

# Biodiversity crisis: Why agriculture threatens biodiversity, and how responsible investors can respond



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# Biodiversity

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## Executive summary:

- Biodiversity plays a crucial role in protecting our health. It is only by understanding and respecting its limits that we will maintain the ecosystems that ensure our survival.
- Human activity is a growing threat to our life support system and it is urgent that we strike a better balance. We see the COVID-19 pandemic as a wake-up call.
- Agricultural production is dependent on the good functioning of ecosystems, but its intensification has led to a sharp degradation of biodiversity – the source of all variety in our crops and livestock. Intensive agriculture and related deforestation can also contribute to the spread of diseases.
- Soybean production has more than tripled in the past 30 years and it illustrates well how the intensification of agriculture and global commodity trading can create threats for nature.
- Many companies in the agricultural value chain may directly or indirectly benefit from the capital we provide to the market, but we have identified two particular types of companies to engage with: global traders and consumer facing companies. We consider they can influence many other players in the value chain.
- From traders to consumer facing companies, corporates must promote responsible agricultural practices and provide stakeholders with the necessary transparency from field to shelf.

There are now more than seven billion people on our planet and they all need to be fed. That simple observation has been behind some startling changes in agriculture – it has also left us with some troubling consequences. Threats to biodiversity from the industrialisation of food production have embedded risks that should concern all long-term investors. The COVID-19 crisis has shown that the short-term impacts are no less dramatic.

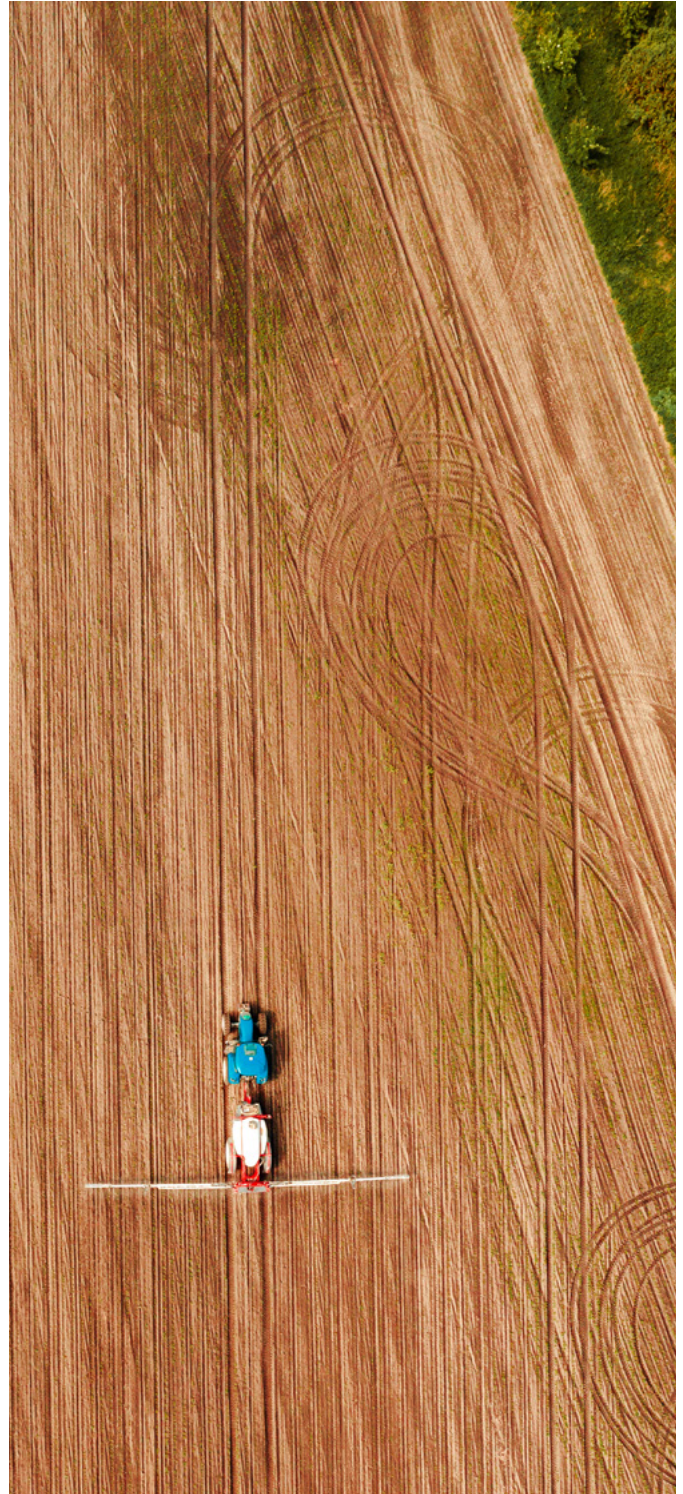
Biodiversity loss is a powerful investment theme. It threatens the ecosystems on which we rely, and the viability of food supply and business models for future generations. No wonder then that investors must remain ahead of the curve, and anticipate the likely regulatory and policy response to these threats. It is also clear that factors like deforestation for crop and livestock land have exploited native habitats and forced us into increased contact with wildlife. That in turn has made it easier for pathogens to spread into local populations, where our increased mobility can quickly turn it into a global issue. This is known as ‘zoonosis’ – the spread of diseases from wildlife to humans.

The kind of pandemic we have seen in 2020 was predicted many years ago<sup>1</sup>, and there have been precursors that delivered smaller shocks. According to the United Nations (UN)<sup>2</sup>, emerging zoonotic diseases had already created direct costs of more than \$100bn in the last two decades – suddenly that has jumped into the trillions with COVID-19.

### Seeking a better balance

We need to tackle the biodiversity crisis if we are to address the risks to long-term investments and build a pandemic-resilient society. We should be concerned that we don’t look back on COVID-19 as “just a minor crisis compared to what is coming,” as the biologist Professor Dirk Schmeller has warned<sup>3</sup>. To protect ourselves we must rethink our relationship with nature and seek to relieve the pressure that our activities can exert.

To do that, industry and investors must show leadership. In this paper, we will examine how agricultural practices over the past decades have resulted in negative impacts on the environment and exacerbated biodiversity loss. We will consider a specific commodity – soybeans – to illustrate some of the key challenges. We will analyse the agricultural value chain, pick apart the links between various companies, and discuss how active, long-term, responsible investors such as AXA IM can engage meaningfully to make a positive change.



<sup>1</sup>“Some papers dating back decades even predict some of them will come from bat coronaviruses in South-East Asia.”, says Prof. Franck Courchamp.

<sup>2</sup>UNEP Frontiers (2016), 2016 Report: Emerging Issues of Environmental Concern, [https://wedocs.unep.org/bitstream/handle/20.500.11822/7664/Frontiers\\_2016.pdf?sequence=1&isAllowed=y](https://wedocs.unep.org/bitstream/handle/20.500.11822/7664/Frontiers_2016.pdf?sequence=1&isAllowed=y)

<sup>3</sup><https://www.axaresearchfund-expertseries.com/expert-series2-replay>

# How agriculture can harm biodiversity

Agriculture has undergone profound changes over the past decades, notably by substituting industrial inputs for the ecological services provided by nature. They have led to impacts on nature, including biodiversity loss. Global trends in production have seen a dissociation of crops and livestock, and the specialization of farms, transforming how we use land and our approach to cultivation and breeding. The intensification of food production has led to alarming forest loss, pressure on water supply and booming energy use. Through nutrient run-off, pesticides or livestock effluents, the agriculture sector is often associated with major pollution too, from nearby small streams to coral reefs.

## Unprecedented energy use and pressure on water

The modernization of agriculture has required unprecedented energy use for agrochemicals and machinery. As a result, agriculture consumes significant amounts of energy, but also a large share of the world's available fresh water. An over-extraction of water alters water habitats and fauna, turning biodiverse communities into poor systems hosting few species.

## Farm specialisation and land simplification

The intensification of agriculture and the globalization of food markets have intensified production systems and simplified agricultural landscapes. Crops and livestock have been dissociated, crop rotations have shortened, crop numbers have decreased, and monocultures have become more prevalent.

A reliance on a reduced number of crops, and the simplification of crop rotation, have led to transformations in land use, cultivation and breeding practices, and in the ways they affect nature. Overall diversity in farmers' fields has declined and threats to diversity are getting stronger.

### Agriculture & Biodiversity in numbers:

<b>9</b> plant species only account for 66% of total crop production	<b>80%</b> of forest loss comes from its conversion to agriculture
<b>70%</b> of global water abstraction comes from agriculture	<b>90%</b> of arable land is treated with herbicides in Europe and the US
<b>75%</b> of food crops rely on animal pollination	<b>1 million km<sup>2</sup></b> Area dedicated to soybean crops

(Sources: FAO, OECD, UN, University of York)

## Tillage, drainage and other soil disturbances

Soils form complex ecosystems that make farming possible. They include animals, roots of plants and millions of micro- and macro-organisms which all are critical to the soil's life and productivity. Earthworms, termites and other organisms redistribute nutrients and increase the amount of water absorbed by the soil.

But soils have been changed over recent decades through the crop specialisation and simplification discussed above. The capacity of species to adapt to agricultural practices is directly limited by the frequency and intensity of soil disturbances. If ground breeding birds are not directly affected by tillage, they certainly suffer from the food scarcity resulting from it.

# Environmental impacts of agricultural practices

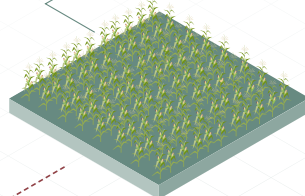
Agriculture depends on biodiversity and at the same time plays an important role in shaping it. Agriculture has undergone profound changes in recent decades, notably to address the growing food demand. Its intensification has led to unprecedented energy and water use, an increased pollution and the steady encroachment of simplified agricultural land. All lead to a massive loss of biodiversity.



**Deforestation**  
Every year, an area of forest bigger than the UK has been lost since 2014. Industrial agriculture is associated with two-thirds of tropical deforestation. Deforestation is one of the greatest causes of biodiversity loss.

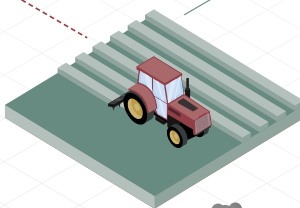
## Simplified agricultural landscapes

While biodiverse cultures provide stability, monoculture is prone to wildfires, water stress, insect invasions and is often associated with intensive use of agrochemicals and their related risks. Over 6,000 plant species have been cultivated for food. But only nine account for 66% of total crop production. Diversity in farmers' fields has declined and that threats to diversity are getting stronger.



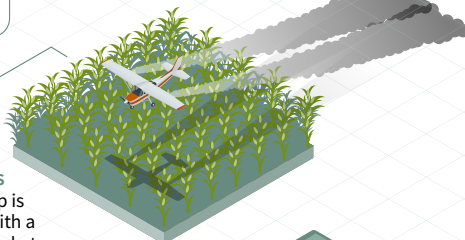
## Soil disturbance

Soils have been changed over recent decades through crop specialisation and simplification, as well as more active preparation. But each ploughing affects biological diversity within the soil as well as the fauna and flora above.



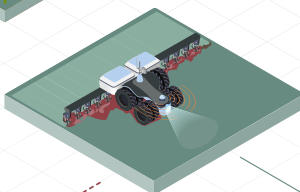
## Toxicity of pesticides

Every conventional crop is treated several times with a combination of active substances with a common purpose: erase biodiversity from the cropped area. In the European Union (EU), where you might have seen 100 birds breeding in 1995, today it's just 20.



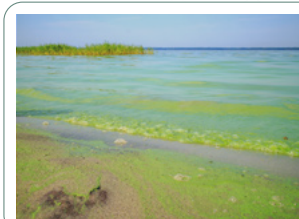
## Over extraction of water

Drawing water from groundwater, rivers, lakes or overland flow, agriculture accounts for 70% of global water abstraction. Over-extraction of water can alter water habitats and fauna.



## Generalization of fertilizers

Fertilizers have boosted crop yields, but it has come with serious costs. On top of being extremely energy-intensive, they have terrible effects on land, coastal areas and freshwater. They are key drivers behind biodiversity decline at local, national and global level.



## Water pollution

Agricultural activities discharge large quantities of agrochemicals, organic matter or drug residues into water. This often represents the major factor in coastal and inland water pollution, and can be a threat to health.

# Generalization of fertilizers and their negative impact

The use of mineral fertilizers has become commonplace, but nitrogen and phosphorus are key drivers behind biodiversity decline at local, national and global level<sup>v</sup>. On land, an excess of nitrogen is good for the crops that can metabolize it easily, but the majority of species cannot. Native plants die out and biodiversity suffers, leading to a homogenous landscape.

Excessive use of nitrogen and phosphorus also means fertilizers are running into rivers, lakes and oceans. This can cause acidification and eutrophication, resulting in algae blooms which cloud the water, deplete it of oxygen, kill fish and deprive aquatic plants of sunlight, further damaging carbon sequestration. One infamous example is the “dead zone” in the Gulf of Mexico, where there has been a huge decline in shrimp catches due to fertilizer transported in rivers from the US Midwest<sup>v</sup>.

## The water pollution bill

The Organization for Economic Co-operation and Development (OECD) calculated<sup>vi</sup> the annual cost of water pollution caused by agriculture across its member countries at billions of euros, both in terms of required treatment for consumption and damage to ecosystems.

## Four related key commitments from the recently released EU Biodiversity Strategy for 2030<sup>ix</sup>

- Reduce the use of pesticides by 50%
- Have at least 10% of agricultural area in high-diversity landscape
- Have at least 25% of agricultural land under organic farming management, and significantly increase agro-ecological practices
- Reducing the use of fertilizers by at least 20%

<sup>v</sup>Soons et al. (2017), Nitrogen effects on plant species richness in herbaceous communities are more widespread and stronger than those of phosphorus, [https://www.researchgate.net/publication/311936294\\_Nitrogen\\_effects\\_on\\_plant\\_species\\_richness\\_in\\_herbaceous\\_communities\\_are\\_more\\_widespread\\_and\\_stronger\\_than\\_those\\_of\\_phosphorus](https://www.researchgate.net/publication/311936294_Nitrogen_effects_on_plant_species_richness_in_herbaceous_communities_are_more_widespread_and_stronger_than_those_of_phosphorus)

<sup>v</sup>Stockholm Resilience Center (2019), The nine planetary boundaries <https://www.stockholmresilience.org/research/planetary-boundaries/planetary-boundaries/about-the-research/the-nine-planetary-boundaries.html>

<sup>vi</sup>Gruère, G. (2016), Agriculture and water: a major conundrum, [https://www.researchgate.net/publication/297013795\\_Agriculture\\_and\\_water\\_a\\_major\\_conundrum](https://www.researchgate.net/publication/297013795_Agriculture_and_water_a_major_conundrum)

<sup>vii</sup>University of York (2005), Salters-Nuffield Advanced Biology, [https://books.google.fr/books?id=wDgrr5FRc\\_gC&pg=PT185&lpg=PT185&dq=In+Eu+rope+and+the+US,+over+90%25+of+arable+land+is+treated+with+weed+killers,+salters+nuffield+advanced+biology&source=bl&ots=Z-vvlsZHMI&sig=ACfU3U2yEzPBfbZqJ\\_w3MpCPVY4fvgEeuQ&hl=fr&sa=X&ved=2ahUKewixhOXE8r\\_qAhXozoUKHT0iDiAQ6AEwAHoECAoQAQ#v=onepage&q=In%20Europe%20and%20the%20US%2C%20over%2090%25%20of%20arable%20land%20is%20treated%20with%20weed%20killers%2C%20salters%20nuffield%20advanced%20biology&f=false](https://books.google.fr/books?id=wDgrr5FRc_gC&pg=PT185&lpg=PT185&dq=In+Eu+rope+and+the+US,+over+90%25+of+arable+land+is+treated+with+weed+killers,+salters+nuffield+advanced+biology&source=bl&ots=Z-vvlsZHMI&sig=ACfU3U2yEzPBfbZqJ_w3MpCPVY4fvgEeuQ&hl=fr&sa=X&ved=2ahUKewixhOXE8r_qAhXozoUKHT0iDiAQ6AEwAHoECAoQAQ#v=onepage&q=In%20Europe%20and%20the%20US%2C%20over%2090%25%20of%20arable%20land%20is%20treated%20with%20weed%20killers%2C%20salters%20nuffield%20advanced%20biology&f=false)

<sup>viii</sup>FAO (2017), The Outlook for Agriculture and Rural Development in the Americas

<sup>ix</sup><https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1590574123338&uri=CELEX:52020DC0380>

# The toxicity of pesticides

The use of pesticides has increased steadily over recent decades and they are common in conventional agriculture where most crops are treated several times with a combination of active herbicides, insecticides, fungicides, bactericides, etc. In Europe and the US, over 90% of arable land is treated with chemical weed killers<sup>vii</sup>. The common purpose of pesticides is to erase biodiversity from the cropped area and to prevent repopulation until harvest. Fields are thereby ‘cleaned’ of wildflowers, butterflies and pollinators which are now rarely seen in most conventional crop areas.

## Deforestation: one of the greatest causes of biodiversity loss

Forests contribute to the mitigation of climate change and play a key role in climate change adaptation, as well as in freshwater supply and soil protection. They are also home to more than 75% of the world’s biodiversity<sup>viii</sup>.

But increasing demand for agricultural commodities such as beef, soybean or palm oil has led to an alarming increase in forest loss and degradation. The UN Food and Agriculture Organization (FAO) estimates that conversion to agricultural land accounts for 80% of forest loss.

We have a policy dedicated to palm oil at AXA IM. We will discuss the impact of beef on the Amazon in a dedicated research piece. In this report we focus on soy crops.

# The soybean production case

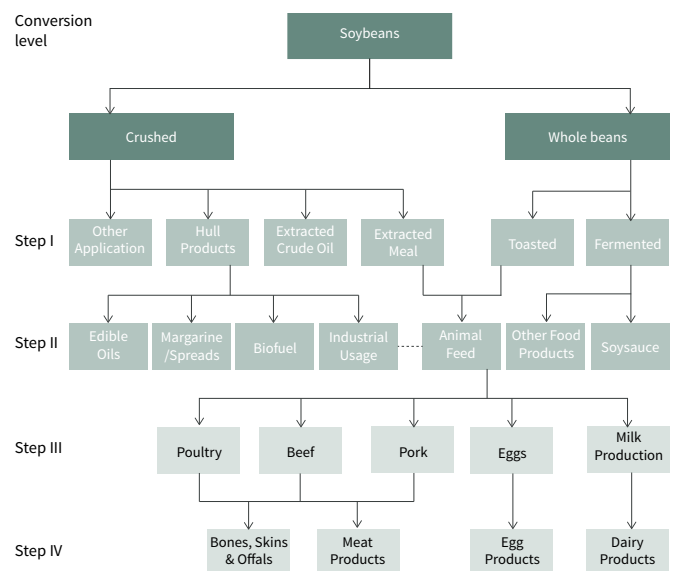
The humble soybean lies at the heart of the biodiversity debate. The evolution of commercial agriculture has seen the land area devoted to soybean production more than quadruple in the last 50 years while other major crops have increased by around a third. It represents over one million square kilometres, equivalent to the total combined area of France, Germany, Belgium and the Netherlands. While it is the crop that is most material to the loss of biodiversity, whether through deforestation or other environmental effects, its expansion shows no sign of stopping. The FAO suggests soy production will almost double by 2050 (Bruinsma, 2009)<sup>x</sup>.

Brazil has become the world's largest producer of soy – and it is no coincidence that it is also the country showing the largest loss of forest area<sup>xi</sup>. A major part of Amazon deforestation has been for soy cultivation. The land claimed for production is only one issue: intensive soybean farming threatens other entire ecosystems, such as the Cerrado and Chaco biomes<sup>xii</sup>, and also results in other problems associated with the kind of input intensification discussed above.

These environmental effects put at risk the well-being of future generations. They contribute to irreversible climate change and exacerbate biodiversity loss, leading to impacts that are uncertain and hard to measure. That is a challenge for active investors seeking to protect planet and portfolios deep into the future.

## Soybeans: An agricultural lynchpin

### Product derived from soy



Source: WWF. 2014. The Growth of Soy: Impacts and Solutions

### Soybeans account for 60% of the EU's imported deforestation risks in crops

Every year, the European Union (EU) imports more than 35 million tonnes of soy. That's about a third of the global trade. According to a 2013 study led by the European Commission<sup>xiii</sup>, soybeans accounted for 60% of EU imports of crop products at risk of generating deforestation. The next largest contributors were palm oil at 12%, and cocoa at 8%.

<sup>x</sup>WWF (2014), The Growth of Soy: Impacts and Solutions

<sup>xi</sup>FAO (2019), The State of the World's Biodiversity for Food and Agriculture

<sup>xii</sup>Garrett & Rausch (2016), Green for gold: social and ecological tradeoffs influencing the sustainability of the Brazilian soy industry, The Journal of Peasant Studies, [https://www.researchgate.net/publication/276982790\\_Green\\_for\\_Gold\\_Social\\_and\\_Ecological\\_Tradeoffs\\_Influencing\\_the\\_Sustainability\\_of\\_the\\_Brazilian\\_Soy\\_Industry](https://www.researchgate.net/publication/276982790_Green_for_Gold_Social_and_Ecological_Tradeoffs_Influencing_the_Sustainability_of_the_Brazilian_Soy_Industry)

<sup>xiii</sup><https://ec.europa.eu/environment/forests/pdf/1.%20Report%20analysis%20of%20impact.pdf>



# Soybean production on the rise

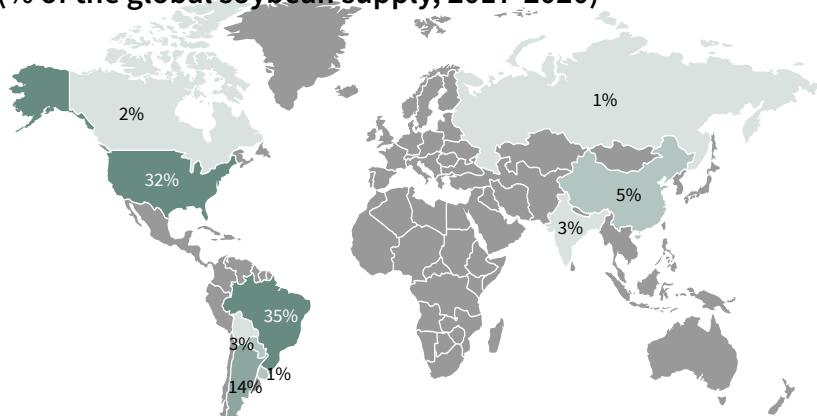
Brazil, Argentina, Paraguay, Uruguay and Bolivia are responsible for more than half of global soybean production. An area roughly the size of France is used in South America for soy agriculture (FAO). From 1995 to 2018, combined soybean production from these countries increased three-fold and is expected to keep growing over the next decade, with further land use expansion for soybeans projected to come at the expense of wild pasture. As an example, about six million hectares are already used for soy in the Brazilian region of Mato Grosso, but Brazil is still offering another 50 million hectares for the same purpose, mainly in the same region. Overall, the OECD and FAO estimate the Brazil's domestic soybean output will grow by 20% in the next decade (from 120 million tonnes in 2018 to 144mt by 2028<sup>xiv</sup>).

## Brazil at the forefront

In the last 50 years, Brazil has emerged as one of the largest agricultural exporters in the world, playing a major role in the global supply of beef, poultry, soy, sugar, oranges and coffee. Agriculture now accounts for over 30% of the total land area of the country. Much of this agricultural land is controlled by large farms, particularly oriented toward export markets. So-called “family farms” of 20-400 hectares, which produce a diverse set of agricultural products for domestic consumption, occupy only quarter of the area<sup>xv</sup>. In this export-oriented industry, soy production has increased faster than any other crop.

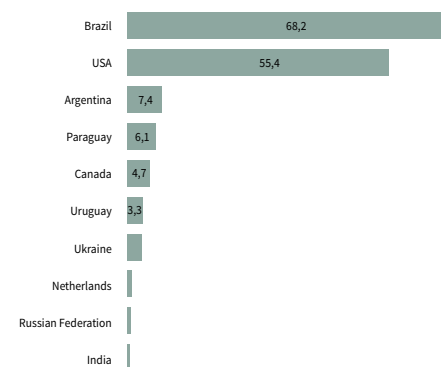
The expansion and intensification of Brazilian agriculture has generated substantial economic benefits for the country. As foreign investment by multinational food companies increased, the soy sector became more vertically coordinated and internationally integrated. Agribusinesses have connected distant consumers with the fruits of Brazil's tropical savannah. The soy industry became increasingly concentrated through the 1990s and 2000s, and six traders now control most of the soy market in Brazil.

### Brazil leads the global soybean production (% of the global soybean supply, 2017-2020)



OECD/FAO DSAT Editor, DSAT-for MSFT, GeoNames, Microsoft, Microsoft Automated Stitching, Navinfo, Navteq, Wikipedia

### Soybean exports by country in 2017 (million tons)



FAO

### Small farmers left behind

Federal investment in the soy industry has largely excluded the poorest farmers, particularly in the North and Northeast regions, to the benefit of multinational agribusinesses, farmers from the South, and well-capitalized entrepreneurs from the Southeast. More generally, according to Garrett & Rausch, counties with high levels of soybean production tend to have higher income inequality than counties dominated by other land uses.

<sup>xiv</sup>OECD/FAO (2019), OECD-FAO Agricultural Outlook 2019-2028, OECD Publishing, Paris/Food and Agriculture Organization of the United Nations, Rome. [https://doi.org/10.1787/agr\\_outlook-2019-en](https://doi.org/10.1787/agr_outlook-2019-en)

<sup>xv</sup>Lapola et al. (2013), Pervasive transition of the Brazilian land-use system, [https://www.researchgate.net/publication/259389071\\_Pervasive\\_transition\\_of\\_the\\_Brazilian\\_land-use\\_system](https://www.researchgate.net/publication/259389071_Pervasive_transition_of_the_Brazilian_land-use_system)

# Soy expansion at the expense of forest

The economic benefit has come at huge environmental cost. Soy production has been one of the main drivers for the loss of primary forests and unique wetlands in the Amazon, Pantanal and Mato Grosso regions. Over the last 40 years, 18% of the forest in the Legal Amazon region, 50% of the native vegetation in the Cerrado, Pampas and Caatinga biomes, and 88% of the native vegetation in the Atlantic Forest zone has been cleared, primarily for agriculture.

The “Amazon Soy Moratorium”, an agreement signed in 2006 to ensure that soy production in the Amazon not occurs through deforestation of native vegetation, helped to decrease some of the pressures. But since President Jair Bolsonaro won power in 2018, regulation has loosened and deforestation has increased<sup>xvi</sup>.

## Soy Moratorium: encouraging results

Major soy traders signed in 2006 a commitment not to purchase soy planted on deforested land in the Amazon. Supported by the Brazilian government at the time, the Moratorium helped to reduce the proportion of soy planted on recently deforested land in that biome from 30% in 2006 to around 1% by 2014. However, most soy cultivation in Brazil takes place not in the Amazon, but in the Cerrado, a highly biodiverse savannah ecosystem, housing 5% of world biodiversity, that is outside of the scope of the Moratorium.

“ Soybeans are an emblem of industrialised agriculture, and they are a useful example of how engagement can work in a complex value chain ”

## Biodiversity concerns around GMOs

Almost all the soy produced in South America is genetically modified<sup>xvii</sup>. This raises concerns around biodiversity through cross-contamination issues as well as the agricultural practices associated with genetically modified organisms (GMOs). It involves no crop rotation, encourages industrialised agriculture and the extensive use of pesticides. We have discussed above how such practices we can have negative effects on the environment and biodiversity.



<sup>xvi</sup><https://www.reuters.com/article/us-brazil-deforestation/brazil-amazon-deforestation-jumped-85-in-2019-vs-2018-government-data-idUSKBN1ZD2W0>  
<sup>xvii</sup>96.5% in 2017 <https://www.ocl-journal.org/articles/ocj/pdf/2018/01/ocj170039.pdf>

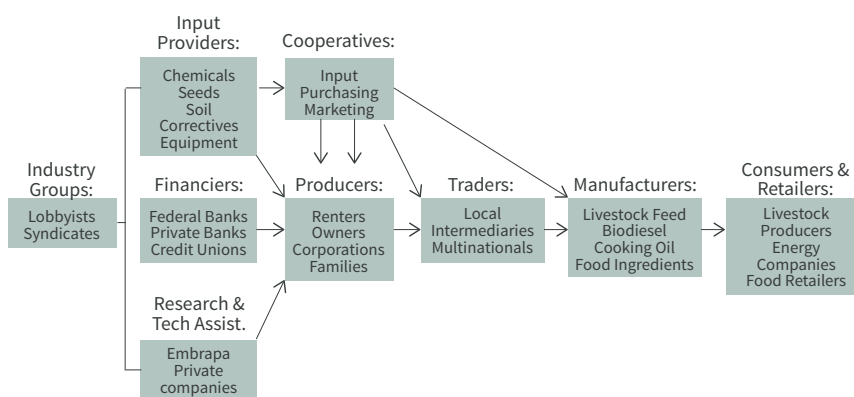
# How to engage on agricultural practices

As long-term active investors we seek to encourage sustainable practices when allocating capital to different stakeholders in the agricultural value chain. This value chain is a complex web of activities, outcomes, and drivers from planting to disposing.



Various large and small players are involved in the Brazilian soybean value chain, upstream and downstream, from input providers to end-consumers. What “sustainable practices” means is dependent on the activity of each individual player, and the identification of companies using good or bad practices remains challenging. While many may directly or indirectly benefit from the capital we provide to the market, we have identified two main businesses with which we will engage: global traders and consumer-facing companies. We directly invest in some of these companies and we consider they can influence many other players in the value chain.

Typical Brazilian soy supply chain.



Source: [https://www.researchgate.net/publication/276982790\\_Green\\_for\\_Gold\\_Social\\_and\\_Ecological\\_Tradeoffs\\_Influencing\\_the\\_Sustainability\\_of\\_the\\_Brazilian\\_Soy\\_Industry](https://www.researchgate.net/publication/276982790_Green_for_Gold_Social_and_Ecological_Tradeoffs_Influencing_the_Sustainability_of_the_Brazilian_Soy_Industry) p.10

## Traders: at the heart of the industry

Several commodities have seen increased concentration through mergers and acquisitions. The soybean industry illustrates it well. A small number of major firms are now in control of the soy market. According to the Trase platform<sup>xviii</sup>, ADM, Amaggi, Bunge, Cargill, COFCO and Louis Dreyfus Company together control around 60% of all soy exports from Brazil.

Beyond soybeans, major traders largely control the global trade in grain and other agricultural goods and will have

a physical presence on the ground. They own most of the processing and storage facilities, and provide much of the financing that underpins the soft commodities industry. As such, they have a key role in influencing farmers and their agricultural practices and are in a position to support sustainable commodities sourcing, such as deforestation-free soy. The motivation for this, however, might come from another part of the value chain.

<sup>xviii</sup>Trase Yearbook (2018), Sustainability in forest-risk supply chains : Spotlights on Brazilian soy, <https://yearbook2018.trase.earth/chapter4/>

# Consumer-facing companies: following the money

Whoever pays the piper calls the tune. Consumer-facing companies may be the farthest from the field, but they are also in the best position to influence what happens in the rest of the value chain. By emphasising biodiversity conservation, they can limit risks to their long-term supply models and reflect growing consumer demand for sustainable practices further up the chain. The standards they insist upon will filter down to agricultural production.

The formulation of products (and packaging) is often based on commodities which are particularly exposed to biodiversity risks through agricultural practices. An integration of sustainability requirements in sourcing strategies and procurement guidelines would help protect biodiversity within our agricultural landscapes. By using traceability, certification and engagement with all actors in the supply chain, these firms can support better agricultural practices and mitigate risks while ensuring the safe origin of products for consumers. Companies might seek to operate in low-risk jurisdictions and use direct area monitoring among other sustainability initiatives.

Clear information on supply chain practices makes it easier to assess operational and reputational risk and to respond to regulatory changes. It also helps improve the quality of products, ensures a more secure supply chain and – by addressing new consumer demands – may justify higher prices.

## Product certification: a common approach

Despite some limits, product certifications such as RSPO, RTRS, FSC, GRAB, etc. promote principles which take into consideration most of the relevant environmental and social risks.

However, there are limits to enforcement and, crucially, issues with poor coverage. Only 1% of global soy production is RTRS-certified. Other certification schemes only lift the share of global soy production under a market-recognized scheme to 3%. We believe there are two explanations for this: fragmentation of the certifications on offer; and weak market demand.

As a result, we think encouraging consumer-facing companies to certify the soy and other commodities they source is an appropriate engagement target.

Transparency and traceability are also needed to ensure the safe origin of the product. Companies may combine the use of low-risk jurisdictions and direct area monitoring, or take steps to develop other sustainability initiatives.

## Initiatives: One Planet Business for Biodiversity

OP2B is an international, cross-sectorial, action-oriented business coalition on biodiversity with a specific focus on agriculture. It seeks to scale-up regenerative agricultural practices; boost cultivated biodiversity and diets through product portfolios; and better manage the protection or restoration of high value natural ecosystems – including the elimination of deforestation. For now, these are commitments focused on 2030, but members intend to demonstrate sustained progress. This will include the development of systemic, meaningful and measurable solutions that can be implemented by coalition members in their value chains. The disclosure of ambitious, timebound and measurable commitments and policy proposals is designed to help deliver successful outcomes.

# The investor engagement playbook in the agricultural value chain

## Our engagement recommendations include:

- Identifying direct and indirect business dependencies on agriculture in the supply chain.
- Establishing a biodiversity-dedicated policy to promote responsible agricultural practices within the supply chain. This should apply global standards to address enforcement gaps in less stringent countries.
- Establishing transparency and targets for supply chain certification. Disclosing the share of each commodity – wood, soy, palm oil, rice, beef, etc. – that is certified against existing certification schemes.
- Developing supply chain mapping tools to provide traceability, measure volumes and track how commodities move through the supply chain. This includes monitoring mechanisms and programs with dedicated checkpoints in the value chain.
- Developing information systems and footprint measurement to better understand and assess business' impacts and dependencies on nature. This includes understanding vulnerabilities within supply chains and preparing for alternative sourcing. This could include measuring water use, fertilizer use, and the number of varieties in the supply chain.
- Integrating biodiversity factors into business strategy. This includes integrating relevant targets, measurement and reporting into wider risk management processes. A company might consider the removal of harmful pesticides in the supply chain, the implementation of specific targets for organic or certified sourcing, or the development of precision agriculture.
- Participating in industry initiatives such as sustainable farming programs. As well as sharing best practices and working towards common practices and tools.
- Signing dedicated statements such as the Soy Moratorium.
- Encouraging traders to support the development of producers through funding, expertise and knowledge sharing, as well as ensuring demand for sustainable products at a better price.

## Government specific engagement guidelines:

Central government sets the regulatory framework for value chain players, from farmers to retailers. It therefore has a key role in improving standards (in land use rights, trade agreements/treaties, quotas and restrictions, etc.). We engage key governments to further consider biodiversity through legal and regulatory developments, but also when supporting economic development.

# Conclusion

Agriculture depends on biodiversity and at the same time plays an important role in shaping it. This symbiotic and beneficial relationship has altered fundamentally over the last decades.

The intensification of agriculture and the globalisation of food markets have encouraged unsustainable agricultural practices. The steady encroachment of agricultural land, highly intensive production systems and a simplification of agricultural landscapes have led to a massive loss of biodiversity and natural capital on which, ultimately, the economy and people depend.

Our wealth and our health are intimately connected to our sustainable management of the world's biodiversity, and only by respecting it will nature provide us with our life support system. COVID-19 has been a wake-up call that should also focus our minds on the less dramatic, but no less significant long-term effects of industrialised agriculture. Scientists have predicted this kind of pandemic for many years. And they predict other major threats if we are not able to make transformative changes that address biodiversity depletion.

Responsible investors can be part of that change and can help drive the reconciling of immediate global consumer demand with the deep long-term benefits of protecting the natural world. A broader public understanding of the threats and more ecological regulation is needed to better protect biodiversity, but companies and the providers of capital are at the heart of the matter. Investors must robustly engage companies on these issues where they can. The agricultural value chain is a complex beast, dispersed across a wide array of players, but with a focused and active approach we can target the key points in that value chain where a tangible and positive difference can be decisively made.

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