

Analysing the Impact of Biodiversity Loss on the Fast Fashion Industry through a Social-Ecological Lens: The Case of UNIQLO

Section 1: Introduction

“Seen from a social-ecological systems perspective, most of the international initiatives for sustainable fashion which businesses engage in focus on material ecological aspects. By doing so, they fail to recognise the intertwined nature of social-ecological systems.” (Cornell et al., 2021, p.653)

Biodiversity loss crucially impacts the fast fashion industry. Loosely defined as the variety of species living on Earth, biodiversity is necessary for all processes on Earth to be maintained. As Crenna et al. (2020, p.9722) outline, biodiversity can be viewed in a metaphorical sense as the “infrastructure” which regulates various ecological processes on Earth, supporting food security and the climate. Considering there has been an average 69% decline in monitored global wildlife populations between 1970 and 2018, biodiversity loss is a cross-cutting issue (CCI) as society is tasked with switching from biodiversity destruction to biodiversity restoration (Brader, 2023). This is emphasised by the fact that humans are overusing the Earth’s biocapacity by at least 56% (Somers, 2020). The aim of this report is to apply a social-ecological lens to analyse the impact of biodiversity loss on the fast-fashion industry. In line with Cornell et al.’s (2021) aforementioned quote, a social-ecological approach recognises how social changes can contribute to the restoration of biodiversity. I will apply a social-ecological lens when framing the interrelationship between biodiversity and the fast-fashion business model, before applying this to an integrated case study of fast-fashion brand, UNIQLO. Thereafter, I will provide a critical account of the challenges which biodiversity loss poses for UNIQLO and possible solutions moving forward.

Section 2: The Interrelationship between Biodiversity and the Fast Fashion Model

Biodiversity loss has become a CCI as a result of society's neglect, and fast fashion is a major contributor to this issue. Recent decades have shown an increasing commodity chain verticalization in agribusiness, facilitating overproduction and cost-cutting for businesses (McElwee et al. 2020, pp.452-453). A recent McKinsey report has highlighted the relative impact on biodiversity within the fashion value chain, as Figure 1 below shows.

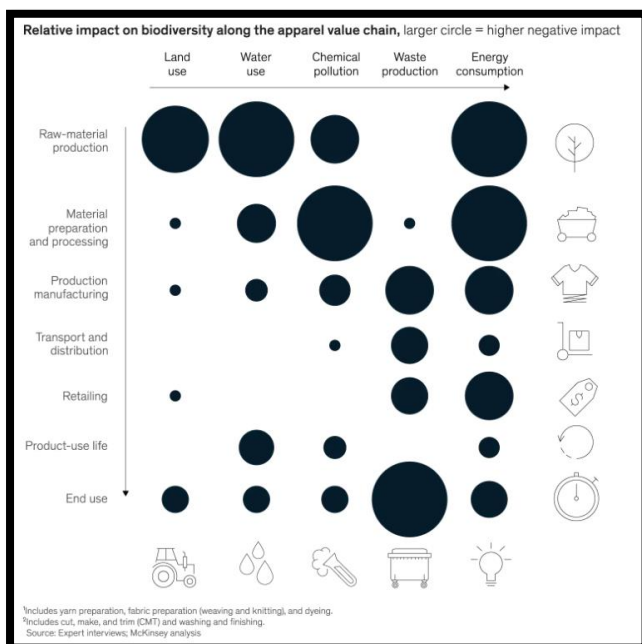


Figure 1: McKinsey (2020)

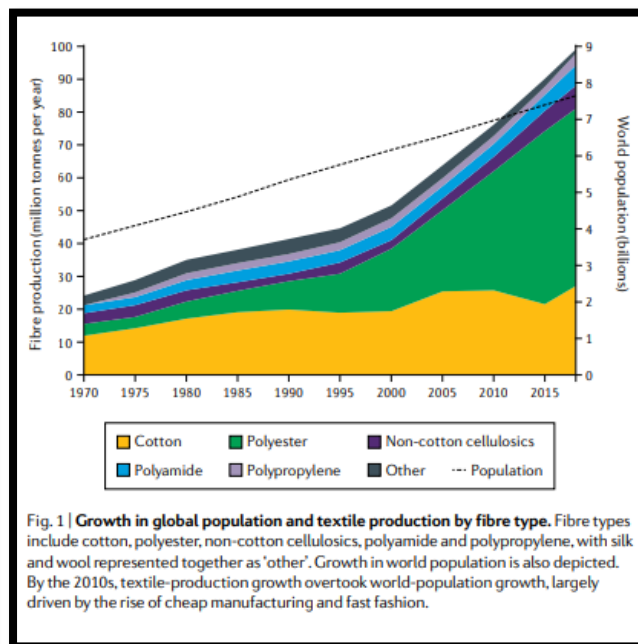


Figure 2: Dahlbo et al. (2020)

There is prevalence of high waste production during end use, which may be a knock-on effect of the nature exploitation during the raw-material production phase. McKinsey's report links to the influence of the rise of global population on production rates. As Figure 2 above shows, from 2010, textile production growth overtook world-population growth, largely driven by cheap manufacturing and fast fashion. Such correlation between excess production, high waste, and consumer demand highlights biodiversity loss as a social-ecological issue, interconnected with various social factors, such as consumer behaviour. Highly used conventional cultivation methods for cotton can emit 3.5 times more CO₂ than organic cotton cultivation and they depend heavily on pesticides which can leech into food chains (Dahlbo, 2020, p.192). This is just one example of how social factors such as consumer demand encourage fast fashion businesses to exploit the environment.

This therefore questions how businesses encourage social change in order to restore biodiversity. This is particularly important considering biodiversity loss directly links to other cross-cutting issues such as climate change. As McKinsey (2020) outlines, “biodiversity loss and climate change are interdependent and mutually reinforcing – one accelerates the other, and vice versa”. Biodiversity is the strongest natural defence against climate change as the Earth’s land and ocean serve as natural carbon sinks, absorbing large amounts of greenhouse gas emissions. The fashion industry relies on biodiversity as an “infrastructure”; yet simultaneously, the conventional fast fashion business model antagonises with restoring biodiversity, namely through factors such as vertical disintegration. Often, companies adopt the Life Cycle Assessment (LCA) when analysing the interrelationship between their supply chains and biodiversity (Marques et al., 2021, p.238). Whilst the LCA enables an organisation to identify environmental risks in supply chains, it fails to incorporate many social factors, which, in the fast fashion model, are particularly prominent. With regards to microplastics, for example, 700,000 fibres are released in a standard laundry load, and half a million tonnes of microfibres end up in the oceans (McKinsey, 2020). This shows that biodiversity loss is not just a supply chain issue, but also a post-purchase problem, as consumers do not always follow disposal advice or care instructions which minimise environmental impact. Furthermore, Greenpeace reports that 92 million tons of solid waste are produced each year with 98 million tons of natural resources, and landfill sites disrupt species (Forbes, 2019). Rather than focusing on material aspects as the LCA incorporates, there is a need to further consider non-material aspects which can foster biodiversity, considering consumer decision making can significantly alter environmental impact.

To put this into practice, there is increasing government pressure to restore biodiversity. For example, the Kunming-Montreal Global Biodiversity Framework, adopted at the COP15 International Biodiversity Conference, presents methods of restoring biodiversity (Convention on Biological Diversity, 2022). As part of the report on UNIQLO, I will apply Goal B, Target 15, and Target 16 of this framework. Goal B states that biodiversity should be used sustainably, conveying nature’s contribution to people. Target 15 proposes that companies monitor, assess, and transparently disclose their risks,

dependencies and impacts on biodiversity, and Target 16 seeks to ensure people are encouraged to make sustainable consumption choices (Convention on Biological Diversity, 2022). Rather than focusing on identifying material issues as in the case of LCA, the GBF identifies the inherently social nature of biodiversity loss. Through using these targets as a reference point, I will now analyse how biodiversity loss is impacting UNIQLO.

Section 3: Case Study - UNIQLO

Founded in Japan in 1949, UNIQLO is a designer, manufacturer and retailer owned by Fast Retailing since 2005 – the second-largest global clothing retailer with over 1000 stores worldwide (Assoune, 2020). Whilst UNIQLO claims to not operate as a fast fashion brand through its zero-inventory stock management procedure, in comparison to high-waste competitors such as H&M and Zara, UNIQLO follows a fast fashion model considering it produces and sells cheap products at fast rates (iMedia, 2023). However, as has been established, analysis of supply chains alone is not a sufficient method of assessing biodiversity impact, as biodiversity is intertwined with various social factors. This section will thus apply a social-ecological lens to unpack how biodiversity is making UNIQLO reconsider its operations in both material and non-material ways.

The UNIQLO Ethos: People, Planet, and Community

UNIQLO's founder, Tadashi Yanai, claims its ethos revolves around three pillars: people, planet, and community (Forbes, 2021). In a domestic context, there are signs that UNIQLO embodies its ethos. For example, since 2001, UNIQLO has fundraised for the Setouchi Olive Foundation, which seeks to protect and replenish the biodiversity of the Setonaikai National Park, which was damaged due to the illegal dumping of hazardous waste (UNIQLO, 2021). Since this initiative began, the finless porpoise that lives in the Seto Inland Sea has begun to return to the area. Furthermore, since 2004, 1,500 Fast Retailing employee volunteers have worked with local school pupils and soil experts to encourage soil biodiversity (UNIQLO, 2021). From a social-ecological perspective, UNIQLO recognises the interconnection between people, planet, and community when tackling biodiversity loss. However, there is no link to the fact that UNIQLO's manufacturing processes contribute to such losses in biodiversity, which could be viewed as greenwashing. Whilst UNIQLO fosters the restoration of biodiversity in its local environment through non-material aspects such as employee engagement, in an international context the CCI becomes more complex, as will now be unpacked with reference to the UNIQLO's 2030 goals.

2030 Goals

As has been outlined in Section 2 of this report, high levels of waste and overconsumption in the fast fashion industry are a particular cause for concern for biodiversity, and in turn biodiversity loss is making businesses rethink their operations. On an international scale, UNIQLO aims to reduce greenhouse gas emissions within the supply chain by 20% in 2030, as Figure 3 shows.

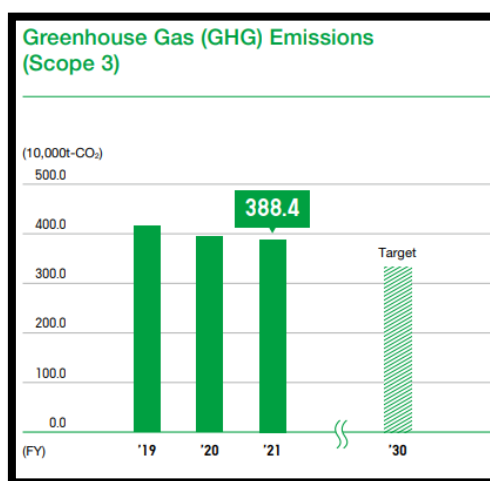


Figure 1: Fast Retailing (2023)

UNIQLO's focus on reducing greenhouse gases can be likened to their recognition that biodiversity functions as a natural carbon sink, and that, through reducing greenhouse gases, climate change too can be addressed. Furthermore, by 2030, UNIQLO aims to increase the proportion of recycled materials used in products to approximately 50% (Sustainability Report, 2022). The question of *how* UNIQLO will facilitate such short-term goals will now be addressed.

To put UNIQLO's 2030 goals into practice, examples are seen through UNIQLO's development of technology to reduce water used in the jeans finishing process by up to 99%, and the implementation of ozone-mist washing machines that use nanobubbles to prevent polluted water and chemicals leaching into marine systems (Sustainability Report 2021). This can be likened to Goal B of the GBF as UNIQLO recognises nature's contribution to society. Furthermore, Fast Retailing became a member of the Better Cotton Initiative to manage forestry in its supply chain and prevent harmful chemicals leeching into soil and freshwater (Jordan, 2023), and the Microfibre Consortium in order to solve the problem of marine plastic pollution (Sustainability Report 2021). UNIQLO's involvement in these organisations

shows their desire to address issues in supply chains. Additionally, by Summer 2022, 15% of the polyester UNIQLO used was derived from recycled plastic PET bottles, with a particular achievement being the Fluffy Fleece Full-Zip Jacket, which is made from 100% recycled plastic bottles (Fast Retailing, 2023). Whilst this shows how biodiversity loss is encouraging UNIQLO to promote circularity and expand products' life cycles, focusing solely on material aspects of supply does not necessarily address social issues regarding biodiversity loss, as consumers must be encouraged to sustainably use these products.

Thus, a social-ecological lens is required to analyse the impact of biodiversity loss on UNIQLO. To further embody its three pillars, UNIQLO revised its recycling initiative, RE.UNIQLO, in 2020 (Sustainability Report, 2022). This initiative encourages consumers to return damaged clothes to the store for recycling and repair. As part of this initiative, UNIQLO introduced a new sustainability ambassador in 2021 – Doraemon: a Japanese manga character (UNIQLO, 2021). Furthermore, in order to be more transparent, UNIQLO conducted a biodiversity risk assessment in 2021, analysing its value chain's impact and dependencies on biodiversity (Fast Retailing, 2023), as appendices 1 and 2 show. Whilst these tables provide insight into UNIQLO's dependencies on biodiversity as a natural resource, they provide no statistical evidence as to how much UNIQLO neglects such resources, and merely show a surface level analysis, which could make stakeholders question the extent to which such news is transparent.

Controversy

The fast fashion industry is swarming with issues of greenwashing and transparency, and as the above analysis shows, UNIQLO is no exception. UNIQLO scored 31-40% in the recent Fashion Transparency Index, namely as it fails to disclose sufficient information on its supply chain (Jordan, 2023). In March 2023, Fast Retailing listed its Garment Factory and Processing Factory List, though issues prevail surrounding the lack of trade unions and clarity (Fast Retailing, 2023). This questions the extent to which UNIQLO actually embodies its three pillars if it outsources production. The company has pledged to make 50% of the materials used for its products recyclable by 2030 (Jordan, 2023). However, as Figures 4 and 5 show, this comes at a cost considering waste in the company's supply chain increased significantly between 2020 and 2021, and water usage remains high.



Figure 4: Fast Retailing (2023)

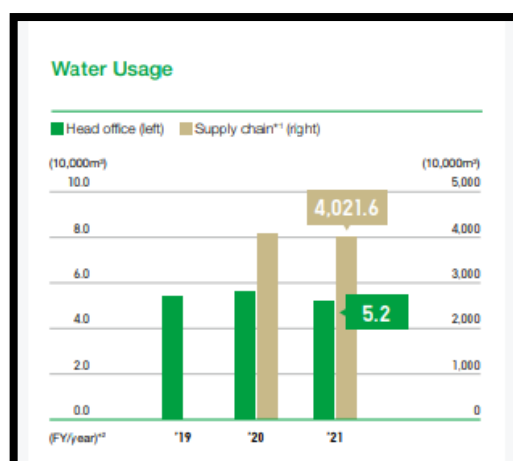


Figure 5: Fast Retailing (2023)

If waste remains so high despite revolutionising RE.UNIQLO in 2020 and implementing new recycling initiatives, this brings into question issues surrounding transparency and accountability. If UNIQLO claims to be moving from a take-make-use-waste approach so common in fast fashion brands to a more circular process of value creation, then the amount of waste in the supply chain must be addressed.

Section 4: Challenges for Management and Potential Solutions

Challenge 1: Mainstreaming Biodiversity in UNIQLO

Considering a social-ecological approach to tackling biodiversity loss, the challenges outlined in this section interconnect. Given the urgent need for organisational stakeholders to address biodiversity loss, UNIQLO is challenged with being more proactive in order to mainstream its approach. As previously highlighted, consumer biases in relation to the fast fashion model as a fundamental cause of biodiversity loss in itself presents UNIQLO with a challenge. Whilst initiatives such as RE.UNIQLO show UNIQLO encouraging circularity, they antagonise with the fact that UNIQLO still sells cheap products at quick rates, encouraging a high-waste service. UNIQLO is thus challenged with engaging more with other organisations in order to mainstream its approach.

Solution 1: Engage more with Biodiversity Initiatives

As a solution, UNIQLO could further engage with initiatives which promote biodiversity. For example, UNIQLO's work with the Setouchi Olive Foundation in Japan showed UNIQLO embody its three pillars. If UNIQLO could translate this on a transnational level whilst simultaneously continue to evolve its RE.UNIQLO initiative, UNIQLO would take a step closer to mainstreaming biodiversity. UNIQLO could also engage with COP15 in order to liaise with governments. For example, the Make It Mandatory campaign was established by over 400 businesses (including other fast fashion brands such as H&M and Inditex) ahead of COP15 in order to push for mandatory biodiversity impact reporting by businesses (Convention on Biological Diversity, 2022). Through joining coalitions such as these, UNIQLO could help to facilitate a more mainstreamed approach to tackling biodiversity loss. Being more transparent and engaging with stakeholders could also contribute to mainstreaming biodiversity in UNIQLO, as will now be discussed.

Challenge 2: Increasing Transparency in Supply Chains

To return to Target 15 of the GBF as a reference point for analysing managerial implications, UNIQLO faces the challenge of increasing transparency, particularly with respect to their supply chain. Holmes et al. (2018, p. 11) argue that there are concerns regarding the reliability of corporate reporting as a window into business involvement in biodiversity, as, from a managerial perspective, failing to tackle biodiversity is often only seen as a reputational risk. In the case of UNIQLO, for example, corporate reporting of the supply chain merely lists factory locations. This, coupled with the increase of waste and water usage in supply chains, may make stakeholders hesitant to take UNIQLO's biodiversity goals at face value. To truly know the environmental impact of textiles, one must know exactly what is happening on the landscape where the material is farmed (Boston Consulting Group, 2021). However, UNIQLO's biodiversity risk assessment only identified dependencies and impacts on biodiversity, without providing factory-specific information.

Solution 2: Disclose more Information on UNIQLO's Supply Chains

As the above analysis suggests, business goals must recognise the multiple interdependencies with biodiversity (Smith et al., 2019, p.8). UNIQLO must disclose more information on its supply chains, which could make consumers more aware of biodiversity footprints prior to purchasing products, and in turn increase their trust. Through being more transparent, UNIQLO would be more inclined to address issues surrounding biodiversity loss, rather than providing merely surface-level analysis, which counters with statistical evidence outlined in their sustainability reports.

Challenge 3: Increasing Engagement with Consumers

To return to Target 16 of the GBF, individuals should be encouraged to make sustainable consumption choices, though governments and organisations face the issue of making biodiversity a consumer concern. Perino et al. (2021, p.3) argue for example that conservation policies often fail to consider behaviour change theory; namely, governments often fail to link targets to specific target audiences. In a similar light, the stigma attached to UNIQLO's identity as a fast fashion brand could create biases which alter the extent to which consumers believe their goals to restore biodiversity. In employing a social-ecological lens, UNIQLO is therefore tasked with ensuring their more sustainable approaches to business have a knock-on effect on consumer behaviour.

Solution 3: Educate Consumers on the Importance of Biodiversity

When thinking of sustainable circularity and the question of waste, businesses must focus on deeper cultural levels to educate and engage consumers (Cornell et al., 2021, p.662). For example, UNIQLO's sustainability mascot, Doraemon, is tailored to suit the Japanese market, though may not resonate with consumers in international markets. UNIQLO could therefore introduce more localised marketing campaigns in order to translate value in international markets. Additionally, UNIQLO could more clearly advertise consumer impact on biodiversity. Behavioural changes such as washing clothes in cold water could reduce microfibre shedding by 57%, and using fibre-collection bags when washing can catch 90 to 99% of microfibres before they enter water systems (McKinsey, 2020). UNIQLO could offer free microfibre bags alongside purchases to encourage consumers to introduce such sustainable approaches into their daily routines. This is one easy to implement method of making consumers rethink how they care for their clothes, and in turn, their environment.

Section 5: Evaluation

The above analysis has highlighted the need for UNIQLO to adopt a social-ecological approach to business as a result of biodiversity loss. What is particularly difficult for UNIQLO is that its fast-fashion business model is notoriously known to degrade biodiversity. To reiterate the metaphor of biodiversity as an infrastructure, the challenges presented in this case highlight that biodiversity is interconnected with various social factors, and that engaging in dialogue with stakeholders could help UNIQLO become a more environmentally conscious and transparent organisation. There are indeed limitations. Given the loss of biodiversity is a CCI, the solutions presented here cannot be seen as long-term goals, as the unpredictability of the state of biodiversity in the years to come may require UNIQLO to alter its approaches. This too is the case with the GBF, as it only presents a biodiversity outlook until 2050. Hence this emphasises why attempts at mainstreaming biodiversity are essential, as they enable organisations to be more proactive and adaptable to future changes in the environment. The drastic scale of biodiversity and its cross-industry impacts show that businesses themselves are not able to resolve the issue, but indeed can play a significant role through liaising with other stakeholders.

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Appendices

Appendix 1 (Fast Retailing, 2023):



Appendix 2 (Fast Retailing, 2023):

