures should enable NGOs and others to object to certifications for possibly problematic fishing operations, but these procedures are deeply faulty. For FOS, no information could be found about how many objections have been raised so far, by which organisations and whether any succeeded in halting certification. Objections to pending MSC certifications are cumbersome to file and appear to have a very low chance of success (Christian et al., 2013; Brown et al., 2016).

MSC charges around 8,000 USD to launch a formal objection, whereas FOS charges for the costs of establishing and maintaining a panel, which also run to thousands of dollars (Potts et al., 2016). NGOs and other groups have filed and paid for dozens of formal objections to MSC fisheries certifications, yet so far only two objections have resulted in the fisheries not being certified. By tonnage, more than one-third of MSC-certified seafood has received formal objections. Among the most common concerns were lack of data on stock population and size, high levels of bycatch, harm caused by dredging and trawling and damage to vulnerable marine ecosystems and seabird populations (Christian et al., 2013).

Conflicts of interest are inherent to the process: Third-party certifiers are paid by the very companies they certify, resulting in lenient certifications as numerous certification bodies compete to win business. This may not be such a large problem if MSC provided effective oversight. However, MSC has a clear interest in increasing its logo-licensing revenue, in conflict with its role as an independent and impartial standard-setting body; not certifying a fishery or withdrawing an existing certification means less revenue for MSC. According to an internal WWF report in 2016, 'MSC actively interjected itself into ongoing certification processes' in favour of approving certifications, instead of enforcing its own standards (WWF, 2016).

The schemes place too much emphasis on increasing the number of fisheries participating and the volume of seafood caught, rather than on the quality of participation or outcomes. Most participating companies' public documents lack meaningful quantitative data by which to assess performance or progress.

3.3. Have seafood certification schemes made a difference?

Fish catch onboard a bottom trawler in the Gulf of Thailand (credit- Athit Perawongmetha/ Greenpeace)

Despite the problems outlined above, certification schemes can and do have some positive impacts. Their existence has made industry and government regulators more proactive about sustainability concerns, and can be seen as a catalyst for increased data transparency and improved analysis of fisheries (MSC, 2017c). They appear to have resulted in reduced bycatch in some fisheries, and, at times, better practices in terms of fishing gear and areas being fished (MSC, 2017b). Certification also plays an important role in ensuring that labelled fish has not been caught illegally (MSC, 2017b).

Although the FOS Annual Report (FOS, 2016) says its certification has contributed to the health of the world's oceans, it does not provide data or cite studies to show how the scheme has achieved this impact. In contrast, using independent stock-assessment data in nine regions of the world, MSC found that certified stocks showed higher biomass in nearly all regions after certification (MSC, 2017b). Some experts who express reservations about certification nonetheless say certified seafood is a reasonable choice, because those fisheries are more likely to reflect healthy, moderately exploited stocks (Froese and Proelss, 2012).

However, these apparent improvements in some sectors of the fishing industry do not outweigh disturbing lapses in fishery certification.

For example, consumers should be able to assume that seafood with sustainable-catch labels is free of significant bycatch and that endangered, threatened or protected species have not been harmed. But the MSC standard allows certifiers to award generous scores to fisheries with high levels of bycatch, because the criteria focus only on 'avoiding serious or irreversible harm'. In contrast, FOS sets an upper limit of 8% of the total catch in weight for discards and requires strong bycatch mitigation and monitoring – but does not deem it 'essential' for bycatch to be free of vulnerable or higher-risk species on the International Union for Conservation of Nature's (IUCN) red list of endangered species. For example, even though shark finning is not acceptable according to the MSC standard, in practice it is tolerated (Ziegler et al., 2017). The loopholes in the standards offer certification bodies plenty of room for diverse interpretations (White, 2017).v

BOX 3.4: **A blue tick awarded for destruction?**

Many fisheries have been given the MSC 'blue tick' label without an adequate review of destructive fishing practices or their impact on endangered, threatened and protected species – such as sharks, whales, dolphins and porpoises. In early 2018, 66 marine conservation organisations, animal welfare organisations and academics issued a letter condemning the MSC for awarding an increasing number of certifications to fisheries that catch thousands of vulnerable and endangered animals, and irreversibly harm vulnerable ocean habitats (Make Stewardship Count, 2018b, 2018c). A large number of MSC-certified fisheries still fails to address these problems, bringing the credibility of the MSC label into serious question.

The following tables provide information on scandals affecting a number of MSC-certified fisheries that resulted from harmful fishing practices.

Fishery	Northwest Atlantic swordfish longline fishery
Company	Nova Scotia Swordfishermen's Association
Certification	MSC, 2012 and 2017
Main markets	The majority is exported to the US. Major retailers include Wholefoods (SeaChoice, 2018; Greenpeace 2015).
Scandal	At the time of certification, this fishery killed 35,000 endangered, vulnerable and near-threatened sharks per year, as well as affecting 200–500 endangered sea turtles (Brazner and McMillan, 2008; Caruthers, 2009). The MSC certification was granted despite knowing that two sharks die for every swordfish landed (Ecology Action Centre, 2012). The fishery was recently granted re-certification despite having an almost 50% bycatch rate of blue sharks, which it then mostly discarded prior to landing (Ziegler, 2017). The fishery also catches up to 1,200 endangered loggerhead sea turtles per year, cutting them off the line with varying degrees of injury. The few measures the fishery has introduced have not decreased the numbers of these endangered animals being hooked (Make Stewardship Count, 2018c). MSC certification did not require this fishery to reduce the disproportionate amount of 'unwanted non-target' animals, nor the unacceptably high bycatch levels of species classified as 'near-threatened' (Make Stewardship Count, 2018c).

Fishery	New Zealand orange roughy
Company	Deepwater Group Ltd
Certification	MSC, 2016
Main markets	Also called 'deep sea perch', roughy is sold skinned and filleted, fresh or frozen. Most of the catch is exported as frozen fillets to the US (80%) and Australia (14%) (Marine Stewardship Council, 2018b).
Scandal	During the assessment process, organisations such as WWF and Greenpeace raised serious concerns, citing a long history of fish- stock crashes, under-reporting and dumping of fish species, misreported information about orange roughy catches and destructive trawling methods that cause irreversible damage to the seabed. Despite these concerns, the fishery was granted MSC certification (Make Stewardship Count, 2018c).

Fishery	Australia Northern Prawn
Company	NPF Industry Ltd
Certification	MSC, 2012 and 2018
Main markets	The fishery supplies fresh and frozen prawns in Australia, including to leading supermarkets such as Coles and Woolworths. It also exports frozen prawns, mainly to China and Japan (Marine Stewardship Council, 2018a).
Scandal	Australia's largest prawn fishery covers 771,000 km2 of tropical waters off Australia's northern coast. More than 50 vessels catch around 7,500 tonnes each year, comprising several different species, including banana, tiger and endeavour prawns (Marine Stewardship Council, 2018a). Bottom-trawl fishing methods are used in this fishery, which is well-known for being destructive to oceans; it damages the seafloor, including corals and the habitat for many fish and animals. Bottom trawling is also notorious for catching large amounts of bycatch including fish, sea turtles, seabirds and marine mammals. Most of these dead and dying animals are dumped over the side (Marine Conservation Institute, n.d.). The Australian Northern prawn fishery was granted MSC certification in 2012 despite high bycatch levels. The initial assessment even noted that a typical tiger prawn trawl usually consists of 50–90% discards (MRAG, 2012, p.280).

Fishery	Gulf of Maine lobster fishery
Company	Maine Certified Sustainable Lobster Association
Certification	MSC, 2016
Main markets	The catch is sold in the US and internationally in both live and processed forms (Marine Stewardship Council, 2018c).
Scandal	The fishery was certified even though the fishing methods used to catch the lobsters were known to pose a significant risk to large whales listed as endangered by the US. The population size of one of those endangered whales, the North Atlantic right whale, is currently estimated to be 450. The death of a single right whale is dangerous for the species' survival. In 2017, a total of 17 North Atlantic right whales were found dead, nine of which were due to entanglements in fishing gear (Make Stewardship Count, 2018c) In 2017, NGOs criticised the MSC for certifying a fishery that can impact highly endangered species, saying 'this is a major failure of the MSC guidelines' (O'Connell et al., 2017).

Overfishing has been raised as a key concern in several official objections to MSC certification. In the Pacific hake fishery, managers ignored scientific advice about rebuilding depleted stock; instead of taking precautionary measures (and despite Canadian scientists' disapproval), in 2008 hake catch limits were set at their highest levels ever. The following year's stock assessment indicated the hake stock was at an unacceptably high risk of being overfished – yet the fishery was still certified (Christian et al., 2013).

Certification schemes should also disqualify fisheries that are destructive because of their fishing methods or gear. The MSC Standards define destructive fishing practices as only those using poisons or explosives. However, bottom trawling and dredges are also highly destructive (Kaiser et al., 2006); there are alternatives to bottom trawling, and continued reliance on these destructive methods fails the MSC's own criteria (MSC, 2014). A recent study of MSC-certified fisheries in Canada showed certifications were most frequently awarded to fisheries employing bottom-trawling methods (Arnold and Roebuck, 2017).

During the first assessment of the Alaska pollock fisheries, four separate US District Court decisions found the fisheries were operating in violation of the federal Endangered Species Act and National Environmental Policy Act. Even so, after an official objection from NGOs, the MSC objections panel upheld the certification. Its justification defied reason: the MSC standard required 'respect for the law', and non-compliance with the law did not mean 'not respecting' the law (Christian et al., 2013). Due to its troubled history of deadly interactions with seabirds, the MSC-certified New Zealand hoki fishery has also been found to violate that country's fisheries act, which requires addressing and avoiding adverse effects on the aquatic environment (Highleyman et al., 2004).

BOX 3.5: UK supermarkets caught with unsustainable tuna

Fishery	PNA Western and Central Pacific skipjack and yellowfin tuna
Companies	Princes Tri-marine (supplies John West)
Certification	MSC, 2011 and 2018
Main retailers	Sold to Europe, Australia and North America, where it is commonly canned (Marine Stewardship Council, 2018d). UK supermarkets including Tesco; Sainsbury's; Asda; Morrison's, Waitrose and M&S (Stop Illegal Fishing, 2017; Chapman, 2018).
Scandal	Fish are certified with the MSC 'blue tick' logo despite being caught by trawlers that also haul in turtles, sharks and other protected species. Campaign organisation On the Hook recently found that tuna from two MSC-certified fisheries were certified despite unsustainable fishing practices and dangerously high bycatch levels; the tuna ended up on the shelves of major supermarket retailers in the UK and Europe, including Tesco and Sainsbury's (Chapman, 2018). The MSC has been found to certify a number of fisheries known as 'compartmentalised'. This means that vessels and crew can use their nets to catch tuna 'sustainably' – receiving MSC certification – and then, on the same day, haul in tuna along wwith protected species (Chapman, 2018). The MSC has a specific target of certifying 20% of all wild-caught fish by 2020 and 30% by 2030 (they are currently at 12%). Campaigners are concerned this arbitrary target is leading MSC to lowering its own standards rather than making fisheries improve theirs (FIS, 2017). It is also evident that the MSC benefits through license-fee royalties for each new certified fishery. The PNA fishery alone is potentially worth over £10 million per year in royalties to the MSC (FIS, 2017). Shockingly, and despite a host of objections and high-profile campaigning, the PNA tuna fishery was re-certified in 2018 (White, 2018).

BOX 3.6: Fish now, science later: One of the most controversial certifications in MSC history

Fishery	Ross Sea Antarctic toothfish fishery
Fishing Companies	Argos Georgia Ltd (UK) Sanford Ltd (New Zealand) New Zealand Long Line Ltd (New Zealand)
Certification	MSC, 2010
Retailers	High-end seafood restaurants, such as NOBU; US supermarket chains Wholefoods and Costco (Greenpeace, 2011, 2015; MSC, 2018; Nobu, 2018)
Main markets	US, Asia and Europe, where it is often called 'Chilean sea bass' (Greenpeace, 2011).
Scandal	MSC-certified despite lack of scientific understanding about the toothfish species. Deep in the Antarctic Ocean south of New Zealand lies the 1.9 million square-mile Ross Sea. It has been called the 'Last Ocean', because it is largely untouched by humans. Around 16,000 species live in the Ross Sea; its waters are nutrient-rich, leading to huge plankton and krill blooms that support vast numbers of fish, seals, penguins and whales (Howard, 2016). The Antarctic toothfish are an important part of the Ross Sea ecosystem. They are a top predator, feeding on other fish and squid, but they are also important prey for seals and whales (The Last Ocean Charitable Trust, n.d.). According to the Antarctic and Southern Ocean Coalition (ASOC, 2018), very little is known about the life cycle of the toothfish; it is not known how often they spawn, and eggs and larvae have never been found. Scientists and the industry still regard the Ross Sea Antarctic toothfish fishery as an exploratory fishery – meaning scientific information is still being gathered to determine what would constitute a sustainable fishery (CCAMLR, n.d.). Yet, despite this lack of scientific information, MSC made a controversial ruling and granted certification of the fishery in 2010. Many NGOs, including ASOC and Greenpeace, slammed its decision to certify these fish stocks, but MSC upheld the decision (ASOC, 2018). Many toothfish consumers are probably unaware they are eating it. Restaurants and retailers give toothfish more marketable names, such as 'Chilean sea bass'. It is sold in high-end seafood restaurants, such as Nobu in the US and London, and is available in many supermarket chains in the US (Greenpeace, 2011). According to Changing Markets research, Nobu, Wholefoods and Costco were still selling 'Chilean sea bass' at the time of writing (MSC, 2018; Nobu, 2018).

3.4. Losing faith

Because of the problems outlined above, fishery certification schemes face a new challenge: NGOs, scientists, other sustainable seafood listings and even governments have been losing faith in, and raising objections to, various aspects of fisheries certification – and especially the MSC.

Countless critical analysis, peer-reviewed articles, reports and newspaper articles have been written regarding concerns about the MSC. The same cannot be said about FOS, which has seemingly attracted much less attention. In fairness, that could be largely due to MSC's transparency and active interaction with stakeholders. FOS is a much less transparent certification scheme; without available information on assessments and objections, it is very hard to assess or criticise it (Ziegler, 2017).

As a result, the MSC has been the target of far more public criticism. The overarching concern is that the MSC standard is too weak; so, while some very good fisheries have been certified, so have some especially poor ones (Dorey, 2017).

BOX 3.7: **Key problems with the MSC and FOS schemes**

1. **Conflict of interests**
   - Certification auditors are paid by the fisheries they are assessing;
   - Standard-setting bodies have financial interest in certifying increasing numbers of fisheries.
2. **Lack of monitoring and enforcement of standards**
   - Auditors fail to identify and address unsustainable practices by fisheries;
   - Evidence of poor-quality and inconsistent assessments;
   - Lack of continuous improvement of fisheries' practices once certified.
3. **Inadequate, expensive and inaccessible procedures for objecting to certifications**
   - Stakeholder input often dismissed;
   - No objection process for annual audits.
4. **No independent evaluation of the schemes' impact on sustainability**
   - Most participating companies' public documents lack meaningful quantitative data on which to assess performance or progress.
   - Annual 'Global Impact Report' assessment by MSC is not written by the independent evaluators but by the MSC staff.
5. **Failure to address causes of overfishing and ecosystem destruction**
   - Lack of ecosystem-based approach to fisheries assessment, i.e. schemes look at target species in isolation and do not take into account impacts on the whole ecosystem.

For example, two sectors of the Canadian Northwest Atlantic swordfish fishery, one using longlines and the other harpoons, carry the same MSC certification but have very different levels of bycatch. While the harpoon fishery is targeted and has virtually no bycatch, the longline fishery has extremely high bycatch, which contains shark and turtle species listed on the IUCN red list as near-threatened, vulnerable, endangered or critically endangered. The differences between these fisheries are not highlighted at the certification level; ultimately, both fisheries carry exactly the same MSC ecolabel certification, even though harpoon fishermen originally sought the certification to communicate their superior sustainability to consumers (Christian et al., 2013).

In 2010, a widely publicised article written by prominent marine biologists (Jacquet et al., 2010) openly criticised the MSC, explaining: 'as the MSC increasingly risks its credibility, the planet risks losing more wild fish and healthy marine ecosystems'. Another painful blow came from WWF – the very NGO that set up the MSC 20 years ago. At the end of 2016, the media made public a WWF report that was highly critical of the MSC. The report – which documents the struggle WWF had when trying to ensure MSC's standards and process were properly applied to the Indian Ocean tuna fisheries assessments – highlights a range of MSC failures. It states the MSC certification scheme has 'troubling systematic flaws', including ineffective conditions and the fact that failing to fulfil them did not lead to de-certification. The report also accused the MSC of receiving 'very large sums' from the fishing industry (WWF, 2016).

Most recently, in January 2018, 66 organisations issued a letter condemning the MSC for awarding an increasing number of certifications to fisheries that catch thousands of vulnerable and endangered animals and cause irreversible harm to vulnerable ocean habitats (Make Stewardship Count, 2018b). At the time the letter was issued, Dr. Iris Ziegler from Sharkproject emphasised: 'without swift changes to its standards and processes, the MSC runs the risk of being identified as contributing to the problem of unsustainable fishing and misleading consumers, rather than being a solution and a truly sustainable choice' (Make Stewardship Count, 2018a).

On board a Spanish-flagged bottom trawler in the North Atlantic *(credit- Greenpeace / Kate Davison)*

In summary, there are fundamental problems with the current certification systems for wild-capture fisheries.[5] These include financial conflicts of interest and prospective financial gains for both standard-setting bodies and third-party auditors, which manifest in lenient interpretations of the standards. Other major issues contributing to weak and ineffective schemes include a lack of mechanisms to review auditors' certification decisions; biased objection procedures; conditions attached to certification that neither lead to continuous improvement nor need to be fulfilled during the certification period; failure to assess the cumulative impacts on all species caught by the fishery; and, crucially, that third-party certifiers are selected and paid for by the fisheries under assessment. Critics also state the MSC system has compromised its standards to keep up with booming demand from Wal-Mart and other chains (Potts et al., 2016).

3.5. The way forward for fisheries certification

There is no silver bullet to shift global fisheries towards a more sustainable path, but a number of significant changes are required to reform current seafood certification schemes. Certification schemes must revise their standards and application processes to ensure only fisheries managed in an ecologically and socially responsible way are rewarded with certification.

5 Many NGOs producing seafood guides assess the MSC's certified fisheries against their own standards, rather than simply accepting the MSC fishery as a sustainable or 'green' option. MSC fisheries often do not make the 'green' rating and are occasionally given a red rating. The Monterey Bay Aquarium (2013) assessed the MSC Standard against its own Seafood Watch standard; it found that the MSC Standard could allow fishery certification equivalent to a yellow Seafood Watch recommendation.

They also need to ensure the certification process is rigorous. The plea for radical reform has been made by a wide spectrum of stakeholders; yet, these fundamental and systematic problems remain unaddressed.

FOS does not have a high level of acceptance among NGOs or the scientific community. Due to its lack of transparency and stakeholder involvement, it is currently very far from being a credible seafood certification scheme that could drive change for the oceans. The MSC, on the other hand, could still be given a last chance, despite years of fruitless efforts from so many NGOs.

First and foremost, the MSC should rid itself of the 'conflict of interest' criticism by splitting the organisation into two separate entities: the independent standard-setting and oversight function could sit with the MSC Standards team, whereas a separate commercial arm could promote and increase logo and certification uptake. Reform should: ensure the impartiality of certification bodies; simplify the standard so it is accessible to small-scale fisheries; ban destructive fishing techniques; exclude illegal fishing, assess the full ecological impacts of the *entire* fishery and introduce incentives to continuously improve – including cumulative assessment and introducing targeted measures to drastically reduce bycatch and discards. Other Critical improvements required by NGOs are listed in Box 3.8.

BOX 3.8: **Critical requirements to improve MSC**

In January 2018, NGOs sent an open letter to MSC to ask for some critical improvements to the certification process. These emerge from research and analysis undertaken by NGOs and academics focused on marine conservation and seafood certification and are aimed at improving Principle 2 of the MSC Standard as well as the certification procedure to ensure credibility and impartiality. The NGOs are calling for the MSC to initiate the following reforms by the end of 2018 at the latest and ensure that:

1. *Full ecological impacts of a certified fishery are assessed and improved, and fisheries are not wasteful of marine lives and resources (this includes cumulative impacts of all MSC and non-MSC fisheries on all species caught and impacts on by-catch).*
2. *The entirety of the certified fishery methods, gear and catch are sustainable and that all "main species" of a catch are managed equally to the target species.*
3. *MSC-certified fisheries do not destroy seafloor biodiversity, and that the MSC Standard is consistent with internationally accepted fisheries management standards.*
4. *The sustainability claim of MSC-certified fisheries is evidence-based and transparent for all of the data used for decision making in the assessments and audits of fisheries.*
5. *Condition-based certification is resolved prior to recertification.*
6. *The certification assessment and audit process are impartial.*
7. *The MSC proactively upholds the scientific rigour and goals of the program.*

In addition, WWF also issued two statements in 2018, in which it asked MSC "to commit and accelerate key reforms, so that it can maintain its reputation as the world's leading fisheries and certification system". The reforms requested are similar to the ones listed by other NGOs. WWF also recommended additional oversight to ensure that stakeholder comments are fully resolved, that conformity assessment bodies (CABs) must be impartial and act independently of their clients and that objection procedures must include opportunity for independent review of CAB's scoring decisions.

Sources: Make Stewardship Count, 2018c, WWF, 2018

Besides certification, many alternative tools could radically drive change towards healthy ocean ecosystems. Of the estimated 30 million fishers globally, 90% are small-scale (FAO, 2016); sustainability efforts must be targeted in a way that benefits them. Government payments to the fishing sector are key drivers of the unsustainable exploitation of the world's depleted fish populations. Large-scale fisheries receive about four times more subsidies than their small-scale counterparts; up to 60% of these subsidies promoting overfishing, according to a recent study by the University of British Columbia (Schuhbauer et al., 2017). If fisheries are to become sustainable, subsidies need to be significantly reduced and shifted to supporting small-scale fisheries that focus on sustainability and ecosystem restoration. In addition, standards for sustainability certification could be adapted to encourage the participation of small-scale, community-based fisheries. Investors should rigorously check the companies they invest in, move away from those that are operating irresponsibly and shift financial and technical investment towards sustainable, small-scale fisheries.

Fishermens' cooperatives are another grassroots alternative to voluntary certification schemes. For example, Thorupstrand Kystfiskerlaug fishermen in Denmark take short fishing trips with low-environmental-impact, energy-efficient gear; they use smaller, traditional coastal vessels that are dragged on to the beach. They have chosen not to carry the MSC brand, instead developing their own brand in a strategic partnership with Coop: a large, consumer-controlled Danish retail chain (Hadjimichael and Hegland, 2016).

The most important first step that a company can take towards responsible behaviour is to formulate and adopt a responsible seafood policy. Such a policy does not entail avoiding poorly managed fisheries and confining procurement to 'sustainable fisheries'; rather, it involves a commitment to continuous improvement and transparency, with ambitious targets in the future. Such policies must also include sufficient traceability within the supply chain to ensure illegally caught fish cannot be sold, adopting sanctions against suppliers convicted of dealing in illegal fish and rewarding fisheries that are performing well.

Destructive fishing methods in the Gulf of Thailand (credit- A. Perawongmetha/ Greenpeace)

In addition to these measures, there needs to be improved government regulation of sustainable seafood that supports an ecosystem-based approach, as well as greater enforcement of regulations and better monitoring and data collection on fish stocks. At an international level, agreements on creating marine reserves could be extremely effective in promoting the health of ocean ecosystems, as they can help rebuild depleted stocks and act as sanctuaries for biodiversity. Ultimately, robust government fisheries and aquaculture policies are needed to ensure a sustainable seafood industry for generations to come (Arnold and Roebuck, 2017).

The best chance of improvement is through a combination of grassroots initiatives, strong national regulations and international efforts to create marine reserves; shifting subsidies away from destructive fishing practices; channeling funds for better stock assessments; and capacity building among small-scale fishermen. At the same time - and equally important - fish consumption needs to be drastically scaled back in high-income countries; in the context of continually rising demand for fish, there should be a strict limit even on truly sustainable seafood.

BOX 3.9: **MSC offers an alibi to retailers**

When seafood is MSC-certified but sustainability concerns are raised, retailers often refuse to delist a fishery.

Fishery	New Zealand hoki
Company	Deepwater Group Ltd
Certification	MSC, 2001, 2007 and 2012
Main markets	US, EU, Japan and Australia. Commonly used in fish fillet and fish-finger products; for example, in McDonald's (McGrath, 2016; MSC, 2018e).
Scandal	The MSC has certified hoki fishing as sustainable several times over the past 15 years. Since 2011, McDonald's has also carried the MSC sustainability label on its fish products in Europe. Yet. in 2016, a leaked New Zealand government document cast serious doubts on the sustainability of hoki. The document shows that the government was aware of made-up data and illegal practices, such as the dumping of vast quantities of unwanted fish. Up to 15% of McDonald's fish products in recent years were made from hoki; in 2016, the company told BBC reporters they currently sourced 8% of their fish from New Zealand hoki. Despite significant evidence presented to the contrary, a spokesman for McDonald's said they placed their faith in the MSC, which had asserted the New Zealand fish sustainable (McGrath, 2016).

Fishery	Antarctic krill
Company	Aker Biomarine
Certification	MSC, 2010 and 2016
Main markets	Krill from the Aker Biomarine Antarctic krill fishery is processed into products sold mainly in the US and European markets. This includes krill-based health products, such as omega-3 supplements, as well as feed for farmed fish (MSC, 2018f). Companies selling krill supplements include Walgreens Boots Alliance ('Boots' in the UK), CVS and Target. Companies that stopped selling krill supplements following NGO campaigns are Waitrose, Sainsbury's and, most recently, Holland & Barrett (SumofUs, 2015; Taylor, 2018a).
Scandal	Krill are shrimp-like crustaceans that swarm in dense shoals and are particularly found in Antarctic waters. They are being fished for food supplements, which are claimed to help with a range of ailments - from heart disease to high blood pressure, strokes and depression. A recent analysis of the global krill industry predicted it was on course to grow 12% a year over the next three years (Taylor, 2018b). Krill play an essential role in the Antarctic food chain. They feed on marine algae and are a key source of food for whales, penguins and seals. They are also important in removing GHG from the atmosphere (Greenpeace 2018; Taylor, 2018b). Greenpeace, the ASOC and the Pew Environmental Group objected to the initial certification of this fishery, but their objections were not taken into account in MSC's decision (Greenpeace 2018). In 2015, a certification assessment report acknowledged 'there is no updated stock assessment of krill available' and a 'direct causal relationship' between climate change, krill populations and its predators (O'Connell and Kremer-Obrock, 2017). Yet, the Aker Biomarine krill fishery was re-granted MSC certification. A recent Greenpeace study provided further evidence that a combination of climate change and industrial-scale fishing is threatening the krill population, with a potentially disastrous impact on larger predators and the pristine Antarctic environment (Greenpeace, 2018; Packham, 2018). NGO campaigns for retailers to remove krill supplements from its shelves hit a stumbling block in the form of MSC certification; due to the certification, companies claimed the supplements were sustainable (SumofUs, 2015b).

Chapter 4.

Case study: Textiles

4.1. The problem

The textile industry is a heavily polluting, resource-intensive sector with a sizeable carbon footprint. Raw material sourcing, manufacturing and processing are largely located in countries with very low wages and lax environmental regulations. Supply-chain risks include labour issues, adverse environmental impacts in the supply of raw materials (such as pesticide-intensive cotton), slave-like working conditions in garment factories and the environmental impact of packaging, shipping and transportation.

Every type of textile fibre carries its own specific environmental and social problems, along with more general issues common to the supply chain as a whole. This chapter first examines sustainability initiatives designed to tackle environmental issues in the textiles sector as a whole, before taking a closer look at schemes specific to cotton and viscose. Given the sheer number of sustainability schemes used in the textile industry, we have focused on a selection of the most common and/or relevant ones; we have also focused on how they address environmental aspects, making only passing reference to social criteria.

More than 60% of the world's textiles are used for clothing (Ellen MacArthur Foundation, 2017). Demand is increasing as a result of the growth of 'fast fashion': low-cost clothing turned around quickly to mimic the latest luxury fashion trends (Joy et al., 2012, p.275), which requires rapid design and patterning and weekly delivery of new items to stores to keep consumers returning. Disposability plays a key role in fast fashion; clothing brands themselves admit it only takes ten washes before a poorly made item shows signs of wear and tear (Joy et al., 2012, p.283).

About twice as much clothing was sold in 2015 than in 2000, while the number of times a garment is worn has decreased by 36% in the past 15 years and less than 1% of the material used to produce garments is recycled into new clothing (Ellen MacArthur Foundation, 2017). Meanwhile, demand for clothing continues to grow, driven by consumers in emerging markets in Asia and Africa. If the industry were to continue on this path, by 2050 its share of the global carbon budget would rise from 2% to 26%, it would add about 22 million tonnes of microfibres to the oceans and it would consume about 300 million tonnes of oil for synthetic fibres (Ellen MacArthur Foundation, 2017).

According to the Clean Clothes Campaign, between 60 and 75 million people are employed in the textile, clothing and footwear sector worldwide - in 2000 only 20 million people were employed in the industry (Stotz and Kane, 2015).

China is by far the largest exporter of textiles; in 2014, it had a 35.6% share of the market, more than 100,000 garment-producing factories and more than 10 million people employed in the sector (WTO, 2015). The second largest is the EU (23.8% market share) and the third is India (5.8%). The largest importer is the EU (24.8%), followed by the US (8.4%) and China (6%) (WTO, 2015, p.120).

Inside a dye factory in Shaoxing, eastern China
(credit- Lu Guang/ Greenpeace)

Bangladesh's dependency on the clothing industry is particularly striking. In 2013, 80% of Bangladesh's exports were textiles, with a value of 20 billion USD (Stotz, 2015, p.1ff). The country's garment factories

are infamous for their low wages and poor working conditions – especially since the Rana Plaza incident in 2013, when a garment factory collapsed, resulting in the death of 1,134 workers. The building's owners had ignored warnings of visible cracks in the building in the months running up to the collapse.

4.2. Environmental and social impacts in the textiles supply chain

Because of the length of textile supply chains, negative impacts can occur at many stages: the growing of raw materials; the ginning of cotton and production of dissolving pulp from wood for viscose; the manufacturing of textiles through spinning and weaving; 'wet processing' (a term which covers the dyeing, printing and finishing fabric); garment assembly, packing and shipping. After retail, there are also environmental and social impacts during the use and garment disposal stages.

Usually, each step is performed at a different location, so the industry is heavily dependent on transportation. In addition, non-renewable resources such as oil are used for the production of synthetics, and considerable amounts of water and chemicals are used for growing raw materials and wet processing. Water pollution is an additional problem; dyes and chemicals are washed into rivers and water bodies surrounding production areas. Most wet-processing operations are located in less developed or developing countries, which cannot afford technology to properly treat the effluent; 20% of industrial water pollution is linked to wet processing of textiles alone (Ellen MacArthur Foundation 2017). The chemicals used in textiles production also contaminate soil, rendering it infertile in severe cases (Tobler-Rohr 2011; Sumner 2015). What is more, the complex supply chain and a pervasive lack of transparency make it difficult to hold the industry accountable for its environmental and social impacts.

Denim washing factory worker in Guangdong Province, China
(credit- Lu Guang/ Greenpeace)

4.3. Sustainability schemes for textiles

Growing consumer concern has led to a proliferation of sustainability initiatives in the textile sector, especially following high-profile NGO campaigns, such as Greenpeace's Detox campaign, which challenges clothing brands on their use of chemicals (Greenpeace, 2016).

The proliferation of voluntary initiatives in the textile sector can be overwhelming for consumers and clothing brands alike. In addition, complex production processes involving up to thousands of suppliers across the garment industry make it difficult to grasp which parts of the supply chain are covered by specific schemes and to what extent practices are being improved.

Of the more than 100 sustainability certification schemes in use in the textile industry (Ecolabel Index, 2018), this chapter provides a qualitative analysis of the best-known initiatives, highlighting the problems as well as some strengths. Some of the initiatives are not actual certification labels, but offer consultancy (Made-by, ZDHC) and self-assessment tools (such as the Higg Index) to measure sustainability. The overall aim of companies is the same, though: by signing up to sustainability initiatives, they are seeking to create a positive image for their brand.

4.4. Pan-industry schemes

4.4.1. The Higg Index

The Higg Index was developed by the Sustainable Apparel Coalition (SAC), an industry-wide group of more than 100 brands, retailers, suppliers, NGOs and non-profit organisations (Martin, 2013, p.11). SAC was founded in 2009 by Patagonia and Walmart. It claims to represent more than 40% of the apparel industry. Its website lists 75 brands and retailers as members, including Primark, Walmart, Macy's and C&A. It also counts 67 manufacturers (including Aditya Birla Group, DuPont and Lenzing) and 31 academics, affiliates, governments and NGOs (including the Better Cotton Initiative, NRDC, Fairtrade International, Solidaridad, WWF and the US Environmental Protection Agency) among its members (Sustainable Apparel Coalition, n.d.-a; n.d.-b).

Although the SAC and the Higg Index are not sustainability certification schemes, SAC's goal is to provide tools to enable brands, retailers, and facilities (factories) of all sizes to accurately measure and score a company's or product's sustainability performance (Sustainable Apparel Coalition, n.d.-c). However, brands and retailers widely use their mere participation in the Higg Index as evidence that they are committed to reducing environmental impacts in their supply chains (Target, 2018; VF Corporation, 2018).

The Higg Index's product-focused tool for comparing the sustainability of different fibres, such as viscose and cotton, is the Higg MSI (Material Sustainability Index). There are three steps to this tool:

- **Step 1:** Separating different fabrics;
- **Step 2:** Separating each fabric into different production stages;
- **Step 3:** Awarding scores for several environmental aspects, including global warming, water scarcity, chemical and fossil fuel use and depletion of oxygen in water (from fertiliser runoff, for example) (Higg MSI, n.d.).

At first glance, the approach appears quite comprehensive; for instance, identified production stages

for viscose and rayon fabric include the raw material source; yarn-formation method; textile formation; preparation, coloration and finishing. Certification status (e.g. OEKO-TEX, Fairtrade) is also noted. However, the MSI does not take the whole life-cycle assessment into consideration, leaving out end of life, and it ranks polyester as one of the more sustainable fibres (Higg MSI, n.d.) – which is surprising, given how poorly synthetics are usually rated from an environmental perspective.

The SAC has developed two more product-focused tools, the Higg Design & Development Module and the Higg Product Module, which is expected to launch at the end of 2018. Both seem to only be available to SAC members and approved brands and retailers (Sustainable Apparel Coalition, n.d.-d). Another internal tool available for brands is the Higg Brand & Retail Module (Higg BRM), which aims to help companies measure the environmental, social and labour impacts of their operations (Sustainable Apparel Coalition, n.d.-d). Assessment standards for Higg BRM are not publicly available and it is not clear whether the results are verified. The aim of the module is to share the data internally with supply-chain partners; there is no wider transparency (Sustainable Apparel Coalition, n.d.-e).

Finally, the Higg Facility Environmental Module (Higg FEM) scores production facilities according to their environmental performance. In 2017, the SAC launched Higg FEM 3.0, which focuses questions more narrowly on a facility's outputs. The Higg FEM measures environmental management systems; energy use; GHG emissions; water use; wastewater; emissions to air (if applicable); waste management, and chemical use and management. It does not assess labour and social conditions at the facilities which are addressed in a separate Higg Facility Social & Labor Module (Sustainable Apparel Coalition, n.d.-j).

There is currently no obligation for facilities to publish their results, likely resulting in a reporting bias in which only companies with good environmental performance communicate their scores. If a company does decide to share its results, its Higg Index score must be third-party verified (Sustainable Apparel Coalition, n.d.-f). It is not very clear how audits take place, nor how frequent they are.

SAC members are not required to use the Higg Index and some have used it only a handful of times (Mowbray, 2016). So far, most Higg Index results remain confidential and have not been shared with the public. According to the Higg Index Roadmap to Transparency, the aim is to finally have full public release of Higg Index scores by 2020 (Sustainable Apparel Coalition, n.d.-f); Higg FEM data is expected to be published in mid-2018 (Mowbray, 2016).

The Higg Index currently suffers from an acute lack of transparency. Although it is commendable that the Higg Index Roadmap to Transparency has set an objective of achieving 'full transparency' by 2020, how this will be implemented remains to be seen. For example, it is still unclear precisely how much data will be publicly available; one source states there will be a 'transparent release of all Higg data' (Mowbray, 2016), while the SAC website itself suggests that only company sustainability scores will be communicated to the public (Sustainable Apparel Coalition, n.d.-f). Will the Higg Index provide comprehensive data across the full range of environmental performance indicators for all its members and full information on supply chain links between brands and their factories? Will it require more frequent monitoring and reporting than current annual self-assessments? All this remains to be seen. The Higg Index is also vague about incentives and action plans to improve performance or sanctions if companies consistently fail to improve, stating: 'FEM is a roadmap for continuous improvement, not an audit. This means that it is up to you to determine how to interpret your score – there is no failing grade! If you score 4 points to start, that is okay' (Sustainable Apparel Coalition, n.d.-f).

With some companies already using their SAC membership (and participation in the Higg Index) as proof of commitment to environmental sustainability, despite the scheme's current shortcomings and the lack of clarity for consumers about what improvements companies are making across their supply chains, there is a clear risk of greenwashing.

4.4.2. MADE-BY and MODE Tracker

MADE-BY is an industry-led sustainability initiative that Dutch-based NGO Solidaridad launched in 2004. With a mission to 'make sustainable fashion common practice', MADE-BY developed a tool to evaluate environmental and social conditions in the fashion industry: the MODE Tracker. The organisation offers consultancy, stakeholder engagement and partnerships and states on its website that it works with over 100 brands and retailers. It has offices in Amsterdam, London and Düsseldorf and an expert network in China (MADE-BY, n.d.-a).

The organisation offers five consultancy packages:

1. **Detox:** To reduce the use of hazardous chemicals in products and supply chains;
2. **Sustainable Collection:** Information, manuals and workshops on issues such as air emissions, occupational health and safety and environmental policy;
3. **Cotton Options:** A package that recommends companies partner with the Better Cotton Initiative (BCI);
4. **People:** To set labour standards;
5. **Leather:** To trace the supply chain and reduce the environmental impact of production (MADE-BY, n.d.-b).

MADE-BY published its Environmental Benchmark for Fibres in 2013 (MADE-BY, 2013), and its Wet Processing Benchmark[6] in 2014, following several NGO campaigns highlighting the particularly polluting nature of the wet-processing phase in textiles production (MADE-BY, 2014).

Similarly to the Higg Index' MSI, MADE-BY's Environmental Benchmark for Fibres, compares the environmental impacts of 28 natural and man-made fibres based on six parameters: GHG emissions; human toxicity; eco-toxicity; energy input; water input; and land use. This benchmark only takes into account the production process – from the origin of the raw material to the stage at which fibres are ready to be spun – without considering impacts at the wet-processing stage or during garment assembly, distribution, use or end of life. The fibres are classified from Class A to E; Class A includes more sustainable fibres, such as recycled cotton; Class B includes Lenzing's branded lycocell ('Tencel'); while Class D includes Lenzing's 'Modal' viscose and 'bamboo viscose' (MADE-BY, 2013). The benchmark is currently undergoing a review; an updated version is scheduled for release in 2018 (Made-By, 2013b).

MADE-BY's MODE Tracker is a performance-tracking tool for brands that has been tested by more than 50 industry experts. At the time of writing, results for just six brands were publicly available on the MADE-BY website. Similarly to the Higg Index, participating brands are awarded a numeric score based on performance in eight 'cubes' (areas):

6 MADE-BY's Wet Processing Benchmark attributes different colours to chemicals to denote hazard levels: red, orange and yellow. It is based on 'selected' chemical hazard information, meaning some hazards might not be included. Furthermore, it only takes into account water and energy use, excluding the impact of effluent generated during wet processing. The stated aim of the benchmark is to provide a tool for facilities to compare their water and energy performance against industry averages, not to instruct suppliers on better processing practices (MADE-BY, 2014).

1. **Product:** Use of more sustainable materials and processing techniques;
2. **People:** Labour and human rights;
3. **Manufacturing:** Reduced or less harmful use of chemicals, water, waste and energy;
4. **Packaging and transportation;** Reducing environmental impacts from transporting and packaging products**;**
5. **Product waste;** Reducing post-consumer waste;
6. **Transparency;** Improving brand's external sustainability communication;
7. **Use and durability:** Extension of product life ('Use and Durability' cube);
8. **Own operations:** Impacts of brand-operated facilities (MADE-BY, n.d.-c).

If a brand or retailer joins MADE-BY and its MODE Tracker tool, it commits to submitting and verifying evidence for a minimum of three out of eight cubes. This means there is no obligation for them to report on key areas, such as manufacturing and transparency. After verifying the submitted data, MADE-BY assigns the brands and retailers to one of three levels per cube. However, the standards for achieving Level 1 ('Build foundation and set ambition') are fairly low and require only a minimal level of engagement. If a brand achieves a 100% score at all levels, it is considered to be the industry leader, or 'Pioneer'. MADE-BY updates the requirements for achieving different levels annually, but states that these updates mainly concern Level 3, not the levels below (MADE-BY, n.d.-c).

The lack of obligatory reporting once a company becomes a member makes the initiative and its tool quite weak, even though it covers all parts of the supply chain. As a result, only one out of the six brands that have made their results public has decided to report on all eight cubes. MADE-BY (n.d.-c) states it is committed to 'robust and independent evidence-based verification' based on a brand's existing data and documents, rather than requiring completion of specific surveys or creation of new documents. The website does not provide details about how and how often verification takes place, or the specifics of how scores are weighted.

Brands will not be awarded a score 'if the brand has not carried out activities in line with the framework' (MADE-BY, n.d.-c). However, because of the minimal reporting requirements, it is impossible to obtain a detailed understanding of the brands' performance. As MADE-BY currently does not have any public commitment to improving these elements, our conclusion is that membership is insufficient proof of sustainability.

4.4.3. OEKO-TEX

OEKO-TEX is a union of 18 independent textile-testing and research institutes. It comprises seven certification schemes and services:

- **STANDARD 100:** for finished textile products;
- **MADE IN GREEN** and **LEATHER STANDARD:** product labels;
- **STeP** and **DETOX TO ZERO**: for production facilities;
- **ECO PASSPORT:** for textile chemical suppliers;
- **MySTeP:** a supply chain database for brands, retailers and manufacturers (OEKO-TEX, n.d.-a).

To qualify for the OEKO-TEX Standard 100 label, one of OEKO-TEX's member institutes must test the textile products for the presence of harmful substances. The Standard 100 label can be issued for textile products from all stages of production (yarns; fabrics; dyed or finished materials; accessories), as well as for all kinds of finished products (baby textiles; garments; home textiles; decorative furnishings). Certification is only possible if all components of an end product comply with the required criteria, including accessory parts such as buttons, zips, linings and fasteners in addition to the outer material and the sewing threads, or prints and coatings. Limit values for harmful substances, including substances that are not legally regulated, are available in online catalogues; these include banned azo dyes and carcinogenic and allergy-inducing colourants and pesticides. The label only covers chemical residues present in the end product; it does not consider exposure to harmful substances during the production process. It must be renewed every year through testing, but after it has been renewed twice, a reduced testing procedure applies (OEKO-TEX, n.d.-a; 2018a, p.12).

OEKO-TEX states that its STeP ('Sustainable Textile Production') certification system covers production facilities 'at all processing stages of the textile chain' (textile production; spinning mills; weaving mills; knitting mills; finishing facilities; manufacturers of ready-made textile items) (OEKO-TEX, 2018b). As part of STeP, OEKO-TEX also offers a 'DETOX TO ZERO' module, which enables manufacturers in the textile chain to assess the status of their chemical-management systems and the quality of their waste water and sludge and to have these documented through independent verification. The result of DETOX TO ZERO is a status report that OEKO-TEX states can confirm compliance with the Detox campaign from Greenpeace (OEKO-TEX, 2018d).

While at first glance STeP appears to cover impacts across the entire textile production chain, a closer look reveals gaps. Taking viscose as an example, STeP has a questionable approach to covering all stages of viscose fibre manufacturing, such as 'xanthation' – the treatment of dissolving pulp with the harmful carbon disulphide (CS_2). It is not possible to produce viscose without CS2 using current technology. However, the latest two versions of STeP Manufacturing Restricted Substances List (MRSL) explicitly ban the intentional use of CS2. The 2017 standard at the same time provides exclusion criteria which stipulate that "[c]hemicals mentioned in this MRSL which cannot be eliminated from processes or substituted due to current technology may be used as long as no substitution product is available, provided that all efforts are made to minimise exposure of workers and environment and residues in the produced article" (OEKO-TEX, 2017, p. 68).[7]

STeP requires this to be described and documented by a relevant authority, without making further requirements on how the chemical needs to be managed or limited (OEKO-TEX, 2018b). This has enabled viscose producers, such as Chinese viscose producer Sateri (for its Fujian facility), to be certified by SteP and MADE IN GREEN labels in 2017 (Oeko-Tex, n.d.-c), without having to exclude CS2 from their operation or even setting limit values on this dangerous chemical (OEKO-TEX, 2018e, p.68). It also demonstrates that STeP does not really apply to all stages of production and that its MRSL is not uniformly driving ambition towards better chemical management. Our own research (Changing Markets, 2018) shows that CS2 could instead be managed in a closed-loop production process, in line with EU Best Available Techniques (BAT),[8] which OEKO-TEX does not address. Nor does STeP seem to cover raw material sourcing; it merely vaguely stipulates that: 'When sourcing raw materials, such as fibres, companies should make sure to source only from suppliers that can prove they work responsibly and sustainably' (OEKO-TEX, 2018b, p.49).

A STeP label is not meant to be displayed on products; rather, it is for use in business-to-business communication. Applicant companies fill out a questionnaire, which an OEKO-TEX certifier audits at the production site. The questionnaire contains six modules:

7 The 2018 edition of STeP standard appears even less strict than the 2017 edition: it does not apply exclusion criteria only to chemicals that 'cannot' be eliminated or substituted but more broadly stipulates that if "chemicals mentioned in the MRSL of STeP by OEKOTEX® are used in the facility, any exposure of workers and environment to these chemicals is not permitted" (OEKO-TEX, 2018B, p.130).

8 The EU Best Available Techniques Reference Document on the Production of Polymers (2007) defines the most effective techniques for achieving a high general level of environmental protection in the production of polymeric materials, such as synthetics and cellulose-based fibres (e.g. viscose). Based on an exchange of information between EU Member States and the industry, it defines emission limits that reflect best available techniques (European Commission, 2007).

1. **Chemical management**;
2. **Environmental performance**;
3. **Environmental management**;
4. **Social responsibility**;
5. **Quality management**;
6. **Occupational health and safety**.

If the application is successful, the company can then use the label for a period of three years. A STeP certificate is attributed to the company following web-based and onsite audit. Verification is carried out through an audit of the production facility by the OEKO-TEX institute in charge.

OEKO-TEX also offers an option for companies to be assessed for internal purposes as a basis for improvement, the results of which are only used for internal communication (OEKO-TEX, 2018b).

STeP certification encompasses three different levels describing the extent to which the company has achieved sustainable production and working conditions:

- **Level 1:** Entry level;
- **Level 2:** Good implementation with further optimisation potential;
- **Level 3:** Exemplary implementation in the sense of a best practice example.

The STeP certificate shows the following scoring results:

- sustainability level achieved;
- overall evaluation;
- individual evaluation of the analysed company areas.

MADE IN GREEN is a traceable product label for different textile goods (e.g. yarn, fabric, garment), which must be Standard 100 certified (i.e. free of harmful chemicals) and produced by STeP-certified facilities (i.e. environmentally safe and socially responsible workplaces). MADE IN GREEN certification is open to all companies in the supply chain, from manufacturers and traders to brands and retailers. The label is awarded for a period of one year and must then be issued again. Each item with the MADE IN GREEN label features a unique product ID and/or QR code,[9] allowing consumers to trace how the article was produced and including details on the various stages of production, as well as the countries in which textiles were manufactured (OEKO-TEX, 2018c).

While the OEKO-TEX website is not user-friendly, it does contain a wealth of information. The multiple-level certification system addresses many challenges in the textile supply chain but may lead to some confusion for consumers. OEKO-TEX Standard 100, which only guarantees that no harmful chemicals remain in finished products, may be wrongly leading consumers to the conclusion that products carrying the label were produced sustainably. For German speakers in particular, the name 'OEKO-TEX' may lead to the conclusion that the certified products are organic *(Öko)*. However, the OEKO-TEX Standard 100 does not state anything about the use of GM crops, pesticides or organic cotton; indeed, it does not guarantee organic content at all.

9 Quick Response Code is a readable bar code used to provide access to information.

The STeP and MADE IN GREEN certification system could also easily provide the consumer with the misleading impression that a certified company is sustainable overall. For example, a textile manufacturer may only have one stage of the process or one factory certified, while performing poorly in the next one.

4.4.4. Zero Discharge of Hazardous Chemicals (ZDHC)

Ø ZDHC

The stated aim of the ZDHC initiative - which is not a certification regime or a standard - is to eliminate hazardous chemicals from the textile, leather and footwear industries by 2020. ZDHC was founded by six brands in 2011 as an industry response to the Greenpeace Detox campaign (ZDHC, 2015a). Today, it has 92 members, among which 24 brand members include Adidas, Levi Strauss, H&M, United Colors of Benetton and Gap Inc. Associate contributors include the SAC, OEKO-TEX, the C&A Foundation, the China Textile Information Center and many others (ZDHC, 2018).

The ZDHC Programme has developed a collective MRSL, which restricts hazardous substances potentially used and discharged into the environment during manufacturing (ZDHC, 2015b). In 2016, the Programme also released wastewater guidelines that provide a set of unified wastewater parameters, limit values and test methods (ZDHC, 2016). These only apply to industrial wastewater discharge and sludge produced from wet-processing facilities; wastewater discharge from raw material production (e.g. cotton cultivation), leather processing, polymer production and other stages remains out of scope. Wastewater is supposed to be tested and ZDHC member brands are allowed to publish the results, but publishing does not appear to be mandatory (ZDHC, 2016).

ZDHC developed the MRSL, which is "a list of chemical substances banned from intentional use in facilities that process textile materials, synthetic leather, leather, and trim parts in textiles and footwear" (ZDHC, 2017). MRSL compliance can be achieved at four levels (levels 0 to 3). Depending on the level, the reviewing process ranges from self-declaration to a third-party documentation review or a site visit. Self-declaration is valid for two years; subsequently, third-party verification must be undertaken (ZDHC, n.d.). Although the MRSL does not yet apply to the production of fibre, ZDHC recently began a pilot project to address chemicals used in viscose manufacturing. At the time of writing this report, the timeline and level of ambition of this project had not yet been made public. The Changing Markets Foundation has urged brands (and ZDHC) to move towards closed loop production to ensure that no pollution is released from the use of hazardous chemicals in viscose manufacturing process.

Greenpeace has criticised the ZDHC MRSL for its limited scope (in terms of the number of chemicals it covers), as well as its lack of a fully hazard-based approach; it excludes some chemicals from the list that are flagged by GreenScreen, a globally recognised tool for identifying hazardous chemicals and safer alternatives (Greenpeace, 2016). Greenpeace's Detox list includes about 400 chemicals; ZDHC's only about 200 (Barrie, 2016). However, there are some new ZDHC tools and developments that are now beginning to address these concerns.

Greenpeace also points out that the more ambitious brands have developed their own stricter MRSL, while the others rely on the ZDHC list (Barrie, 2016). For example, while H&M explicitly bans chlorinated bleaching chemicals, ZDHC only refers to 'no intentional use' and even allows the use of small amounts (H&M, 2016). Kirsten Brodde – head of the Greenpeace Detox campaign, which evaluates companies' performance towards eliminating hazardous chemicals across their supply chains – points out that, while the three highest-scoring brands in the Greenpeace Detox ranking are members of ZDHC, several low-scoring Detox brands are also part of it, which suggests that ambition is being driven by individual companies rather than by the ZDHC initiative (Barrie, 2016).

It is therefore questionable whether ZDHC is actively driving transformation across the apparel industry. While it claims to be 'leading the textile, leather and footwear industries towards zero discharge of hazardous chemicals' (ZDHC, 2018a), it is actually taking a significantly less ambitious approach than the leading brands. The high-scoring companies, such as H&M and Inditex, have shown that a more ambitious approach to chemical management is possible. ZDHC should be setting the bar high from the outset, reflecting best available technology and tracking the approach of industry pioneers.

BOX 4.1: EU Ecolabel for viscose: A good scheme in need of an update

The EU Ecolabel was launched in 1992 as a voluntary scheme to promote the production and consumption of products with a reduced environmental impact (European Commission, 2017a). It is regulated through Regulation No. 66/2010 of the European Parliament and Council and managed by the EC. Results are third-party verified (European Commission, 2018b). According to the environmental NGO EEB, the idea behind the EU Ecolabel is to go beyond legislation, driving sustainable consumption by identifying the top 10–20% of the most environmentally friendly products within their category (EEB, 2018).

The EU Ecolabel currently covers about 54,000 products and services (European Commission, 2018c) and takes into account the whole life cycle of a product. It covers a wide range of different product types, ranging from household products to cosmetics and textiles. The criteria are developed through a multi-stakeholder process involving governments, NGOs and companies, and adopted by the EC. Every four years or so, the criteria are revised to reflect technological advances and, by raising the bar for eligible products, improve environmental performance (Official Journal of the European Union, 2010; European Commission, 2017b).

Any company that sells products within the European Economic Area can apply for the EU Ecolabel, whether or not it is based in the EU (European Commission, 2017b). As such, it can also serve as a benchmark for non-EU producers.

While the provisions of the EU Ecolabel set higher ambition and transparency than most schemes, the devil lies in the detail. Taking the example of viscose, the Ecolabel should include all stages of production: deforestation and illegal logging, dissolving of pulp, viscose fibre manufacturing and wet processing. On wood sourcing, standards are fairly low; only 25% of pulp fibres are required to be made from wood grown according to the UN FAO's principles of sustainable forestry management. The rest can come from any legal forestry or plantations (European Commission, 2017b).

On pulp production, the label states that at least half the pulp used should come from mills that generate electricity and steam onsite,[10] and bans the use of chlorine bleaching. On fibre production, it only limits sulphur emissions into the air – and even then, sets less ambitious levels than those defined by the EU Reference Document on BAT in the Production of Polymers (European Commission, 2007). This is confusing; given that the EU Ecolabel covers the top-performing products on the market, it should, in principle, be broadly aligned with the EU BAT levels.11 Unlike the EU BAT Reference Document, the EU Ecolabel does not set limits on emissions to water; these were dropped during the revision process in 2013 'to minimise the number of criteri[a]' (Dodd et al., 2013). Hence, the EU Ecolabel also lags behind other European national ecolabels, such as the Blue Angel (Germany), Bra Miljöval (Sweden) and Nordic Swan, which cover emissions to water.

The fact that in some aspects the EU Ecolabel for viscose is less ambitious than the EU BAT, which were set over ten years ago, shows it is in urgent need of an update. The revision must take into account existing criteria defined by EU Member State labelling schemes and incorporate all relevant pollution parameters. At a minimum, the EU Ecolabel should set ambition levels in line with the current EU BAT, or further align with technological advances over the last decade to capture the most sustainably produced 10–20% of viscose production.

10 The Commission states: 'a minimum of 50% of the pulp used to manufacture fibres shall be purchased from dissolving pulp mills that recover value from their spent process liquors either by: (i) Generating on-site electricity and steam (ii) Manufacturing chemical co-products' (European Commission, 2014, p.56).

11 The European Commission statement accompanying the last Ecolabel criteria revision made specific reference to opportunities to reflect BAT limit values (Dodd et al., 2013).

The assessment and verification requirements of the EU Ecolabel are based on self-assessment and laboratory testing to assess chemical management, fibre criteria[12] and the product's fitness for use. All verification processes include providing documentation, analyses, test reports, safety data sheets, and other evidence relating to products in the supply chain. Also, where appropriate, competent bodies may carry out controls and site visits. However, some NGOs question how rigorous the verification process is; the Clean Clothes Campaign complains that a written statement by a company can sometimes replace controls (Dodd et al., 2013, p.49).

While the EU Ecolabel is a step into the right direction and, unlike many other schemes, seeks to address environmental impacts throughout the supply chain, each individual product label has to be judged on its own merits. The EC should revise the Ecolabel criteria for viscose so that they are stricter and truly reflect all the parameters relevant to viscose production.

4.5. Environmental impacts in cotton and viscose production

The following section focuses on schemes and labels covering cotton and viscose. Unlike synthetics, neither of these fibres is inherently unsustainable; however, when produced irresponsibly they cause considerable environmental and social harm. None of the schemes examined here addresses these impacts in full; indeed, some even appear to be actively hindering more sustainable behaviour.

4.5.1. Cotton

The biggest cotton production areas are in China; the US; Pakistan; India; Brazil, Uzbekistan and Turkey (Tobler-Rohr, 2011, p.49). In 1960, the market share of cotton was almost 70%, but it has dropped to about 30% in recent years (Hughes, 2017).

Cotton cultivation consumes substantial amounts of chemicals and water, yet it is generally grown in areas where water is scarce (Tobler-Rohr, 2011, p.49; Sumner, 2015, p.207f). What is more, fertile agricultural land that could be used for food crops is often used for cotton in densely populated countries (Hämmerle 2011, p.18) such as India and Pakistan. 75% of the global cotton crop in 2015 was genetically modified (Royal Society, 2018). GM cotton gives rise to many concerns, including possible loss of biodiversity and wildlife, as studies have shown that GM cotton fields have fewer bees, beetles and other insects.

The heavy use of fertilisers, pesticides, insecticides and fungicides in cotton cultivation has poisoned land and water. In addition, cotton workers and people living or spending time near growing areas are exposed to harmful chemicals through inhalation and skin contact; heavy use of agricultural chemicals has taken a toll on farmers' physical and mental health. Pesticides in the soil can also taint food produced in the area, and cows grazing on contaminated grass can produce milk with higher levels of pesticides. The chemicals also affect wildlife (birds, fish, insects) and plants (WHO, 1990, p.61).

The state of the Ganges river in India offers a cautionary tale about the impacts of uncontrolled pesticide and insecticide use. Flowing through one of the most densely populated regions in the world, it is heavily polluted by pesticides, fertilisers and effluents (Aktar et al., 2009). The extensive use of herbicides for herbicide-tolerant cotton (a variant of GM cotton) has led to the pollution of the soil, groundwater

12 i.e. the complete material composition of the product(s), identifying and showing compliance for textile fibres, components and accessories.

and rivers and had detrimental effects on wildlife there. Monocultures and toxic pesticides have also rendered much of the soil in the river valley infertile.

The socioeconomic impacts of cotton production are well-documented: In many countries, farmers get into debt to pay for expensive GM seeds, pesticides and fertilisers sold by multinational corporations; if the crops do not deliver as promised, the indebted farmers risk losing their land (Shiva, 2013). As in other agricultural sectors, suicide has taken a heavy toll on cotton farmers in despair over the amount of debt they are in (Pokharel, 2015). Nearly 300,000 farmers in India are reported to have committed suicide between 1995 and 2013 (Sainath, 2014).

Organically grown cotton is still a niche crop. In the 1990s, less than 1% of cotton was certified organic (Gallaway, 1994; Tobler-Rohr, 2011, p.58) – a figure that remains roughly the same today. According to the International Trade Centre, organic cotton represented 1% of the global cotton area (more than 350,000 hectares) in 2014–2015 (ITC, 2017). In 2014, there were approximately 148,000 organic cotton farmers in the world (Organic Trade Association 2015).

4.5.2. Viscose

The current market share of viscose fibre is about 7% – relatively small compared to cotton or polyester – but market trends indicate viscose production will grow over the coming years. China more than doubled its viscose fibre production from 2007 to 2013 (WFN, 2017, p.9) and is the biggest viscose-producing country today, followed by India and Indonesia.

Viscose is manufactured from wood pulp: a naturally-occurring, cellulose-based raw material. Along with other cellulosic fibres, viscose is responsible for deforestation and illegal forestry, leading to the logging of more than 150 million trees each year (Canopy Planet, 2015). This has particularly affected Indonesia, one of the largest wood-for-pulp producers; in Sumatra, natural forests have been destroyed to make way for monocultures such as eucalyptus, which is used for viscose production (WFN, 2017, p.10). Destruction of ancient forests contributes to climate change and has dramatically impacted biodiversity, including endangered species such as the Sumatran tiger and orangutans.

River water next to a discharge pipe from a viscose factory owned by Aditya Birla is seen visibly steaming in Indonesia

Deforestation is also taking a toll on Indigenous peoples and local communities, undermining their land rights and often fostering conflicts. The production of viscose requires a range of toxic chemicals, such as CS_2 and hydrochloric acid. If these chemicals are not treated and disposed of responsibly they can have devastating impacts on factory workers, communities living in the vicinity of production sites and the environment. During the manufacturing process, workers are exposed to chemicals and the risk of workplace accidents, such as explosions or leakages. Exposure to CS2, for example – a harmful chemical key to viscose production – has been linked to serious health issues among factory workers, including Parkinsonism, heart attack and stroke. Pollutants characteristically found in wastewater from viscose production present a high hazard for aquatic life, meaning that a single exposure incident can result in severe biological harm or death to fish or other aquatic organisms. This severely impacts both wildlife and local communities' ability to access clean drinking water and earn a living from activities such as fishing or aquaculture (Changing Markets, 2017). The production of viscose can also be very energy-intensive, which is especially problematic if the energy comes from non-renewable sources.

4.6. Cotton: Is a weak scheme undermining a stronger one?

4.6.1. Better Cotton Initiative (BCI)

The BCI sustainability certification scheme was created through a series of WWF-led 'round tables' that convened world experts on different commodities throughout 2005. Its genesis was supported by organisations including Adidas; Gap Inc.; H&M; IKEA; Organic Exchange, Oxfam and PAN UK (Better Cotton Initiative, n.d.). It is an associate member of the ISEAL Alliance and earns income from a variety of sources, including donations and grants from private and public funders (such as WWF) and government ministries, as well as fees from brands.

The BCI has undergone very rapid expansion since its creation. Between 2011 and 2015, the 'certified area' for BCI cotton expanded almost ninefold, growing by 38% between 2014 and 2015 alone. In total, it certified over 2.2 million hectares worldwide in 2015, representing 0.05% of the global agricultural area and almost 7% of the global cotton area. Over 800,000 producers participated in BCI programmes, and 2 million metric tonnes of cotton lint were produced in 2015. The BCI aims to capture 30% of the global cotton market by 2020. According to a 2017 report by the UN's International Trade Centre, the rapid growth of the BCI programme is 'largely due to its less stringent requirements' than other standards (ITC, 2017, p.16).

WWF states on its website that (in August 2016) '12.5% of global cotton is Better Cotton/organic' (WWF, 2017), which may lead consumers to believe that sustainability based on a BCI label is equivalent to organic cotton. Although WWF acknowledges that cotton is the highest user of pesticides globally (linked to thousands of deaths by pesticide poisoning every year) and is associated with child labour, soil degradation and numerous other negative effects, BCI does not forbid the use of hazardous pesticides, artificial fertilisers or GM cotton.

At the time of writing, BCI had 1,213 members. The 81 retailers and brands certified by BCI include Adidas; Benetton; H&M; Nike; Target, IKEA and Levi Strauss (Better Cotton Initiative, n.d.-a). The criteria for BCI-certified cotton are based on six pillars:

1. **Minimising the harmful impact of crop protection by restricting the use of pesticides:** The use of pesticides is allowed, except for substances listed in annexes A and B of the Stockholm Convention. People applying the pesticides have to be 18 or older, not pregnant or nursing and not ill, and they should use 'appropriate protective and safety equipment' (BCI, 2013). BCI is 'technology neutral' in regard to GM cotton (as it is a 'mainstream initiative') and it works with all farmers (BCI, 2013a, p.5).
2. **Water efficiency**.
3. **Soil health:** Although it makes no negative statements about the use of chemicals to maintain soil.
4. **Conservation of natural habitats:** Requiring nothing more than complying with national laws.
5. **Fibre quality:** A rather vague concept, which requires the adoption of 'management

practices to maximise the fibre quality' and for farmers to harvest, manage and store seed cotton in a way that minimises 'trash, contamination and damage' (Better Cotton Initiative, 2013a).

6. **Decent work:** With weak and imprecise requirements that are easy to circumvent.

Before receiving a license to grow 'Better Cotton', farmers must comply with a set of minimum requirements, which include production criteria, management criteria and reporting on the results. Farmers are then encouraged to improve; according to BCI's Assurance Programme, the higher the improvement score, the longer the licence (Better Cotton Initiative, 2018a).

Membership ends if the company becomes insolvent, resigns or is expelled. An expulsion can occur if 'the member no longer meets the definition specified for the member's membership category' (Better Cotton Initiative, 2013b). But the BCI only makes regular checks on the minimum requirements, not higher levels, which shows that the scheme is not driving continuous improvements.

In general, the standards for BCI-certified cotton are low and apply only to the beginning of the cotton supply chain. To tout the BCI certificate as a guarantee of sustainability is misleading; BCI certification only means 'better' if non-certified farms do not meet any international or national regulations and laws at all. The scheme does not encourage the uptake of organic cotton.

Cotton farmers in India growing GE cotton. The use of genetically modified cotton is not prohibited by BCI *(Peter Caton/ Greenpeace)*

A revised BCI standard was announced in March 2018. The updated principles and criteria are supposed to improve standards on pesticide usage, water stewardship and equal pay, but do not seem to be publicly available yet. On pesticide use, a BCI statement from March 2018 announces a 'reinforced approach towards pesticide use and restriction' (Better Cotton Initiative, 2018b), including by phasing out highly hazardous pesticides and banning pesticides listed in the Rotterdam Convention. The use of minimum personal protective equipment when applying pesticides has also been integrated into the standard (Better Cotton Initiative, 2018b).

The Clean Clothes Campaign has criticised the BCI certification scheme because it makes no commitment to organic cotton or minimum prices for cotton producers. The focus seems to be on gathering as many members as possible without raising the bar.

BCI might have also played a role in the decline of organic (and non-GM) cotton in recent years. In 2017, an investigation by the French broadcaster France 2 (Lucet, 2017) reported that the growth of BCI cotton had come at the expense of organic cotton. This would be regrettable, as it would reduce the potential impact of a much stronger certification scheme, discussed next.

4.6.2. Global Organic Textile Standard (GOTS)

The GOTS certification scheme, established in 2006, comprises four member organisations: IVN (Germany), the Organic Trade Association (USA), Japan Organic Cotton Association (Japan) and the Soil Association (UK). It works with other international stakeholder organisations and experts on organic farming and environmentally and socially responsible textile processing. The standard focuses on the organic production of natural fibres and excludes GM cotton. Certifiers are from both GOTS itself and other organisations (GOTS, n.d.-a).

The GOTS lists 2,788 certified companies, but this does not mean a company's entire product range is covered; some products might qualify and others not. Companies that produce both GOTS-certified and non-GOTS-certified cotton include Aditya Birla Fashion and Retail Limited (GOTS, n.d.-c). GOTS certifies products as either 'organic' or as 'made with [X]% organic materials'; a product with the GOTS 'organic' label has to consist of at least 95% certified organic fibres, and product labelled 'made with organic' at least 70% (GOTS, 2017).

GOTS environmental criteria cover additional parts of the supply chain – production, processing and manufacturing – and are compulsory. The social criteria apply to the processing, manufacturing and trading stages. At all processing stages of GOTS-certified products, the use of GM crops, heavy metals and various other chemicals is prohibited. The list is explicit and not open to interpretation.

All chemicals used must first be signed off by a GOTS-approved certifier. Throughout all stages of the supply chain, organic and conventional fibres may not be mixed. Specific requirements for spinning, wet processing and other stages must be followed. During processing and manufacturing, national and local binding environmental requirements apply; all companies must write a report on these matters, including target goals and procedures to reduce energy and water consumption and minimise waste. During the wet-processing stage, full records on chemical use, energy, water consumption and wastewater treatment must be kept. Wastewater is subject to local legal requirements and 'must be treated in an internal or external functional wastewater treatment plant before [being] discharged to [the] environment' (GOTS, 2017).

When it comes to ecological requirements, GOTS has one of the highest standards among sustainability certification schemes. A GOTS label means all processing until the final product is GOTS-certified. As an example, cotton yarn can display the label if it has been GOTS-certified, but if that same yarn is used to weave a fabric in a non-certified facility, the final product cannot display the GOTS label.

Compared with other schemes, GOTS certification is strict regarding surveillance of its criteria. At every stage of the supply chain, onsite checks are carried out by annually testing institutes that GOTS approves. Unannounced checks are made, especially in cases where a risk has been identified.

The GOTS website is informative and clear. Its certification scheme has a clearly environmental purpose. Concerns have been raised, however, about the scheme's lack of commitment to a living wage (Ratzesberger, 2012); it also has very weak social standards for the production of the raw material (its social criteria only apply to processing). In addition, GOTS guidelines only exclude fibres that originate from production projects for which there is 'evidence of a persistent pattern of gross violations of the ILO core labour norms … and/or of animal welfare principles or irrefutable evidence of a persistent pattern of land grabbing methods' (GOTS, 2017, italics added). This is too weak.

4.6.3. BCI vs. GOTS

The extremely rapid growth of the BCI, in spite of its clear shortcomings, raises serious concerns about the future of sustainable cotton. With its support for GM cotton and tolerance of pesticide use, the BCI is failing to promote cotton that is truly better for the environment and to protect the health of cotton growers. In fact, it appears to be crowding out and restricting the growth potential of more sustainable schemes, such as GOTS, and there is a real risk the organic cotton market could suffer as a result.

For the BCI to deliver on its promise to promote the production of genuinely better cotton, it would have to begin by making a commitment to organic cotton production, explicitly prohibiting the use of GM crops and establishing a timetable for the complete phase-out of toxic pesticides and fertilisers in global cotton supply chains. In the absence of these changes, it is likely to lead to greenwashing on an industrial scale. Serious reform would be required for it to deliver on its promise; in its current state, it appears unreformable and should be scrapped.

4.7. Viscose: A helpful but partial scheme

The not-for-profit environmental organisation Canopy was established in 1999 to protect the world's forests (originally named Markets Initiative, it was renamed Canopy in 2009). In 2013, the CanopyStyle campaign was launched, focusing on preventing the logging of ancient forests for clothing (Canopy, n.d.-a). CanopyStyle is the only sustainability initiative that focuses on the pulp industry for the production of cellulose-based fibre, such as rayon, viscose and lyocell (Canopy, n.d.-b).

For its Fashion Loved by Forest campaign, Canopy collaborates with more than 750 companies (Repas, 2018) and has 125 brand partners (Wright, 2018), including H&M, Inditex, Levi Strauss, Marks and Spencer and VF Corporation (Canopy, n.d.-b). A handful of brands (including Eileen Fisher, Stella McCartney and Patagonia) are listed as 'leaders' and 'visionaries', indicating that it distinguishes between brands based on their performance (although this is not written explicitly). Global ecological hotspots listed on Canopy's website are the tropical forests of Indonesia, forests of the North American west coast, Canada's Boreal Forests and Brazil's Amazon Rainforests (Canopy, n.d.-c).

Canopy does not certify products, but its annual *The Hot Button Issue* report ranks viscose manufacturers according to their effect on ancient and endangered forests. The report is based on a range of assessment criteria (seven categories and several subcategories), including adoption of a robust forest sourcing policy, traceability and transparency, innovation and completion of third-party verification audits. The CanopyStyle Audit is conducted by auditors from the RA's certification division (Repas, 2017).

In the case of sourcing from ancient, endangered and other controversial forests, negative buttons are awarded (Canopy, 2017, p.3). Particularly poor performers (such as Aoyang Technology, one of China's largest viscose staple fibre producers) are highlighted and suggestions for improvement are made. However, from its website (Canopy, 2017) it is not clear what steps the clothing brands that are also part of Canopy are expected to take as a result of this evaluation. Canopy also has no requirement for brands to be transparent about which producers they are buying from.

While Canopy is not a sustainability label, it promotes the Forest Stewardship Council (FSC) label as the more sustainable choice for the sourcing of wood, compared to the Sustainable Forest Initiative or the PEFC, which it views as lacking credibility (Canopy, n.d.-d). Its Hot Button Issue reports for 2016 and 2017 (Canopy, 2016a, 2017) stipulate that a robust viscose-sourcing policy for evaluated producers means giving preference to fibre sourced from forests certified by the FSC. Canopy's opinion regarding the PEFC is shared by other environmental NGOs, including Greenpeace, which believes PEFC 'does not … have the ability to ensure responsible forest management' (Greenpeace, 2014). In March 2018, Greenpeace also withdrew its support for the FSC, stating: 'we no longer have confidence that FSC alone can consistently guarantee enough protection, especially when forests are facing multiple threats' (Greenpeace, 2018).

In September 2016, Canopy released a revised version of the CanopyStyle Audit Guidelines and Verification Framework to keep textiles free of wood from ancient and endangered forests (Canopy, 2016b). Sourcing from ancient and endangered forests, peatlands, HCS forests, Intact Forest Landscapes and other HCV areas, as well as illegal deforestation, are all off-limits (Canopy, 2016b). Man-made fibre producers are evaluated according to four criteria: commitment met, commitment in progress, commitment not met and insufficient information available (Canopy, 2016b, p.14). In addition to these criteria, Canopy's guidelines prohibit violations against the rights of Indigenous peoples, communities and workers, and ask companies to develop innovative and alternative fibres from agricultural residues (Canopy, 2016b, pp.2–14).

Canopy's criteria and audits do not address the use of chemicals in the production of viscose. It states clearly that the verification process will not address the 'process which can lead to air and water emissions that impact overall environmental quality' (Canopy, 2016b, p.14). This is problematic, as the production of viscose fibre and dissolving pulp use large amounts of harmful chemicals and evaluating viscose producers on just one part of the supply chain may give an unrealistic image of their performance, as demonstrated in Box 4.2.

BOX 4.2: **Aditya Birla Group (ABG): Green claims lack substance**

ABG is a global corporation with a market value of 50 billion USD. Headquartered in Mumbai, it is one of India's largest conglomerates; it owns over 40 subsidiaries operating in a wide range of industrial sectors, including aluminium; cement; power generation; telecommunications, financial services and textiles.

The group is the world's leading producer of viscose and has factories located across Asia. Birla also owns factories in Europe – notably Sweden's Domsjö, a speciality pulp and bio-refinery company that it acquired in April 2011. The group's Pulp and Fibre business is spread over eight countries and covers the entire viscose value chain, including plantations; the production of dissolving grade wood pulp; chemicals such as CS_2 and caustic soda; power generation, viscose fibre production and final consumer products (Birla Cellulose, 2018a).

In addition to being the world's biggest producer of viscose, ABG aims to become 'the leading Indian conglomerate for sustainable business practices across its global operations' (Birla, 2016). In November 2017, Canopy ranked it number one globally for its work on conserving ancient and endangered forests in the sourcing of wood pulp, placing it ahead of ten other producers that represented roughly three-quarters of global viscose production (Aditya Birla Group, 2017). In reaction, Birla released a press release stating: 'We are proud of the global industry leading ranking of Birla Cellulose and thank Canopy for acknowledging our sustainability efforts from forest to fashion. This reinforces our belief that sustainability is core to our business strategy' (Aditya Birla Group, 2017).

ABG displays membership of numerous standards and sustainability certification schemes, actively using them as a selling point with customers. These include OEKO-TEX certification for multiple plants operated by ABG's Grasim Industries subsidiary (Grasim Industries, 2017), and other Birla facilities and products (Aditya Birla Chemicals, 2018; Birla Cellulose, n.d.).

Despite this display of 'green credentials', our recent *Dirty Fashion* and *Dirty Fashion: Revisited* reports (Changing Markets et al., 2017, 2018) shone a light on the environmental damage caused by irresponsible production practices at ABG viscose plants in India (Grasim Industries in Nagda) and Indonesia (PT Indo Bharat Rayon in West Java) and described how pollution there was blighting lives and destroying livelihoods. Following this, ABG started engaging with the Changing Markets Foundation and published its first plan to address pollution in viscose manufacturing (Aditya Birla Group, 2018b). It remains to be seen how ambitious the company's final plan will be and whether it will align with the most comprehensive standard on viscose production: the EU BAT.

Discharge pipe with IBR factory in the background owned by Aditya Birla.

4.8. What can the textile sector learn from the failings and successes of voluntary initiatives and certification schemes?

As this analysis has shown, while there is a bewildering array of sustainability initiatives and certification schemes to choose from within the textile industry, there is currently no single scheme or label that ensures transparent, traceable and reliably high standards at every stage of the supply chain. However, sustainability schemes and voluntary initiatives in the textile industry have not been subject to the same level of critique and public scrutiny as in the palm oil and fisheries sectors. In many cases, companies have successfully managed to avoid individual responsibility by arguing for an 'industry-based approach'; the argument often goes that brands cannot create systemic solutions on their own but should help pay for them on an industry level (Hable, 2017). Even the most progressive brands – which, in principle, would stand to benefit from schemes that reward high achievers or legislation to level the playing field – often favour such industry-wide sustainability initiatives and weak self-regulation. The problem of this approach is that it enables free-riders – companies that sign up to these initiatives without actually doing anything. Transparency in the sector still seems to be optional; only the most progressive companies make their suppliers public, and even fewer are willing to report on their environmental performance.

For example, brands and retailers widely cite the SAC's Higg Index as a key policy for improving environmental performance in their supply chains. However, it is impossible to measure how being part of the SAC and using the Higg Index has improved the environmental performance of individual brands, because reporting on performance has so far been purely voluntary and results kept out of the public gaze. Even the full module of the latest Higg Facility Environmental Module (Higg FEM 3.0) is not available to SAC non-members, which makes it difficult to understand how production facilities are evaluated. There is a clear disconnect between the lack of publicly available data and the fact that a significant number of SAC's 200 global member companies refer to their use of the Higg Index in CSR communications and marketing to demonstrate their green credentials. This is all the more striking in light of the Higg Index being optional; being a SAC member does not create an obligation to adopt it. Although the SAC has committed to full transparency by 2020, it remains to be seen how thorough reporting will be.

The SAC has also received assistance from ZDHC in developing the chemicals assessment sections of the Higg FEM (Sustainable Apparel Coalition, n.d.-i), which Greenpeace has criticised for its limited scope – both in terms of the number of chemicals it covers and because it does not use a fully hazard-based approach. The Higg Index and ZDHC have the ambition to become industry-wide standards. If they manage to drastically improve transparency and increase the ambition and coverage of chemical management (for example, including the production of fibres) and other parameters, they could potentially live up to this ambition. The authors of this report see 2020 as the final deadline by which this needs to take place.

Most other initiatives evaluated in this report also suffer from a variety of flaws. For example, MADE-BY's MODE Tracker allows companies to pick and choose which criteria they are evaluated on; they can also receive a score based of fewer than half of the available criteria. Similarly, the CanopyStyle initiative only covers wood sourcing for viscose, not pollution from viscose manufacturing and pulp processing. While it is a very useful initiative for driving viscose manufacturers to clean up their wood supply chains, Canopy's producer rankings have so far excluded all other aspects, which could give brands and retailers a misleading picture of their sustainability performance and provide viscose manufacturers with an unwarranted opportunity to use their ranking to bolster their 'green' image. Similarly, while OEKO-TEX Standard 100 provides a useful indication of the chemical content of end-products, its STeP

and MADE IN GREEN modules appear incomplete and possibly inconsistent when it comes to certifying greener production methods. This is illustrated by OEKO-TEX awarding Chinese viscose producer Sateri Fujian with MADE IN GREEN certification even though it uses a toxic chemical that has been banned in OEKO-TEX's own MRSL (CS_2), but as this chemical is essential to viscose production it is allowed without clear criteria on how it has to be managed.

Even the EU Ecolabel, which is a relatively robust label due to its life-cycle approach, has some shortcomings. We have focused on the EU Ecolabel for viscose and revealed that its requirements fall short of a genuinely ambitious approach as a result of the deletion of several parameters on viscose fibre manufacturing that cover emissions to water. This makes the EU Ecolabel, which should in principle cover the top 10-20% products on the market, less ambitious than EU BAT or some national ecolabels, such as Blue Angel and Nordic Swan. Given that some viscose manufacturers have recently committed to using the EU Ecolabel as their benchmark (Lenzing, 2018; Aditya Birla Group, 2018), this seems like an important oversight that should be remedied during the next revision of the Ecolabel.

On cotton, the extremely rapid rise of the BCI, in spite of its clear shortcomings, gives rise to serious concerns about the future of sustainable cotton. With its support for GM cotton and tolerance of the use of pesticides, the BCI is failing to promote cotton that is truly better for the environment and to protect the health of cotton growers. Serious reform would be required for it to deliver on its promise; in its current state, it appears unreformable and should be scrapped.

Besides all these schemes, some other initiatives exist in the textile sector that can provide companies with inspiration on what genuine ambition and transparency look like. For example, Greenpeace's Detox campaign, which was launched in 2011, has encouraged over 80 textile companies (covering over 15% of worldwide production) (ChemicalWatch, n.d.) to 'adopt a credible, individual and public commitment to phase out the use and release of all toxic chemicals from their global supply chain and products, by 1 January 2020' (Greenpeace, 2016). Greenpeace also publishes regular reports to evaluate progress on different brands' performance in implementing their commitments – the idea is that good companies should be rewarded for their achievements and laggards exposed for the lack of ambition. While this initiative only covers wet processing, it does include a commitment to transparency and evaluates brands' progress towards achieving their targets.

Another useful initiative is the Blue Map database, set up by the Chinese NGO IPE, through which companies can track the real-time environmental performance of their Chinese suppliers – including any violations and how these are being resolved. Many Western fashion brands already use the system and some – including Inditex, Gap, Esprit and Puma – are supplying data to IPE's Green Supply Chain Map, which publicly links them to their suppliers and provides real-time factory-level environmental performance data (IPE, n.d.).

In light of this, we recommend the straightforward elimination of the worst schemes – especially those such as the BCI that derive from the industry itself and are taking market share away from more effective initiatives, which have stricter requirements on the use of pesticides and ban the use of GM crops altogether. Initiatives such as MODE Tracker by MADE-BY need to seriously step up their level of ambition and robustness of evaluation criteria to cease being just another initiative for companies to hide behind. The EU Ecolabel should be adapted to reflect BATs and should develop stricter criteria; this would make it a useful certification scheme for the EU market and, potentially, a benchmark for producers worldwide. Partial schemes should be very clear about what they certify and how performing well at one stage of the supply chain does not mean a company is sustainable overall. Participating companies should be actively encouraged to identify complementary initiatives, which would enable them to become truly sustainable along the entire length of the value chain. Schemes such as the Higg Index and ZDHC can only become truly become effective tools for driving sustainability by making publication of all assessment results mandatory and having stricter requirements for participating companies.

A surfeit of stakeholders, weak legislation and governance and ever-increasing demand for very cheap clothes, driven by advertising and fierce price competition, are resulting in a race to the bottom and confusion for the conscious consumer. As there are no international regulations covering global textile supply chains and most voluntary schemes are currently weak and lack transparency, a significant overhaul of the system is needed. Governments should take the lead by mandating due diligence in line with the recent *OECD Guidelines for Responsible Supply Chains in the Garment and Footwear Sector (OECD, 2018);* the EC is already under pressure to table a binding legislative proposal for such a system (European Parliament, 2017b).

In addition, companies should become transparent about their supply chains and who they are buying from. Transparency is a cornerstone of responsible business; not knowing who your suppliers are can no longer be an excuse for companies not to mitigate negative impacts in their supply chain or to put in place environmental and health and safety requirements for their suppliers. High levels of transparency and traceability would raise the stakes for consumer-facing companies in Western markets, as they would be publicly accountable for what happens in their supply chains.

Clearing trees in Cameroon for a palm oil plantation *(credit - Greenpeace/ Alex Yallop)*

Chapter 5.

Conclusions and recommendations

5.1. Criticism of sustainability certification

Through case studies on palm oil, fisheries and textiles, this report has shown that many voluntary sustainability initiatives in their current form are inadequate. Rather than driving improvements, they often provide cover for environmental destruction and human rights violations. Numerous academic studies, NGO and media reports over the past decade have reached similar conclusions. Despite good intentions, these schemes have lost their way and have – in the best case – only modestly contributed to slowing environmental destruction or improving companies' sustainability performance. The proliferation of palm oil certification schemes has not stopped the clearance of forests or draining of peatlands; certification of sustainable fisheries has not slowed down the collapse of fish stocks; and the textile industry continues to be one of the most polluting and rapidly growing sectors on the planet, despite the existence of over 100 sustainability initiatives seeking to put it on a more sustainable track. A significant overhaul of the system is needed to realign these initiatives with international climate, biodiversity and sustainable development goals. This section provides the final analysis and recommendations on the way forward for certification in general and proposes alternative courses of action for the three sectors examined in this report, in the absence of effective voluntary initiatives.

The analysis shows that one major flaw is the voluntary character of these schemes, which is often in itself an obstacle to the implementation of higher standards that cover the whole industry or entire supply chain. The worst companies can often avoid responsibility by opting out of an ambitious scheme and continue operating in impunity. The desire to address this has led to another paradox: A perceived imperative to make certification schemes inclusive, rather than selective, has become a major hindrance to driving greater ambition. When schemes and standards are created on the basis of consensus among a wide range of industry players rather than by a vanguard of top performers, there is an inherent danger that the parties will agree to keep the bar low to ensure everyone makes the grade – usually just slightly above the lowest common denominator. Rather than accelerating a transition to better practices, this can actually delay progress and lock in irresponsible behaviour and unsustainable production methods. The result: Less sustainable products might be awarded the same label and enjoy the same consumer preference benefits as truly sustainable products from genuinely committed companies. This is the case with the MSC, which has awarded the same label to two different fisheries of Canadian Northwest Atlantic swordfish, one of which is targeted and has virtually no bycatch and another of which has extremely high levels of bycatch of endangers sharks. This phenomenon is often also driven by the desire to meet growing demand for certified products.

The multiplication of labels covering the same goods and services may also lead to 'label shopping' by companies looking for the easiest label to achieve. This is clearly visible in the case of textiles, where the market share of organic cotton initiatives is being eroded by a much weaker standard: the BCI. Similarly, several palm oil schemes offer tailor-made approaches depending on where the product will be sold, both from a geographic perspective and depending on its destination commodity market (food or biofuels). Palm oil also offers an example of how governments of producing countries (Indonesia and Malaysia) can water down ambition by instigating their own – weak – standards to protect their domestic

industry. The Indonesian scheme barely goes beyond already weak legislative requirements, therefore representing a real race to the bottom when it comes to sustainability.

Other common flaws of schemes analysed in this report are:

- Vague language on requirements and a lack of clearly articulated outcomes;
- Weak monitoring and enforcement mechanisms;
- Ineffective complaints procedures;
- Inadequate membership and participation rules;
- Weak procedures for independently evaluating how much impact a certification scheme has on sustainability;
- Conflicts of interest for the certifying organisations;
- Lack of incentive for continuous improvement.

Two other major problems, addressed in the paragraphs below, are the existence of schemes that only cover part of the problem – for example, only part of the supply chain – and lack of transparency and traceability.

This report has revealed that many of the schemes analysed suffer from an acute lack of transparency, which masks the extent to which real efforts are being made on the ground and which companies are genuinely improving. This applies to labelling schemes as well as industry-wide initiatives, such as the Higg Index, used by many fashion brands and retailers. Using the Higg Index to measure companies' supply chain performance is entirely based on self-assessment, and publication of the results is left completely up to the company. The only condition is that if a company does decide to publish the results, they have to be independently verified. This can lead to reporting bias, wherein only good performance is reported, with questions remaining as to how fast the sector and individual companies are improving as a result of the scheme. This is supposed to change by 2020, but whether the transparency levels will be adequate remains to be seen.

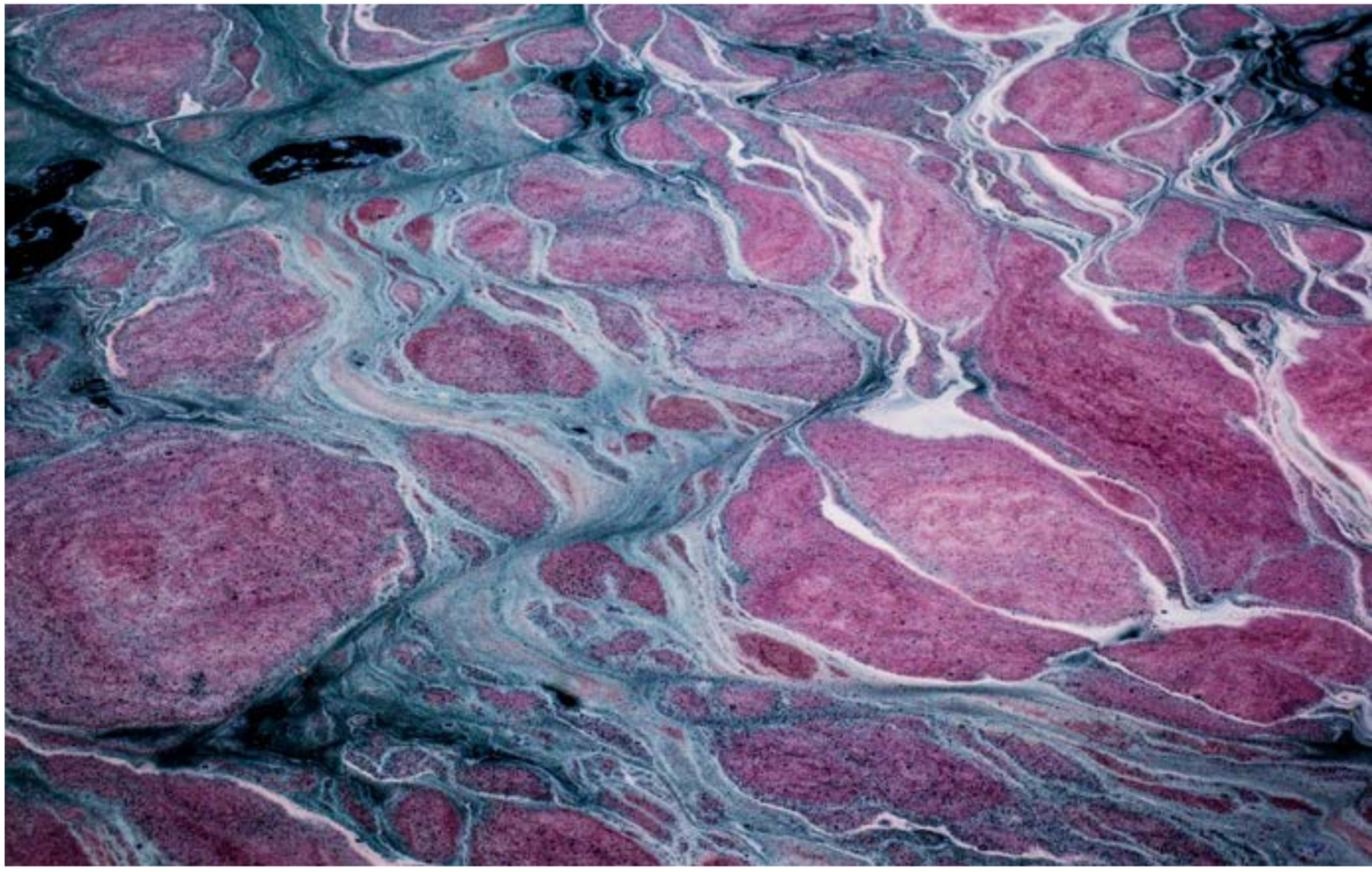
The report also shows that even some well-intentioned and successful initiatives, such as the Canopy-Style initiative, can provide a misleading picture because they only cover one part of the supply chain. In the case of Canopy – which covers the sourcing of wood pulp but not the use of chemicals in the manufacturing of viscose – this can give companies such as ABG an unjustified green glow, even though our own investigations have revealed serious pollution issues around its factories (Changing Markets et al., 2017, 2018).

Despite the variety of problems undermining the credibility of sustainability standards and schemes across multiple sectors, few people are facing up to the reality that sustainability certification is fatally flawed. Even low-quality sustainability labels often encourage greater consumption; consumers assume they are helping the planet by buying a certified product, when in fact buying a more sustainable substitute product – or buying less altogether – would actually be better for the environment. This is clearly visible in the case of fisheries; demand for certified fish has grown significantly, in step with rising overall demand for fish, and very few consumers are aware of the significant weaknesses in sustainable seafood certification. As this report has shown, in many cases a company is able to maintain a 'green' image simply by participating in a weak scheme, without actually implementing more sustainable practices throughout its supply chains. McDonald's, for example, was able to fend off criticism over the sustainability of the hoki fish it sold by referring to its MSC certification – despite many objections to this certification. There is something fundamentally wrong with this state of affairs.

5.2. The way forward: Abolish the least ambitious schemes, reform the rest

The general problem with certification is that all these schemes come in the context of growing demand for commodities and insufficient national and international regulation to protect the environment and safeguard human rights. These schemes also exist within a framework of globalised production and consumption, where complex and opaque supply chains often obscure relevant information and reduce the level of external scrutiny. Certification exists to address this problem in part – but therein lies the problem: For all three sectors featured in this report, most of the evaluated schemes only certify a very small part of overall production volumes, or only one aspect of the 'problem' (e.g. only one part of the supply chain; only chemicals used at a specific stage of the production process).

This report also shows that the schemes in question have very different features. Some are industry-wide initiatives while others are government-led ecolabels; some focus on one issue, such as sustainable agriculture, while others try to address the whole supply chain and multiple issues. No wonder consumers and companies are confused.



Industrial wastewater containing hazardous chemicals in the Cihaur River, a tributary of the Citarum River, in Indonesia *(credit- Andri Tambunan/ Greenpeace)*

The main conclusion from all this is that there are too many schemes. This has reduced the level of ambition and *undermined* efforts to move towards more sustainable production and consumption. Companies can shop around, often picking and choosing what they want to comply with – even within the same scheme. The least ambitious schemes (e.g. Malaysian and Indonesian palm oil schemes, BCI and FOS) must be abolished.

The schemes in this report where the analysis shows all hope is not yet lost (e.g. MSC for fisheries, POIG or RSPO NEXT for palm oil and the EU Ecolabel or the Higg Index for the fashion industry) must reform to improve their performance. To do so, they must put the following principles into practice, by 2020 at the latest.

- **Transparency** Schemes should be transparent and consumers should be able to easily identify what is certified. The criteria should be publicly available online and the scheme should be explicit about what it is certifying and what is excluded. The scheme should also clearly communicate what individual companies are achieving and should not allow certification for companies that are clearly also engaged in unsustainable practices. The scheme should also be clear about what a specific company can still improve on and which criteria it does not meet, and proactively flag up instances when a company loses its certification. The information should be presented in a clear, understandable and accessible format. Audits should be available and specific about what was verified, how often and by whom. Finally, it is of prime importance that the scheme has a public, widely available and transparent appeal process, which is open and financially accessible to local communities, Indigenous peoples, workers and NGOs. Information about pending complaints and details about how past complaints were resolved should also be published online.

- **Independence** Many schemes evaluated in this report had an inherent conflict of interest: Higher membership resulted in higher income. Similarly, the independence of third-party auditors is frequently questionable in light of their revenue model. An effective certification scheme should credibly decouple membership revenue from certification and compliance outcomes and involve multiple stakeholders, including independent scientists and NGOs whose funding is not dependent on the 'success' of the scheme. Ideally, an independent body would set the standards, while money for running the scheme should not come directly from companies. One solution proposed by the Forest Peoples Programme for the RSPO is to cover the cost of audits using money from a separate fund, which companies pay into collectively, while the 'RSPO or a fourth party should choose which audit teams are allocated to which companies and arrange for them to be paid' (Forest Peoples Programme, 2017a). A similar solution has been proposed for the MSC (NPR, 2013).

- **Holistic approach** Many schemes evaluated are very partial and only certify a small part of the supply chain or the quality of the end product. An effective scheme should certify the whole life cycle of a product, which is the case with government-led ecolabels. Partial schemes should be very clear about what they certify and how performing well at one stage of the supply chain does not reflect that the company is 'green' (see Box 5.1). Schemes should always go beyond existing legislation and should not undermine or seek to replace government regulation in any way.

Within a scheme, a company should not be allowed to pick and choose criteria or to opt in and out of criteria that they may, in some cases, need to comply with to meet existing regulatory requirements for specific markets. For example, a GHG emissions calculation is usually offered as an optional add-on for palm oil certification to prove compliance with EU sustainability criteria for biofuels. A scheme should only certify products that include a high level of certified product and are highly traceable. Traceability is especially problematic in the case of palm oil schemes, where trading of certificates arguably prevents companies from getting a handle on their supply chains. Schemes should only certify products that are demonstrably not linked with damaging practices.

BOX 5.1: Partial schemes: Handle with care

Several schemes evaluated for this report only focus on one issue or part of a supply chain. While these schemes can be useful and well thought-out, they can also be a barrier to improving overall sustainability by creating a 'halo effect', whereby a certain company or product is considered sustainable simply because a small part of its production has improved.

This report recommends that all stakeholders running or participating in such schemes should consider the effect their partial initiative has on promoting overall sustainability and transparency within the sector. This also involves clear communication, by the scheme and participating companies, about the stage of production the scheme refers to. Participating companies should not be allowed to make vague claims about a company's general sustainability due to its participation in a partial scheme, but should instead be actively encouraged to identify complementary initiatives, which would enable them to become truly sustainable along the entire length of the supply chain. Alternatively, the partial scheme in question should prepare a clear plan for extending coverage to other parts of the supply chain.

- **Aiming for continuous improvements, including greater traceability**

  This report has revealed that many schemes settle for a lowest common denominator approach because they aim to bring as many industry players as possible on board. We argue that this is delaying the transition to a sustainable economy; it prevents companies from competing with each other to deliver more sustainable products and from being rewarded for their efforts via increased consumer demand and the accompanying price premium.

  Certification and industry-wide sustainability schemes should always go beyond national regulatory requirements and international standards (such as ILO conventions) and should only certify the best industry players, ensuring the level of ambition remains high and reflects the top-performing percentile of companies.

  Similarly, industry-led initiatives should not allow each and every company to join; only those that demonstrably go above and beyond basic regulatory requirements and are committed to continuously improving should be able to gain entry. In rare cases when an initiative is aimed at increasing the performance of the industry as a whole (for example, the Higg Index), it should have a high level of transparency and independently verified information on performance for every company involved. Information on how

to drive concrete improvements at factory or production-unit level can also be supplied to companies that take part in the scheme. Finally, schemes should be dynamic in their criteria, reflecting scientific developments and regulatory improvements. Most of all, they should prevent backsliding.

If this root-and-branch reform, based on the above principles, does not happen by 2020, the schemes should lose their license to operate; NGOs should no longer recommend them, governments should stop supporting them and companies should cease using them as proof of sustainability.

5.3. Conclusion

This report calls for a significant overhaul of the existing sustainability certification system and encourages companies, governments and NGOs to look beyond certification. In the era of digitalisation, companies can drive change by becoming more transparent – both about who they are buying from and how the different actors in their supply chain perform. One interesting example is Chinese NGO IPE's Blue Map database, through which companies can track the real-time environmental performance of their Chinese suppliers – including any violations and how these are being resolved. Many Western fashion brands already use this system and some (including Inditex, Gap, Esprit and Puma) supply data to IPE's Green Supply Chain Map, which publicly links them to their suppliers and provides real-time factory-level environmental performance data (IPE, 2018). High levels of transparency and traceability would raise the stakes for consumer-facing companies in Western markets, as they would be publicly accountable for what happens in their supply chains.

However, transparency alone is not enough. Companies should also drive sustainability by engagement and long-term relations with their suppliers, which includes clearly communicating sustainability objectives and helping them achieve these. If their suppliers have been involved in repeated violations of environmental standards or human rights, companies should use their purchasing power and stop buying commodities or services from them.

The preferred way forward would be ambitious national and international regulations to create a level-playing field for all the companies involved. Unfortunately, this report has shown that not only voluntary schemes but also governments themselves sometimes actively undermine ambitious action, the latter through creating their own weak schemes (see Malaysia and Indonesia on palm oil) or offering certification as a way to meet legislative requirements (see EU biofuels legislation). Once such schemes are created, it is very difficult to change track; for example, the Indonesian and UK governments are pushing to use the weak Indonesian ISPO scheme as a standard in a future EU–Indonesia trade agreement (Neslen, 2018). This shows that governments themselves are often guilty of weakening existing sustainability efforts. Governments should stop supporting unambitious schemes, whether through political endorsement, trade agreements or public procurement. They should acknowledge that voluntary measures have significant limitations and take measures to ensure they are complemented by regulations and new international standards. On the positive side, governments can support schemes that only certify sustainability leaders; for example, by creating their own ecolabels, certifying front-runners, using public procurement to give certified products a guaranteed market and awarding them with a price premium.

Consumers can also play a role, starting by reconsidering their own purchasing decisions. They should aim for truly sustainable products – but the golden rule of sustainable consumption is to only buy things that are really needed, and to make sure existing products can be reused, exchanged and repaired. This is especially relevant to clothing, where many consumers are ditching fast fashion in favour of more durable clothes, repairing and exchanging their clothes or opting to buy second-hand clothing from charity shops. Several retailers have understood this trend and are already starting to offer such options to their customers. On food, the situation is more complex, but several companies offer palm oil-free products given that certification does not currently guarantee sustainability. On fisheries, several organisations – such as the Monterey Bay Aquarium (US), Seafood Watch (US) and SeaChoice's Ocean Wise (Canada) – offer rigorous science-based guidebooks on sustainable fish choices. Greenpeace has also published a 'Red List' of species that should not be consumed because of their environmental and social impacts. Several retailers are also developing their own sourcing policies that drive demand towards more sustainable fisheries and ban the sales of overfished species or species caught by environmentally irresponsible fishing methods. In addition, a growing number of initiatives, such as Fish4Ever in the UK, support small-scale local fisheries with small levels of bycatch.

Deforestation in Central Kalimantan, Borneo *(credit- Ulet Ifansasti/ Greenpeace)*

BOX 5.2: What can be done beyond certification to gear towards sustainability?

In each of the three sectors investigated in this report, there is a clear environmental crisis that cannot be resolved by voluntary initiatives alone – even if these were made to be more robust. The following actions have been identified as having the potential to slow down environmental destruction and put these sectors on a more sustainable trajectory. These are only examples of the types of actions companies and governments should be adopting; it is a non-exhaustive list.

Palm Oil

The most important and immediate measure here is to reduce demand for palm oil by targeting non-essential industrial uses of it. Dropping the EU biofuels policy would lead to significant alleviation of pressure to convert new areas of forest to palm plantations; it is also a 'no regret' measure, as it has been largely proven that biodiesel has significant GHG emissions compared to fossil fuels. In addition, governments of countries with high rainforest density should create and implement effective forest conservation policies, including introducing an immediate moratorium on deforestation and peatland conversion. In Brazil, such a policy has effectively stopped the unlimited expansion of soy cultivation in the Amazon rainforest. Finally, palm oil-producing countries and companies involved in palm oil cultivation and trade should implement efficiency improvements and put any new plantations in non-forested areas and degraded land.

Fisheries

Research has highlighted the importance of ocean conservation measures based on sound science and an ecosystem approach. As fish cross borders, the need for international measures is clear. One example of extremely effective measures to rebuild fish stocks and promote the health of ocean ecosystems is marine reserves. Today, only 3% of global oceans have been designated as marine-protected areas; according to the sustainable development goals, this must rise to 10% by 2020. Other important measures are implementing and rigorously enforcing science-based fishing quotas, eliminating illegal fishing, abolishing harmful subsidies and shifting support from large-scale industrial fisheries to small-scale local fisheries. The latter have already harvest three-quarters of global catch and employ more than ten times the number of people employed by large-scale fisheries – but only create 3% as discarded waste (Neill, 2015). Restoring fisheries and sustainable management can lead to the recovery of ecosystems and an increase in the sustainable supply of fish protein for vulnerable coastal populations.

Textiles

There is currently a glaring gap regarding the textiles industry: No international regulations cover its global nature. Governments should take the lead by mandating due diligence, in line with the recent *OECD Guidelines on Responsible Supply Chains in the Garment and Footwear Sector* (OECD, 2018). The EC is already under pressure to table a binding legislative proposal for such a system. In addition, companies should become transparent about their supply chains and who they are buying from. Transparency is a cornerstone of responsible business; not knowing suppliers can no longer be an excuse for companies to not mitigate negative impacts in their supply chain and put in place environmental and health and safety requirements for their suppliers. On chemicals, they can sign up to an ambitious Detox commitment (put forward by Greenpeace); on fibre production, they can adopt the highest possible standards, such as the EU BAT standard on viscose manufacturing recommended in Changing Markets' (2018) *Roadmap towards Responsible Viscose and Modal Fibre Manufacturing*. Companies must also have strict zero-pollution policies and implement regular audits.

In all of these sectors, companies should strive for greater oversight of and accountability for their supply chains and production methods. They can commit to these by demonstrating greater transparency and continuous improvements, as well as by signing up to a holistic approach across their operations.

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Glossary

AI	*Amnesty International*
ABG	*Aditya Birla Group*
ASOC	*Antarctic and Southern Ocean Coalition*
BAT	*Best Available Techniques*
BCI	*Better Cotton Initiative*
Bt	*Bacillus thuringiensis*
CS2	*carbon disulphide*
CSR	*Corporate Social Responsibility*
EC	*European Commission*
EIA	*Environmental Investigation Agency*
EoF	*Eyes of the Forest*
EU	*European Union*
FAO	*Food and Agriculture Organization of the United Nations*
FOS	*Friend of the Sea*
FPIC	*free, prior, informed consent*
FSC	*Forest Stewardship Council*
GM	*genetically modified*
GHG	*greenhouse gas*
GOTS	*Global Organic Textile Standard*
HCS	*high carbon stock*
HCV	*high conservation value*
HT	*herbicide tolerant*
ILO	*International Labour Organization*
ILUC	*indirect land use change*
IPE	*Institute of Public & Environmental Affairs*
ISCC	*International Sustainability and Carbon Certification*
ISO	*International Organization for Standardization*
ISPO	*Indonesian Sustainable Palm Oil*
IUCN	*International Union for Conservation of Nature*
IUU	*illegal, unreported and unregulated*
MPOA	*Malaysian Palm Oil Association*
MRSL	*Manufacturing Restricted Substances List*
MSC	*Marine Stewardship Council*
MSI	*Material Sustainability Index*
MSPO	*Malaysian Sustainable Palm Oil*
NDPE	*No Deforestation, No Peat, No Exploitation*
NGO	*non-governmental organisation*
POIG	*Palm Oil Innovation Group*
RA	*Rainforest Alliance*
RED	*Renewable Energy Directive*
RSB	*Roundtable on Sustainable Biomaterials*
RSPO	*Roundtable on Sustainable Palm Oil*
SAC	*Sustainable Apparel Coalition*
SAN	*Sustainable Agriculture Network*
STeP	*Sustainable Textile Production*
UN	*United Nations*
WTO	*World Trade Organization*
WWF	*World Wildlife Fund for Nature*
ZDHC	*Zero Discharge of Hazardous Chemicals*