



Funding destruction of the Amazon and the Cerrado- savannah

A Fair Finance Guide
Netherlands case study
on deforestation risks in
soy and beef supply
chains

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About the Eerlijke Geldwijzer - Fair Finance Guide Netherlands

This report has been commissioned by the Eerlijke Geldwijzer (Fair Finance Guide Netherlands) in cooperation with Hivos and Both ENDS. The Eerlijke Geldwijzer is a coalition of the following organisations: Amnesty International, Milieudefensie, Oxfam Novib, PAX and World Animal Protection. The aim of the Eerlijke Geldwijzer is to encourage corporate social responsibility by financial institutions. Not all coalition members of the Eerlijke Geldwijzer work on all themes and/or sectors on which the research of the Eerlijke Geldwijzer focuses. Reports on specific themes therefore do not necessarily reflect the opinion of all coalition members of the Eerlijke Geldwijzer.

Fair Finance Guide Netherlands is part of Fair Finance International (FFI) an international civil society network initiated by Oxfam working in ten countries with over 70 CSOs, that seeks to strengthen the commitment of banks and other financial institutions to social, environmental and human rights standards.

About this report

This report investigates the financial involvement of Dutch banking groups, insurance companies and pension funds in deforestation in the Amazon and Cerrado regions, and the actions that these financial institutions active on the Dutch market are taking to prevent and stop deforestation.

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Summary

The Amazon and Cerrado biomes in Brazil have for years been among the global hotspots of tropical deforestation. The major drivers of forest conversion in these biomes are soybean cultivation and cattle ranching. This report shows how 21 banking groups, insurance companies and pension funds active on the Dutch market are involved in soy- and beef-driven deforestation in these regions and how they are dealing with this issue.

Soybeans are mainly grown for the soybean meal used as animal feed for pork, dairy and poultry farming across the globe. Brazil now accounts for one third of the global cultivation area, which in the past decade has resulted in a rapid increase in deforestation in the Cerrado-savannah. Brazil also has the largest number of beef cattle of any nation in the world. Land clearance for cattle pasture is responsible for 80% of Amazon deforestation.

Deforestation causes biodiversity loss, has impacts on the water cycle and contributes strongly to greenhouse gas emissions and with this to climate change. Deforestation leads to increased contact between wild animals and humans, increasing the risk of zoonoses. Deforestation is also accompanied by land grabbing, violations of the rights of indigenous communities and other human rights violations. Indirectly, because soy is mostly used for animal feed, the deforestation in these regions is linked to severe animal welfare infringements in intensive livestock farming across the world.

Voluntary certifications of 'responsibly produced' soy have not solved these sustainability issues. First because the share of certified soy cultivation in Brazil is relatively low and secondly because of inherent flaws in the certification systems. Despite cut-off dates for soy cultivation on converted forestland and other sustainability criteria, the industrial, monoculture-based soy cultivation model and the fact that certified purchases are largely based on credits instead of physical supplies, mean that certified soy can still be linked to unsustainable growing practices. Finally, the mass production of soy for animal feed does not fit with a vision of sustainable, circular agriculture, based on the principle that plant biomass is the basic building block of food and should be used by humans first.

Role of the financial sector

Domestic and international financial institutions, such as banks, insurance companies and pension funds, play a role in enabling the deforestation caused by soy cultivation and cattle ranching, by financing the upstream farms directly responsible for deforestation as well as the mid- and downstream buyers in the soy and beef supply chains. The main players in the beef supply chain are beef slaughterhouses and supermarkets in Brazil. The main players in the soy supply chain are farmers, traders and poultry and pork slaughterhouses in Brazil, as well as animal feed producers, livestock slaughterhouses and dairy companies in China and Europe.

In this research project commissioned by the Eerlijke Geldwijzer in collaboration with Both ENDS and Hivos, Profundo investigated the financial involvement of financial institutions active on the Dutch market in companies which run the risk of being directly or indirectly (through their supply chains) involved in deforestation in the Amazon and Cerrado regions in South America. A total of 59 companies active in Brazil, China and Europe were selected, which are directly involved in soy farming or cattle ranching in the Cerrado and Amazon regions, or which play a significant role in the domestic or international soy and beef supply chains.

The Eerlijke Geldwijzer and its partners Both ENDS and Hivos expect financial institutions which are financing, or investing in, companies active in the soy and beef sectors in the Amazon and Cerrado regions or in the domestic and international soy and beef supply chains to:

- have strict policies on avoiding deforestation and related issues, such as biodiversity, climate change, land rights and animal welfare, in place; and

- take the necessary actions to ensure that they do not finance or invest in companies which are directly or indirectly (through their supply chains) involved in deforestation and related issues such as biodiversity, climate change, land rights and animal welfare.

This research project therefore assessed the policies and the actions (screening, engagement, voting, clauses in contracts, divestments and collective initiatives) of financial institutions involved in financing the international soy and beef supply chains. All financial institutions were given the opportunity to give feedback on the draft findings. Below the research findings for each group of financial institutions - banking groups, insurance companies and pension funds - are presented.

Banking groups

The research findings for the seven Dutch banking groups included in the Eerlijke Bankwijzer, are summarised in Table 1.

Table 1 Dutch banking groups and deforestation in the Amazon and Cerrado

Banking group	Loans (USD mln, 2015- 2020)	Underwriting (USD mln, 2015-2020)	Investments (USD mln, most recent)	Policy assessment	Engagement score	Overall assessment
ABN Amro	2,090	165	38	6.6	3.3	Red
De Volksbank	0	0	0	Not assessed	Not assessed	Green
ING	4,905	1,839	1	6.4	3.1	Red
NIBC	55	0	0	5.6	2.3	Red
Rabobank	5,066	677	0	7.1	4.6	Red
Triodos	0	0	46	8.6	5.8	Orange
Van Lanschot Kempen	0	0	82	5.1	2.7	Red
Total	12,116	2,681	167			

The overall assessment of De Volksbank is **green**, because the banking group has chosen not to have any financial involvement in the soy and beef sectors.

For Triodos the overall assessment is **orange**, as both its policy assessment and its engagement scores are higher than 5. This means that this banking group is able to demonstrate that it takes some steps to prevent that the companies in the soy and beef supply chains they have financial relationships with are directly or indirectly (through their supply chains) involved in deforestation. Triodos is not assessed **green**, as it should improve its transparency on divestments and screening procedures.

For the other five banks, the overall assessment is **red** as either their policy assessment or their engagement score is lower than 5, or both. This means that these banks do not have an active approach to prevent that the companies in the soy and beef supply chains with which they have financial relationships are directly or indirectly (through their supply chains) involved in deforestation.

Insurance companies

The research findings for nine large insurance groups operating on the Dutch market, included in the Eerlijke Verzekeringswijzer, are summarised in Table 2.

Table 2 Insurance companies active in the Netherlands and deforestation in the Amazon and Cerrado

Insurance company	Shareholdings (USD mln, most recent)	Bondholdings (USD mln, most recent)	Policy assessment	Engagement score	Overall assessment
Achmea	1	0	Not assessed	Not assessed	Green
Aegon	20	25	4.9	5.0	Red
Allianz	222	301	4.8	5.8	Red
ASR	24	0	8.3	5.0	Orange
CZ	0	0	Not assessed	Not assessed	Green
Menzis	0	0	Not assessed	Not assessed	Green
NN	98	8	7.2	5.8	Orange
VGZ	0	0	Not assessed	Not assessed	Green
Vivat	79	7	8.6	6.2	Orange
	444	341			

The overall assessment of Achmea¹, CZ, Menzis and VGZ is **green**, because these insurance companies have no significant financial involvement in the soy and beef sectors. As these are predominantly health insurance companies, this is probably related to their business model in which investments do not play an important role.

For ASR, NN and Vivat the overall assessment is **orange**, as both their policy assessments and their engagement scores are higher than 5. This means that these insurance companies are able to demonstrate that they take some steps to prevent that the companies they have financial relationships with are directly or indirectly (through their supply chains) involved in deforestation. But for all three insurance companies, significant criteria are missing from their policies and their engagement mainly focusses on collective investor statements, rather than intensive discussions and agreements with individual companies.

For the other two insurance companies, Aegon and Allianz, the overall assessment is **red** as their policy assessments are (just) below 5. This means that these insurance companies do not have an active approach to prevent that the companies they have financial relationships with are directly or indirectly (through their supply chains) involved in deforestation.

Pension funds

The research findings for the main ten Dutch pension funds, included in the Eerlijke Pensioenwijzer, are summarised in Table 3.

Table 3 Dutch pension funds and deforestation in the Amazon and Cerrado

Pension fund	Shareholdings (USD mln, most recent)	Bondholdings (USD mln, most recent)	Policy assessment	Engagement score	Overall assessment
ABP	579	111	3.5	8.1	Red
BPF Bouw	71	20	3.3	6.9	Red
BPL Pensioen	n.a.	n.a.	2.4	2.7	Red
Pensioenfonds Detailhandel	n.a.	0	2.8	3.1	Red
Pensioenfonds Horeca en Catering	9	2	3.0	4.6	Red
Pensioenfonds Vervoer	n.a.	n.a.	2.3	3.1	Red
Pensioenfonds Zorg en Welzijn	258	197	3.7	7.3	Red
PME	77	120	2.9	3.8	Red
PMT	70	217	3.5	4.2	Red
StiPP	n.a.	n.a.	1.7	3.5	Red
Total	1,064	667			

For all ten pension funds, the overall assessment is **red** as their policy assessments were below 5. For seven pension funds the engagement scores were also below 5, but for three pension funds (ABP, BPF Bouw and Pensioenfonds Zorg en Welzijn) the engagement scores were well above 5. Their overall assessment nevertheless is **red**, as intensive engagement is not effective if it is not grounded on clear and specific policies. Overall, this means that the ten pension funds do not have an active approach to prevent that the companies they have financial relationships with are directly or indirectly (through their supply chains) involved in deforestation.

Conclusions

Based on the outcomes of this research, the following conclusions can be drawn:

1. 6 out of 7 Dutch banks, 5 out of 9 insurance companies active in the Netherlands and 10 out of 10 Dutch pension funds have financial relationships with one or more of a sample of 59 important deforestation-risk companies active in the international soy and beef supply chains in Brazil, China and Europe;
2. Four Dutch banks provided loans totalling USD 12.1 billion to the selected 59 companies in the period 2015-2020 and helped them with share and bond issuances worth USD 2.7 billion. Six insurers active in the Netherlands currently have invested USD 785 million in shares and bonds of these companies. Six Dutch pension funds have invested USD 1.7 billion and the asset managers of four Dutch banks another USD 167 million.

Most Dutch money goes to the soy traders Cargill (United States) and Louis Dreyfus (Netherlands), followed by the French dairy group Danone and the Brazilian meat company JBS. The three big Dutch banks (ABN Amro, ING and Rabobank) have the most significant financial relationships with companies in the international soy and beef supply chains, followed by the main pension funds ABP and PfZW, as well as insurance company Allianz.

3. Five of the researched financial institutions (Achmea, CZ, De Volksbank, Menzis and VGZ) have no financial involvement in the soy and beef sectors.

4. None of the other 21 banks, insurance companies and pension funds which were found to finance or invest in companies in the (inter)national soy and beef supply chains and which are thus exposed to the risk of being involved in financing deforestation, climate change, biodiversity loss, human rights' violations and animal cruelty, takes sufficient steps (screening, engagement, voting, divestment, etc.) which are based on strong policies to prevent and halt deforestation in the Amazon and Cerrado regions.
5. Four financial institutions (Triodos, ASR, NN and Vivat) are able to demonstrate that they do take steps to prevent that the companies they have financial relationships with are directly or indirectly (through their supply chains) involved in deforestation. As there are still weaknesses in their policies and/or engagement efforts they cannot yet be sure that they take sufficient steps to prevent any involvement in deforestation and related sustainability issues such as biodiversity, climate change, land rights and animal welfare. Triodos should be more transparent on divestments and screening procedures. The three insurance companies should not only focus on collective investor statements, but also on engaging individual companies and - where necessary - withdrawing investments.
6. All financial institutions were given extensive opportunities to provide information about their engagement activities and to comment on the draft research results. Seven financial institutions (Allianz, ABP, PfZW, BPF Bouw, Pensioenfonds Horeca & Catering, PMT and de Volksbank) cooperated with this study by filling in the survey sent to them on their engagement efforts. Three financial institutions (Pensioenfonds Horeca & Catering, PMT and Triodos Bank) commented on the draft research results. Out of the other 18 financial institutions, 14 are exposed to deforestation-risk companies in the international soy and beef supply chains. Their unwillingness to cooperate shows a lack of transparency with regard to legitimate requests from civil society organisations.

Recommendations to financial institutions

Based on the outcomes of this research, the Eerlijke Geldwijzer and its partners Both ENDS and Hivos make the following recommendations to financial institutions:

1. **Commit to zero tolerance for deforestation in all financial relations:** Develop a vision on alternative development paths for a sustainable, circular agriculture system. Any involvement in deforestation-risk sectors such as the soy and beef sectors is problematic and needs to be reconsidered.
2. **Develop a robust policy on deforestation and sustainable food systems:** This policy should set clear and strict criteria based on the principles included in legislations and in international agreements and standards. It needs to be accompanied by Key Performance Indicators (KPIs). Without strong policies and KPIs, every strategy to change company behaviour is at risk of requiring too little from a company and could result in "greenwashing", by creating a false sense of "addressing the issue".
3. **Disclose and be transparent:** Make full transparency a condition for investment and financing and disclose all the names and relevant details of the deforestation-risk companies in financing and investment portfolios. Be transparent on deforestation-related policies, screening procedures, engagement processes, voting behaviour and collective initiatives, and the progress achieved against KPIs. Finally, be open and transparent on information requests on behalf of credible civil society initiatives.
4. **Communicate expectations and formalize requirements:** Clearly communicate sustainability expectations to new and existing clients and investee companies. When granting a loan, these expectations should be formalized by a clause in the loan contract.

5. **Screen all deforestation-risk companies:** Screen all deforestation-risk companies in financing and investment portfolios on a regular basis, not only new clients or investments. The information from companies themselves and from service providers needs to be triangulated with all relevant information obtained from NGOs, experts and knowledge institutes as well as meaningful engagement with local actual and potentially affected stakeholders, such as indigenous peoples and other affected communities.
6. **Exclude clear offenders:** When the screening process clarifies that a company is systematically involved in deforestation and related harmful impacts on sustainability issues, such as biodiversity, climate change, land rights and animal welfare, and prospects for improvement are low, the decision should be taken to not invest in this company and to exclude the company from financings.
7. **Engage with companies:** Engagement with deforestation-risk companies which might not be meeting all principles and criteria included in the financial institution's policy, must lead to a clear understanding of the problem and an agreement on the steps needed to address the issue. This agreement needs to be summarised in a time-bound action plan to which the company commits, including a clear description of the consequences when the company breaches these commitments.
8. **Monitor and act:** Monitor the company's progress with implementing an action plan. If progress is insufficient after a reasonable time period, financial institutions must decide to divest or - in case of a loan - apply for dissolution of the loan contract because the company defaults on one of the clauses.
9. **Vote on deforestation shareholder resolutions:** Investors should use the voting rights on the shares of deforestation-risk companies they hold. Moreover, since such shareholder resolutions may not adequately address root causes of deforestation, investors should also take the initiative to file and recruit support for more transformational shareholder resolutions.
10. **Take collective initiative:** Collaborate with peers, with NGOs, national and local governments and other stakeholders to collectively call upon corporate actors in the soy and beef supply chains, as well as the Brazilian government, to prevent, cease and remediate deforestation and its effects. Further collective initiatives are needed to transform the current unsustainable food system into a sustainable food system.
11. **Ensure effective grievance mechanisms:** Effective grievance mechanisms should be in place for all relevant stakeholders, who could be affected by deforestation linked to companies financial institutions are financing or investing in.

Recommendations to the Dutch government

Financial institutions cannot bring about the required changes alone, especially governments need to show strong leadership. Based on the outcomes of this research, the Eerlijke Geldwijzer and its partners Both ENDS and Hivos make the following recommendations to the Dutch government:

1. Develop and implement coherent policies to **transition to circular agriculture and sustainable food systems**. This should include, inter alia:
 1. policies ensuring a phase out of soy imports from across the Atlantic to feed livestock in The Netherlands (and wider in the EU through exports of imported soy). Such a phase-out is also needed for imports of other forest-risk-crops;
 2. shifting away from unsustainable diets heavily depending on animal protein, and towards healthy, sustainable, primarily plant-based diets;
 3. improving animal welfare standards, including the adoption of higher welfare breeds and the phasing out of cages.
2. Adopt general **due diligence legislation** for companies, including financial institutions, to ensure full compliance with the OECD Guidelines and UNGPs.

Recommendation to the European Union

Based on the outcomes of this research, the Eerlijke Geldwijzer and its partners Both ENDS and Hivos make the following recommendation to the EU:

1. **Legislate at the EU level the market access of commodities** of which the extraction, harvesting or production has, or risks having, a detrimental impact on forests, other ecosystems and related human rights and animal welfare issues. This legislation should also contain due diligence rules for financial institutions, among others, to ensure that the European financial and banking sector does not contribute directly or indirectly to deforestation, biodiversity loss, human rights violations or animal welfare infringements.

Samenvatting

De biomen van de Amazone en de Cerrado-savanne in Brazilië behoren al jaren tot de wereldwijde hotspots van tropische ontbossing. De belangrijkste aanjagers van bosconversie in deze biomen zijn de sojateelt en de veeteelt. Dit rapport laat zien hoe 21 op de Nederlandse markt actieve bankgroepen, verzekeraars en pensioenfondsen betrokken zijn bij door sojateelt en rundvleesproductie aangedreven ontbossing in deze regio's en hoe zij hiermee omgaan.

Sojabonen worden voornamelijk verbouwd voor het sojameel dat wordt gebruikt als diervoeder voor de varkens-, melkvee- en pluimveehouderij in met name Brazilië, China en de Europese Unie. Brazilië is nu goed voor een derde van de mondiale sojateelt, wat in het afgelopen decennium heeft geleid tot een snelle toename van ontbossing in de Cerrado-savanne. Brazilië heeft ook het grootste aantal vleeskoeien van alle landen ter wereld. Omzetting van bosgebied in weiland is verantwoordelijk voor 80% van de ontbossing in de Amazone.

Ontbossing veroorzaakt verlies aan biodiversiteit, heeft gevolgen voor de waterkringloop en draagt sterk bij aan de uitstoot van broeikasgassen en daarmee aan klimaatverandering. Ontbossing leidt tot meer contact tussen wilde dieren en mensen, waardoor het risico op zoonosen toeneemt. Ontbossing gaat ook gepaard met landroof, schendingen van de rechten van inheemse gemeenschappen en andere mensenrechtenschendingen. Omdat soja vooral als veevoer wordt gebruikt, hangt de ontbossing in deze regio's samen met ernstige dierenwelzijnsschendingen in de industriële veehouderij.

Vrijwillige certificering van 'verantwoord geproduceerde' soja heeft deze duurzaamheidsproblemen niet opgelost. Ten eerste omdat het aandeel gecertificeerde sojateelt in Brazilië relatief laag is en ten tweede vanwege inherente tekortkomingen in de certificeringssystemen. Hoewel sojateelt niet toegestaan is als het areaal na een bepaalde datum ontbost is en ondanks andere duurzaamheidscriteria, betekenen de industriële, op monocultuur gebaseerde sojateelt en het feit dat aankopen van gecertificeerde soja grotendeels gebaseerd zijn op credits in plaats van op fysieke leveringen, dat gecertificeerde soja toch in verband staat met niet-duurzame teeltmethoden. Ten slotte past de massaproductie van soja voor diervoeder niet in een visie op duurzame, kringloop-landbouw, gebaseerd op het uitgangspunt dat plantaardige biomassa de basisbouwsteen is van voedsel voor de mens.

Rol van de financiële sector

Braziliaanse en internationale financiële instellingen, zoals banken, verzekeringsmaatschappijen en pensioenfondsen, spelen een rol bij het mogelijk maken van de ontbossing veroorzaakt door sojateelt en veeteelt, door de soja- en veeboeren te financieren die rechtstreeks verantwoordelijk zijn voor ontbossing, evenals de (internationale) bedrijven die soja en rundvlees verder verhandelen en verwerken. De belangrijkste spelers in de toeleveringsketen van rundvlees zijn runderslachterijen en supermarkten in Brazilië. De belangrijkste spelers in de sojaketen zijn boeren, handelaren en pluimvee- en varkensslachterijen in Brazilië, maar ook diervoederproducenten, vee-slachthuizen en zuivelbedrijven in China en Europa.

In dit onderzoeksproject in opdracht van de Eerlijke Geldwijzer in samenwerking met Both ENDS en Hivos, onderzocht Profundo de financiële betrokkenheid van op de Nederlandse markt actieve financiële instellingen in bedrijven die het risico lopen direct of indirect (via hun toeleveringsketens) betrokken te zijn bij ontbossing in de Amazone- en Cerrado-regio's in Zuid-Amerika. Er werden in totaal 59 bedrijven geselecteerd die actief zijn in Brazilië, China en Europa, die direct betrokken zijn bij de sojateelt of veeteelt in de Cerrado- en Amazone-regio's of die een belangrijke rol spelen in de binnenlandse of internationale toeleveringsketens van soja en rundvlees.

De Eerlijke Geldwijzer en haar partners Both ENDS en Hivos verwachten van financiële instellingen die financieren of investeren in bedrijven die actief zijn in de soja- en rundvleessector in de Amazone- en Cerrado-regio of in de (inter) nationale soja- en rundvleesketens dat zij:

- een strikt beleid voeren om ontbossing en aanverwante zaken, zoals biodiversiteit, klimaatverandering, landrechten en dierenwelzijn, te voorkomen; en
- de nodige maatregelen nemen om ervoor te zorgen dat ze niet door financieringen of beleggingen betrokken zijn bij bedrijven die direct of indirect (via hun toeleveringsketens) betrokken zijn bij ontbossing en aanverwante thema's zoals biodiversiteit, klimaatverandering, landrechten en dierenwelzijn.

Dit onderzoeksproject evalueerde daarom het beleid en de acties (screening, engagement, stemmen, clausules in contracten, desinvesteringen en collectieve initiatieven) van financiële instellingen die betrokken zijn bij de financiering van de internationale toeleveringsketens van soja en rundvlees. Alle financiële instellingen kregen de gelegenheid om feedback te geven op de concept-bevindingen. Hieronder worden de onderzoeksresultaten per groep financiële instellingen - bankgroepen, verzekeringsmaatschappijen en pensioenfondsen - gepresenteerd.

Bankgroepen

De onderzoeksresultaten voor de zeven Nederlandse bankgroepen die in de Eerlijke Bankwijzer zijn opgenomen, zijn samengevat in Table 4.

Table 4 **Nederlandse bankgroepen en ontbossing in de Amazone en Cerrado regio's**

Bankgroep	Leningen (USD mln, 2015- 2020)	Emissies (USD mln, 2015-2020)	Beleggingen (USD mln, meest recent)	Beleids beoordeling	Engagement score	Eind beoordeling
ABN Amro	2.090	165	38	6,6	3,3	Rood
De Volksbank	0	0	0	Niet beoordeeld	Niet beoordeeld	Groen
ING	4.905	1.839	1	6,4	3,1	Rood
NIBC	55	0	0	5,6	2,3	Rood
Rabobank	5.066	677	0	7,1	4,6	Rood
Triodos	0	0	46	8,6	5,8	Oranje
Van Lanschot Kempen	0	0	82	5,1	2,7	Rood
Totaal	12.116	2.681	167			

De eindbeoordeling van De Volksbank is **groen**, omdat de bankgroep ervoor heeft gekozen geen financiële betrokkenheid te hebben bij de soja- en rundvleessector.

Voor Triodos is de eindbeoordeling **oranje**, aangezien zowel haar beleidsbeoordeling als haar engagementsscore hoger zijn dan 5. Dit betekent dat deze bankgroep kan aantonen dat zij enkele maatregelen neemt om te voorkomen dat de bedrijven in de soja- en rundvleesketen waar zij financiële relaties mee heeft, direct of indirect (via hun toeleveringsketens) betrokken zijn bij ontbossing. Triodos wordt niet als groen beoordeeld, omdat het de transparantie over desinvesteringen en screeningprocedures zou moeten verbeteren.

Voor de andere vijf banken is de eindbeoordeling **rood** omdat hun engagementsscores lager zijn dan 5. Dit betekent dat deze banken geen actieve aanpak hebben om te voorkomen dat de bedrijven in de soja- en rundvleesketens waarmee zij financiële relaties hebben, direct of indirect (via hun toeleveringsketens) betrokken zijn bij ontbossing.

Verzekeringsmaatschappijen

De onderzoeksresultaten voor de negen grote verzekeringsmaatschappijen die in Nederland actief zijn en die zijn opgenomen in de Eerlijke Verzekeringswijzer, zijn samengevat in Table 5.

Table 5 In Nederland actieve verzekeringsmaatschappijen en ontbossing in de Amazone en Cerrado regio's

Verzekeringsmaatschappij	Aandelen (USD mln, meest recent)	Obligaties (USD mln, meest recent)	Beleidsbeoordeling	Engagement score	Eindbeoordeling
Achmea	1	0	Niet beoordeeld	Niet beoordeeld	Groen
Aegon	20	25	4,9	5,0	Rood
Allianz	222	301	4,8	5,8	Rood
ASR	24	0	8,3	5,0	Oranje
CZ	0	0	Niet beoordeeld	Niet beoordeeld	Groen
Menzis	0	0	Niet beoordeeld	Niet beoordeeld	Groen
NN	98	8	7,2	5,8	Oranje
VGZ	0	0	Niet beoordeeld	Niet beoordeeld	Groen
Vivat	79	7	8,6	6,2	Oranje
Totaal	444	341			

De eindbeoordeling van Achmea,² CZ, Menzis en VGZ is **groen**, omdat deze verzekeraars geen significante financiële betrokkenheid hebben bij de soja- en rundvleessector. Aangezien dit voornamelijk zorgverzekeraars zijn, heeft dit waarschijnlijk te maken met hun bedrijfsmodel waarin beleggingen geen belangrijke rol spelen.

Voor ASR, NN en Vivat is de eindbeoordeling **oranje**, aangezien zowel hun beleidsbeoordelingen als hun engagement scores hoger zijn dan 5. Dit betekent dat deze verzekeraars kunnen aantonen dat ze enkele maatregelen nemen om te voorkomen dat de bedrijven waarmee ze een financiële relatie hebben direct of indirect (via hun toeleveringsketens) betrokken zijn bij ontbossing. Maar voor alle drie de verzekeringsmaatschappijen ontbreken belangrijke criteria in hun beleid en hun engagement is vooral gericht op collectieve beleggersverklaringen, in plaats van intensieve discussies en overeenkomsten met individuele bedrijven.

Voor de andere twee verzekeringsmaatschappijen, Aegon en Allianz, is de eindbeoordeling **rood**, aangezien hun beleidsbeoordelingen (net) onder de 5 liggen. Dit betekent dat deze verzekeringsmaatschappijen geen actieve aanpak hebben om te voorkomen dat de bedrijven waarmee ze financiële relaties hebben, direct of indirect (via hun toeleveringsketens) betrokken zijn bij ontbossing.

Pensioenfondsen

De onderzoeksresultaten voor de tien belangrijkste Nederlandse pensioenfondsen, opgenomen in de Eerlijke Pensioenwijzer, zijn samengevat in Table 6.

Table 6 **Nederlandse pensioenfondsen en ontbossing in de Amazone en Cerrado regio's**

Pensioenfonds	Aandelen (USD mln, meest recent)	Obligaties (USD mln, meest recent)	Beleids beoordeling	Engagement score	Eindbeoordeling
ABP	579	111	3,5	8,1	Rood
BPF Bouw	71	20	3,3	6,9	Rood
BPL Pensioen	n.b.	n.b.	2,4	2,7	Rood
Pensioenfonds Detailhandel	n.b.	0	2,8	3,1	Rood
Pensioenfonds Horeca en Catering	9	2	3,0	4,6	Rood
Pensioenfonds Vervoer	n.b.	n.b.	2,3	3,1	Rood
Pensioenfonds Zorg en Welzijn	258	197	3,7	7,3	Rood
PME	77	120	2,9	3,8	Rood
PMT	70	217	3,5	4,2	Rood
StiPP	n.b.	n.b.	1,7	3,5	Rood
Totaal	1.064	667			

Voor alle tien pensioenfondsen is de eindbeoordeling **rood** omdat hun beleidsbeoordelingen lager zijn dan 5. Voor zeven pensioenfondsen waren de engagementscores ook lager dan 5, maar voor drie pensioenfondsen (ABP, BPF Bouw en Pensioenfonds Zorg en Welzijn) waren de engagementscores ruim boven de 5. Hun algehele beoordeling is niettemin **rood**, aangezien intensieve betrokkenheid niet effectief is als deze niet is gebaseerd op duidelijk en specifiek beleid. Al met al betekent dit dat de tien pensioenfondsen geen actieve aanpak hebben om te voorkomen dat de bedrijven waarmee ze financiële relaties hebben direct of indirect (via hun toeleveringsketens) bij ontbossing betrokken zijn.

Conclusies

Op basis van de uitkomsten van dit onderzoek kunnen de volgende conclusies worden getrokken:

1. 6 van de 7 Nederlandse banken, 5 van de 9 verzekeringsmaatschappijen actief in Nederland en 10 van de 10 Nederlandse pensioenfondsen hebben financiële relaties met een of meer van een steekproef van 59 belangrijke bedrijven die risico's op ontbossing met zich mee brengen omdat ze actief zijn in de internationale soja- en toeleveringsketens voor rundvlees in Brazilië, China en Europa;
2. Vier Nederlandse banken verstrekten in de periode 2015-2020 voor in totaal 12,1 miljard dollar aan leningen aan de geselecteerde 59 bedrijven en hielpen hen met de uitgifte van aandelen en obligaties ter waarde van 2,7 miljard dollar. Zes in Nederland actieve verzekeraars hebben momenteel 785 miljoen dollar belegd in aandelen en obligaties van deze bedrijven. Zes Nederlandse pensioenfondsen hebben 1,7 miljard dollar belegd en de vermogensbeheerders van vier Nederlandse banken nog eens 167 miljoen dollar.

3. Het meeste Nederlandse geld gaat naar de sojahandelaren Cargill (Verenigde Staten) en Louis Dreyfus (Nederland), gevolgd door het Franse zuivelconcern Danone en het Braziliaanse vleesbedrijf JBS. De drie grote Nederlandse banken (ABN Amro, ING en Rabobank) hebben de belangrijkste financiële relaties met bedrijven in de internationale ketens van soja en rundvlees, gevolgd door de belangrijkste pensioenfondsen ABP en PfZW, en verzekeringsmaatschappij Allianz.
4. Vijf van de onderzochte financiële instellingen (Achmea, CZ, De Volksbank, Menzis en VGZ) hebben geen financiële betrokkenheid bij de soja- en rundvleessector.
5. Geen van de overige 21 banken, verzekeraars en pensioenfondsen die blijken bedrijven in de (inter) nationale soja- en rundvleesketens te financieren, of erin te beleggen, en die daarmee het risico lopen betrokken te zijn bij de financiering van ontbossing, klimaatverandering, verlies aan biodiversiteit, mensenrechtenschendingen en dierenmishandeling, neemt voldoende maatregelen (screening, engagement, stemmen, desinvestering, enz.) die gebaseerd zijn op een krachtig beleid om ontbossing in de Amazone- en Cerrado-regio's te voorkomen en te stoppen.
6. Vier financiële instellingen (Triodos, ASR, NN en Vivat) kunnen aantonen dat zij maatregelen nemen om te voorkomen dat de bedrijven waarmee zij financiële relaties hebben direct of indirect (via hun toeleveringsketens) betrokken zijn bij ontbossing. Aangezien er nog steeds zwakke punten zijn in hun beleid en/of engagementinspanningen, kunnen ze er nog niet zeker van zijn dat ze voldoende stappen ondernemen om betrokkenheid bij ontbossing en aanverwante duurzaamheidsvraagstukken zoals biodiversiteit, klimaatverandering, landrechten en dierenwelzijn te voorkomen. Triodos zou transparanter moeten zijn over desinvesteringen en screeningprocedures. De drie verzekeraars moeten zich niet alleen richten op collectieve beleggersverklaringen, maar ook meer in gesprek gaan met individuele bedrijven en - waar nodig - beleggingen terugtrekken.
7. Alle financiële instellingen kregen uitgebreide mogelijkheden om informatie te verstrekken over hun engagementactiviteiten en om commentaar te leveren op de conceptonderzoeksresultaten. Zeven financiële instellingen (Allianz, ABP, PfZW, BPF Bouw, Pensioenfonds Horeca & Catering, PMT en de Volksbank) hebben aan dit onderzoek meegewerkt door de enquête in te vullen die hun is toegezonden over hun engagementinspanningen. Drie financiële instellingen (Pensioenfonds Horeca & Catering, PMT en Triodos) gaven commentaar op de concept-onderzoeksresultaten. Van de andere 18 financiële instellingen zijn er 14 blootgesteld aan bedrijven met een risico op ontbossing in de internationale toeleveringsketens van soja en rundvlees. Hun onwil om mee te werken aan dit onderzoek toont een gebrek aan transparantie met betrekking tot legitieme verzoeken van maatschappelijke organisaties.

Aanbevelingen aan financiële instellingen

Op basis van de uitkomsten van dit onderzoek doen de Eerlijke Geldwijzer en haar partners Both ENDS en Hivos de volgende aanbevelingen aan financiële instellingen:

1. **Zet in op nultolerantie voor ontbossing in alle financiële relaties:** Ontwikkel een visie op alternatieve ontwikkelingspaden voor een duurzaam, kringlooplandbouwsysteem. Elke betrokkenheid bij sectoren die ontbossingsrisico's creëren, zoals de soja- en rundvleessectoren, is in dat verband problematisch en moet worden heroverwogen.
2. **Ontwikkel een robuust beleid inzake ontbossing en duurzame voedselsystemen:** Het beleid van de financiële instelling dient duidelijke en strikte criteria vast te stellen op basis van de principes die zijn opgenomen in wetgevingen en in internationale verdragen en normen. Het moet vergezeld gaan van Key Performance Indicators (KPIs). Zonder sterk beleid en KPIs loopt elke strategie om het gedrag van een bedrijf te veranderen het risico te weinig van een bedrijf te eisen en daardoor te resulteren in "greenwashing", door een vals gevoel te creëren dat "het

probleem wordt aangepakt".

3. **Openbaar maken en transparant zijn:** Maak volledige transparantie een voorwaarde voor beleggingen en financieringen en maak alle namen en relevante details bekend van de bedrijven met een ontbossingsrisico in lenings- en beleggingsportefeuilles. Wees transparant over het beleid op het gebied van ontbossing, screeningprocedures, engagementprocessen, stemgedrag en collectieve initiatieven, en de geboekte vooruitgang ten opzichte van KPIs. Wees ten slotte open en transparant ten aanzien van informatieverzoeken namens geloofwaardige initiatieven van het maatschappelijk middenveld.
4. **Communiceer verwachtingen en formaliseer vereisten:** Communiceer duidelijk over duurzaamheidsverwachtingen naar nieuwe en bestaande klanten en ondernemingen waarin wordt belegd. Bij het verstrekken van een lening moeten deze verwachtingen worden geformaliseerd door een clause in het leningscontract.
5. **Screen alle bedrijven die een risico op ontbossing creëren:** Screen regelmatig alle bedrijven in lenings- en beleggingsportefeuilles die een risico op ontbossing creëren, niet alleen nieuwe klanten of beleggingen. De informatie van bedrijven zelf en van dienstverleners moet worden gevalideerd met alle relevante informatie die kan worden verkregen van NGOs, experts en kennisinstituten, evenals door communicatie met (mogelijk) getroffen belanghebbenden, zoals inheemse volkeren en andere getroffen gemeenschappen.
6. **Sluit duidelijke overtreders uit:** Wanneer het screeningproces duidelijk maakt dat een bedrijf systematisch betrokken is bij ontbossing en daarmee samenhangende schadelijke effecten, zoals op het gebied van biodiversiteit, klimaatverandering, landrechten en dierenwelzijn, en de vooruitzichten voor verbetering zijn slecht, moet de beslissing worden genomen om niet in dit bedrijf te beleggen en het bedrijf uit te sluiten van financieringen.
7. **Engagement met bedrijven:** Engagement met bedrijven met een ontbossingsrisico die mogelijk niet voldoen aan alle principes en criteria die in het beleid van de financiële instelling zijn opgenomen, moet leiden tot een duidelijk begrip van het probleem en tot overeenstemming over de stappen die nodig zijn om het probleem aan te pakken. Deze overeenkomst moet worden samengevat in een tijdgebonden actieplan waaraan het bedrijf zich committeert, inclusief een duidelijke beschrijving van de gevolgen wanneer het bedrijf deze verplichtingen niet nakomt.
8. **In de gaten houden en handelen:** Bewaak de voortgang van het bedrijf bij het implementeren van een actieplan. Als er na een redelijke termijn onvoldoende voortgang is, moeten financiële instellingen beslissen om te desinvesteren of - in geval van een lening - om ontbinding van het leningscontract aan te vragen omdat het bedrijf in gebreke blijft ten aanzien van een van de clausules.
9. **Stemmen op resoluties van aandeelhouders over ontbossing:** Beleggers dienen hun stemrecht te gebruiken op de aandelen van bedrijven met een ontbossingsrisico die zij bezitten. Aangezien dergelijke aandeelhoudersresoluties mogelijk niet voldoende de onderliggende oorzaken van ontbossing aanpakken, moeten investeerders ook het initiatief nemen om meer transformationele aandeelhoudersresoluties in te dienen en daar steun voor te verwerven.
10. **Neem collectief initiatief:** Werk samen met collega's, met NGOs, nationale en lokale overheden en andere belanghebbenden om collectief een beroep te doen op de spelers in de toeleveringsketens van soja en rundvlees, evenals de Braziliaanse overheid, om ontbossing en de bijbehorende negatieve duurzaamheidseffecten uit te bannen. Verdere collectieve initiatieven zijn nodig om het huidige niet-duurzame voedselsysteem om te vormen tot een duurzaam voedselsysteem.

11. **Zorg voor effectieve klachtenmechanismen:** Er moeten effectieve klachtenmechanismen zijn voor alle relevante belanghebbenden, die kunnen worden getroffen door ontbossing die in verband gebracht kan worden met bedrijven die financiële instellingen financieren of waarin ze beleggen.

Aanbevelingen aan de Nederlandse overheid

Financiële instellingen kunnen de vereiste veranderingen niet alleen tot stand brengen, vooral overheden moeten sterk leiderschap tonen. Op basis van de uitkomsten van dit onderzoek doen de Eerlijke Geldwijzer en haar partners Both ENDS en Hivos de volgende aanbevelingen aan de Nederlandse overheid:

12. Ontwikkel en implementeer **samenhangend beleid voor de overgang naar kringlooplandbouw en duurzame voedselsystemen**. Dit omvat onder meer:
1. beleid dat een geleidelijke stopzetting van de invoer van soja van over de Atlantische Oceaan voor het voederen van vee in Nederland (en breder in de EU via de uitvoer van geïmporteerde soja) waarborgt. Een dergelijke geleidelijke afschaffing is ook nodig voor de invoer van andere grondstoffen die ontbossing veroorzaken;
 2. verschuiving van niet-duurzaam voedsel dat sterk afhankelijk is van dierlijke eiwitten, naar gezonde, duurzame, voornamelijk plantaardige voeding;
 3. verbetering van dierenwelzijnsnormen, met inbegrip van de introductie van rassen met een hoger welzijn en de geleidelijke afschaffing van kooien.
13. Introduceer **algemene due diligence-wetgeving voor bedrijven**, inclusief financiële instellingen, om volledige naleving van de OESO-richtlijnen en UNGP's te garanderen.

Aanbeveling aan de Europese Unie

Op basis van de uitkomsten van dit onderzoek doen de Eerlijke Geldwijzer en haar partners Both ENDS en Hivos de volgende aanbeveling aan de EU:

14. Introduceer op EU-niveau **wetgeving over de markttoegang van grondstoffen** waarvan de winning, oogst of productie een nadelig effect heeft of dreigt te hebben op bossen, andere ecosystemen en gerelateerde problemen op het gebied van mensenrechten en dierenwelzijn. Deze wetgeving moet ook due diligence-regels bevatten voor onder meer financiële instellingen om ervoor te zorgen dat de Europese financiële sector niet direct of indirect bijdraagt aan ontbossing, verlies aan biodiversiteit, mensenrechtenschendingen of dierenwelzijnsschendingen.

Introduction

The Eerlijke Geldwijzer (Fair Finance Guide Netherlands), founded in 2009, is a collaboration between Amnesty International, Milieudefensie (Friends of the Earth Netherlands), Oxfam Novib, PAX and World Animal Protection. This portal provides access to the Fair Bank Guide, the Fair Insurance Guide and the Fair Pension Guide. The aim of the Eerlijke Geldwijzer is to promote sustainable financing and investments by banking groups, insurance companies and pension funds with the help of consumers. The Eerlijke Geldwijzer primarily looks at the financing of and investments in companies by these financial institutions, and secondarily at their internal operations.

In this research project the Eerlijke Geldwijzer collaborates with Both ENDS and Hivos. The Eerlijke Geldwijzer and its partners are deeply concerned about the ongoing deforestation in the Amazon and Cerrado regions in South America, a process in which companies from different industries and their domestic and foreign customers play a role. The most important drivers of deforestation in these regions are the soy and beef sectors, with farmers converting natural forests and other valuable ecosystems to expand their operations. Other drivers are other forms of large-scale agriculture, the logging, mining and oil and gas industries, while infrastructure development (roads, railroads and waterways) plays an indirect role by facilitating the expansion of the main sectors driving deforestation.

Deforestation causes biodiversity loss, impacts the water cycle and contributes strongly to greenhouse gas emissions and with this to climate change. Deforestation leads to an expanding hazardous interfaces between people, livestock and wildlife reservoirs of zoonotic disease, increasing risks of zoonotic epidemics and pandemics. Deforestation is also accompanied by land grabbing, violations of the rights of indigenous communities and other human rights violations. Indirectly, because soy is mostly used for animal feed, the deforestation in these regions is linked to severe animal welfare infringements in industrial livestock farming across the world.

Domestic and international financial institutions, such as banks, insurance companies and pension funds, play a role in enabling the deforestation caused by soy cultivation and cattle ranching, by financing the upstream farms directly responsible for deforestation as well as the mid- and downstream buyers in the soy and beef supply chains. The main players in the beef supply chain are beef slaughterhouses and supermarkets in Brazil. The main players in the soy supply chain are farmers, traders and poultry and pork slaughterhouses in Brazil, as well as animal feed producers, livestock slaughterhouses and dairy companies in China and Europe.

The Eerlijke Geldwijzer and its partners Both ENDS and Hivos want to encourage banking groups, insurance companies and pension funds active on the Dutch market to ensure that their financings and investments prevent and combat deforestation in the Amazon and Cerrado regions. They need to do this by excluding companies that systematically contribute to deforestation from investments and financing, and by putting maximum pressure on other companies to prevent deforestation and related sustainability issues such as biodiversity, climate change, land rights and animal welfare in their supply chains.

In this research project Profundo has investigated the financial involvement of banking groups, insurance companies and pension funds active on the Dutch market in companies which run the risk of being directly or indirectly (through their supply chains) involved in deforestation in the Amazon and Cerrado regions in South America, and the actions that these financial institutions are taking to prevent and stop deforestation and related issues, such as biodiversity, climate change, land rights and animal welfare.

This report presents the research findings. Chapter 1 provides a comprehensive overview of deforestation trends in the Amazon and Cerrado regions and describes the different environmental and social impacts of these sectors and their (inter)national supply chains: deforestation, climate change, pollution, violations of human rights and labour rights, and cruelty towards animals. Chapter 2 describes the supply chains of Brazilian soy and beef as major drivers of deforestation and identifies key actors in these chains.

Chapter 3 discusses the methodology used in this research project to identify the financial relationships between financial institutions active on the Dutch market and the international soy and beef supply chains, to analyse their policies on deforestation and related issues (such as biodiversity, climate change, land rights and animal welfare), and to assess the steps that financial institutions active on the Dutch market are taking to avoid that they finance companies which directly or indirectly (through their supply chains) are involved in deforestation and related issues such as biodiversity, climate change, land rights and animal welfare. Chapter 4 presents the results for each group of financial institutions: banking groups, insurance companies and pension funds. Chapter 5 draws conclusions and makes recommendations to the financial institutions, to the European Union and to the Dutch government.

A summary of the findings of this report can be found on pages 1-7 of this report.

1

Deforestation in the Amazon and Cerrado regions

This chapter deals with deforestation trends in the Amazon and Cerrado regions and discusses the main drivers of deforestation in these regions (section 1.1). Sustainability issues related to deforestation and the international soy and beef sectors are also discussed: toxic pesticide use (section 1.2), human rights violations and illegal activities (section 1.3) and animal cruelty (section 1.4). The chapter ends with an examination of industry claims about “responsible soy” in the Dutch market (section 1.5).

This chapter was written by Dr. Tim Boekhout van Solinge, geographer-criminologist, independent (UN) consultant, and research fellow in criminology at the Erasmus University Rotterdam, with contributions by Dr. Dirk-Jan Verdonk, director World Animal Protection Netherlands.

1.1 Deforestation in the Brazilian Amazon and Cerrado

1.1.1 The Amazon, the largest rainforest and river

The Amazon generally refers to the Amazon rainforest that is located in the Amazon Basin. The size of the Amazon Basin is around 6.8 million km², almost twice the size of the second largest river basin in the world, the Congo Basin.³ The Amazon Basin is a system of forests and waters, containing countless streams and a number of large rivers, centred around the Amazon River, the planet’s largest river.⁴ It flows just under the equator from west to east, from the Andean mountains to the Atlantic Ocean. The Amazon River discharges 15-16 percent of all freshwater that is delivered to the oceans. It represents 40 percent of the world’s remaining tropical rainforest.

The combination of abundant rainfall, continual warmth, and a drainage system nearly the size of the United States, have allowed the development of our planet’s most diverse and most extensive rainforest. No other region or forest on the planet houses such a large number of animal and plant species as the Amazon, including 16,000 separate tree species. Most of the animal species living in the rainforest are insects, their life histories linked to rainforest trees. One large tree may contain several hundred species of insects associated with it.⁵ The Amazon Basin also contains the highest freshwater biodiversity on Earth, including the largest number of scientifically described freshwater fish species: 2,257 or 15% of the total number of known freshwater species. Furthermore, it houses over 100 species of amphibians, 11 species of turtles and 6 species of aquatic mammals. Many species of plants and animals are still scientifically unknown. Although scientists have studied Amazonia for several centuries, their knowledge of species diversity and distribution in the Amazon is still in its infancy.⁶

Politically, the Amazon Basin stretches over seven countries in South America: Bolivia, Brazil, Colombia, Ecuador, Peru and Venezuela.⁷ The forests of Surinam and French Guyana are connected to the Amazon Rainforest, but technically speaking they are not part of the Amazon Basin. In some overviews however they are considered to be part of the Amazon. Brazil accounts for slightly more than two-thirds of the Amazon Basin’s total area. Relative to country size, Bolivia

is the most Amazonian country, as nearly 70% of its territory is found in the Amazon Basin. Peru has 60% of its territory in the Amazon. Brazil has over half of its territory, around 55%, in the Amazon Basin. Venezuela and Guyana claim less than 1% of the Amazon Basin. Of all deforestation in all countries of the Amazon, 80% occurred in Brazil.

On the south-east side of the Amazon, fully within Brazilian borders, another important, but lesser known biome is located: the Cerrado. This is the world's most ancient and biodiverse forest savanna, representing 5% of the world's plant and animal species, including almost 2,000 species of trees. According to the National Red Lists of Brazil at least 903 Cerrado species are currently threatened with extinction. These numbers are certainly an underestimate, since only 10% of the Cerrado flora species have been evaluated. But the Cerrado is not just important for biodiversity. Measured per hectare, it is probable that deforestation in the Cerrado is responsible for greater emissions of greenhouse gases than deforestation in the Amazon.⁸

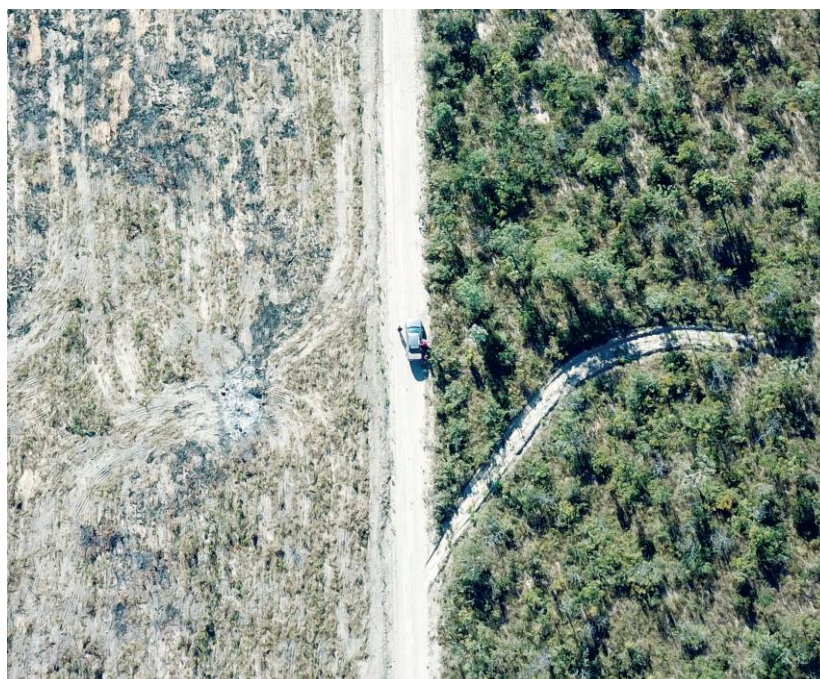
This section will primarily focus on deforestation in the Brazilian Amazon and, to a lesser extent, the Cerrado.

1.1.2 Deforestation figures and trends

On a global scale, Brazil remains, by far, the world's leading country in terms of forest loss. A 2018 satellite data analysis by Global Forest Watch revealed that Brazil lost 4.5 million hectares of tree cover. This was three times more than the countries that ranked second and third in terms of tree cover forest loss: the Democratic Republic of Congo (1.4 million hectares) and Indonesia (1.3 million hectares).⁹

The latest annual deforestation data, of June 2020, showed that of all countries, Brazil suffered the highest loss of primary forest of 1,361,000 hectares, which is more than one third of the total loss of humid tropical primary forests worldwide. Brazil is followed by the Democratic Republic of Congo (DRC) with 475,000 hectares and Indonesia with 324,000 hectares. Brazil's neighbour Bolivia also experienced record-breaking tree cover loss. In 2019 tree cover loss was over 80% higher than in 2018.¹⁰

Figure 1 Land clearance in Formosa do Rio Preto (Brazil), July 2019



Source: Greenpeace

Large-scale deforestation in the Amazon is relatively recent. In 1970, only 2% of the Brazilian Amazon had been deforested.¹¹ Since then, almost 20% of the Brazil Amazon has been deforested. This roughly corresponds to an area twice the size of Germany. Importantly, it should be noted, that in addition, an even larger part is considered degraded: an estimated 1,225,100 km².¹² When selective logging is factored in, deforestation in the Amazon might actually be twice as high as the conventional (governmental) satellite surveys reveal.¹³ Deforestation in the Cerrado is even far worse: half of the biome has been annihilated, a further 30% degraded and deforestation rates are higher than in the Amazon. Only 8% of the Cerrado biome is legally protected, and less than 3% within fully protected conservation units.¹⁴

In Brazil, the deforestation frontier which moves from central Brazil to northern Brazil and which gradually “eats” up the Cerrado and Amazonian rainforest is called the arc of deforestation. Since the early twentieth century the deforestation frontier has been moving northward, from Mato Grosso state into Pará State. Another geographical deforestation trend is that in the 1970s, deforestation started in the west and southwest of the Brazilian Amazon, whereas in the 1990s, it jumped to the east and southeast of the Brazilian Amazon.

Between 2004 and 2012, deforestation in the Brazilian Amazon showed a downward trend.¹⁵ Annual deforestation rates declined by more than 80%.¹⁶ For many years, Brazil was known internationally as an environmental champion, as a country that successfully managed to reduce deforestation. Since 2012 however, deforestation in the Brazilian Amazon is on an almost constant increase. In 2019, it reached almost 10,000 km², a 30% increase as compared to 2018, and a doubling of annual deforestation as compared to 2012. An area of 10,000 km² corresponds to a quarter of the Netherlands. It means that every minute, about three football fields of rainforest are being destroyed.

Various Amazon specialists think that the strong increase in deforestation of late is related to the election of President Jair Bolsonaro, who often spoke out in favour of opening up the Amazon for economic development.¹⁷ Moreover, since his election, the choices of his government (such as allocating less budget and priority to forest law enforcement) has offered opportunities for (illegal) loggers, land grabbers and farmers.¹⁸ In November 2019, Philip Fearnside, a well-known scientist of Brazil’s National Institute for Research in Amazonia, said in an interview with *Science*:

“The deforestation surge in 2019 can definitely be blamed on the Bolsonaro administration, (...) The change results both from the constant anti-environment rhetoric and from concrete actions in dismantling the country’s environmental agencies and effectively halting fines for illegal clearing(...) The discourse of the president and his minister of environment sends a clear message that there will be no consequences for violating environmental laws. (...) Those at the deforestation frontier do not follow the publication of decrees and laws in the government’s official gazette or read the details of legal changes reported in major newspapers. Instead, their information comes from social media that rapidly spreads the news of each tirade by the president and his ministers against environmental agencies and NGOs.”¹⁹

In July 2020, Brazil’s newspaper *Folha de São Paulo* reported that for the 14th month in a row, deforestation in the Amazon increased compared to last year. It is the largest increase since 2016. Only in the month of June 2020, 1,000 km² was destroyed.²⁰ In the first 10 days of August 2020, more than 10,000 fires have been recorded (up 17% from the same period in 2019), according to data from the Brazil’s National Institute for Space Research.²¹ In May and June 2020, various institutional investors, including Scandinavian pension funds, were explicitly demanding more measures from the Brazilian government to protect the Amazon.²² Early July 2020, the Brazilian government had a video conference dialogue with a series of investors, including KLP, Norway’s largest pension fund.²³ Especially in the Brazilian press, one could read that the investors were well-informed and had very explicit demands (asking for concrete results) with regard to legal compliance and forest law enforcement.²⁴

1.1.3 The Amazonian water cycle, tipping point, climate and zoonotic risks

To make matters (far) worse, the negative impacts of deforestation are not restricted to the deforested areas. Deforestation is an existential threat for most of the Amazon basin. To understand this, one needs to understand the Amazonian water cycle. Scientists are increasingly discovering the importance of the Amazon for rainfall and climate. As explained in a 2020 *Nature* article, the Amazon forest manages to keep itself alive by recycling water through trees to generate rainfall. A water molecule travelling across the Amazon from east to west can fall as rain up to six times.²⁵ Most of the rain that falls in the Amazon Basin does not make it to the sea, but is recycled back into the atmosphere. 59% of all the rainwater in the Amazon basin is recycled back into the atmosphere through evapotranspiration. Of all the rain that falls in the Amazon basin, thus only 41% makes it to the sea.²⁶

The Atlantic Ocean is the source of 90% of the atmospheric water vapour which reaches the Amazon Basin. Eastern winds dominate in South America, which brings evaporated Atlantic Ocean water in the form of clouds. Most rain from these clouds first falls in the eastern Amazon. Then the water is recycled back through evapotranspiration several times before reaching the western Amazon, and other parts of the continent.²⁷

The eastern Amazon, where most deforestation of the last few years has taken place, can be considered as the first water recycling area; representing the first phase of a series of water cycles of what can be considered as the Amazonian water pump.²⁸ The process is referred to as the biotic pump of Makarieva and Gorshkov.²⁹ While still controversial, there is increasingly support for the theory, as appears from a June 2020 article in *Science*.³⁰ According to this model, when a substantial part of the (eastern) Amazon is deforested, less water can be contained in the eastern Amazon that can later be pumped to the western Amazon and elsewhere on the South American continent.

Makarieva and Gorshkov's theory may need further validation, but several studies already indicate that the Amazon is drier than it used to be as a result of less rain.³¹ Tropical rainforests with large trees do certainly work as parasols. A vast rainforest like the Amazon provides much shade 20 to 50 meters below the canopy, "thus providing a giant cooling and humidifying system for a myriad of life forms".³² For quite some time, ecologists think that if 30 to 40% of the forest cover of the Amazon rainforest were to be removed, the Amazon would be pushed into a permanently drier climate.³³ The moment that the Amazon will shift towards a drier savannah climate is referred to as tipping point.

Drought, fire or deforestation will damage many trees, reduce rainfall, which will lead to less vegetation, increased flammability - and so on in a shrinking cycle. Research by the American ecologist Dan Nepstad showed that a 60% decrease of incoming rainfall during each wet season prompts a 4.5-fold increase of mortality rates among large trees after 3.2 years.³⁴ This basically means that Amazonian rainforest cannot survive 3-4 years of consecutive droughts. Eventually, this risks transforming large regions of the Amazon into an ecosystem that looks more like a savannah. If that would happen, only the western Amazon near the Andes mountains would remain lush, as air currents are forced up over the mountains, causing water vapour to condense and fall as rain.³⁵

Obviously, no one knows exactly when this tipping-point will be reached. In 2018, Antonio Nobre, a Brazilian climate researcher at the University of São Paulo, raised the alarm by arguing that the Amazon might be much closer to a tipping point than scientists previously thought.³⁶ Carlos Nobre and Thomas Lovejoy, an environmental researcher at George Mason University in the U.S., wrote an editorial for *Science Advances*, stating that if just 20–25% of the rainforest were cut down, it could reach a tipping point at which eastern, southern and central Amazonia would flip to a savannah-like ecosystem.³⁷ In December 2019 they repeated their warning, calling it a last chance for action.³⁸ "If the tree mortality we see continues for another 10–15 years, then the southern Amazon will turn into a savannah," Nobre told *Nature*.³⁹

According to Nepstad, the safest plan for the Amazon 'to prevent fires, to secure rainfall, to sustain energy production in hydropower plants, and to increase our chances of avoiding catastrophic climate change' is to assume that Brazil is already close to the limit, with roughly 20% of the forest cleared. He recommends not just stopping deforestation, but reforesting cleared land that is only marginally productive to reduce the risk of crossing the tipping point.⁴⁰ As the Amazon is such a large water system, decreased rainfall and a possible change into a drier climate will also affect the regional climate of South America, and maybe also global climate patterns. Nobre therefore also warned that decreasing rain would entail long-term risks for agriculture in most parts of South America, which needs water. The state of Pará, in the eastern Amazon, has been Brazil's leading deforestation state for at least 15 years. Considering the just discussed waterpump function of the Amazon rainforest, deforestation in the Eastern or Lower Amazon is especially worrisome.

In more general terms, given that the Amazon rainforest is by far the largest tropical rainforest, preserving the Amazon is also crucial to limit carbon emissions and climate change on a global scale.⁴¹ As Fearnside pointed out, maintenance of the carbon stocks in Amazonia avoids global warming and therefore provides a valuable environmental service.⁴² The Amazon rainforest is one of the nine global tipping point for climate change, as noted in a recent article in *Nature*. While politicians, economists and even some natural scientists tends to assume that the climate tipping points are of low probability and little understood, the authors point out that there is substantive scientific evidence of these risks, and that the risks of tipping points could be more likely than was previously thought.⁴³ In another article in *Nature*, researchers emphasise that the Amazon is a "huge carbon sink that acts to cool global temperature". If deforestation in the Amazon is not stopped and the remaining Amazon forests turns into a degraded type of desert, more than 50 billion tonnes of carbon could be released into the atmosphere in 30 to 50 years.⁴⁴

A special report by the Intergovernmental Panel on Climate Change (IPCC) highlighted the impacts of forest conversion for cattle in particular.⁴⁵ As noted in an article in *Nature* about the report, cattle raised on pastures created by clearing woodland are particularly emission-intensive. "This practice often comes with large-scale deforestation, as seen in Brazil and Colombia. Cows also produce large amounts of methane, a potent greenhouse gas, as they digest their food."⁴⁶

Finally, the COVID-19 pandemic has put the spotlight on the risks of zoonotic epidemics and pandemics vis-à-vis habitat destruction. Sixty percent of emerging infectious diseases are zoonotic, most are thought to originate from wild animals. Land use change is widely recognized to influence the risk and emergence of zoonotic disease in humans. As the authors of a 2020 research paper wrote: 'global changes in the mode and the intensity of land use are creating expanding hazardous interfaces between people, livestock and wildlife reservoirs of zoonotic disease.'⁴⁷ Therefore not surprisingly, a team of 25 international experts listed the protection of 'areas with high biodiversity or important habitat features that are at risk from land-use change' as measure to prevent the risks of new pandemics.⁴⁸

1.1.4 Driving deforestation: soy and beef

With regard to the economic activities and products that have been driving deforestation in the Brazilian Amazon beef and soy can be identified as the two main products. Forest conversion for beef cattle and to a lesser extent soy is largely responsible for the large-scale deforestation. Deforestation and forest conversion are generally combined with timber extraction. Logging often precedes forest conversion, as logging roads make forests accessible for smallholders and large landholders.

On an aggregate scale, cattle has been the most important driver of deforestation that has occurred in the Brazilian Amazon since the 1970s. Historically, land conversion for creating cattle farms has been responsible for some 70% of deforestation in the Brazilian Amazon.⁴⁹

Most deforestation in the Brazilian Amazon is illegal. Common estimates is that between 60-80% is simply illegal.⁵⁰ As the creation of cattle ranches is the main cause of this illegal deforestation, The common expression for cattle that are grazing on illegally deforested land is 'pirate ox' ('boi pirate').

Since the late 20th century and especially during the 21st century, a second additional agricultural activity has been expanding and driving Amazonian deforestation: the mechanized cultivation of soybeans. Brazil's soy production has grown rapidly, and Brazil has become the world's largest soy exporter. Brazil's soy is mostly destined for exports to Asia and Europe, where they are mainly used as animal feed. In some parts of the Amazon, such as in the Lower Amazon, where areas are flat and near soy infrastructure, soy is a primary cause of deforestation. Deforestation for soy in the Amazon has decreased as result of international attention and pressure from NGOs around 2005-2006, when deforestation for soy was much higher than today. This resulted in the Amazon Soy Moratorium. Sadly, the Cerrado remains a hotspot of deforestation for soy.

A substantial part of the beef, leather, soy and timber production are for export markets. Brazil has become the world's biggest beef exporter – and the second largest producer of leather. Brazil's cattle herd has grown rapidly and especially in the Amazon. Brazil's numbers of cows and steers are now comparable to the number of humans: both are around 210 million, but in the Brazilian Amazon cattle outnumber people three to one. The continued expansion of cattle ranches in the Brazilian Amazon has led to the term "cattelization,"⁵¹ next to the earlier expression "Africanization of the Amazon," as African grasses for grazing animals replace the rain forest and its rich arboreal fauna.⁵² Cattle numbers have grown tremendously, particularly in the states Mato Grosso and Pará.⁵³ These states have been, for at least the last 15 years, been responsible for over half of all deforestation in the Brazilian Amazon.⁵⁴ At first sight, cattle ranching has been driving most deforestation in these two states, but a closer look reveals it might actually also be soy, as the two are intertwined.

Soybean expansion regularly replaces pastures, pushing cattle farming into new forest areas, to then, after a few years, replace cattle again with soy.⁵⁵ The term used in this context is 'the soy beef complex'.⁵⁶ Soy farmers cannot always immediately plant soy on recently deforested land. Pasture is often the first agricultural activity. Although it is more common that forest is first cleared for cattle than for soy, there are areas such as around Santarém in west Pará, where it is documented that soy farmers extend their soy fields by direct deforestation. In general, it is easier to manipulate the origin of cattle than the origin of soy, as cattle can be moved. It is common knowledge in the Amazon that cattle are being moved around.⁵⁷ In those cases, cattle grazes on land that was illegally forested, but before transport to a slaughterhouse they are first moved to a legal cattle ranch in order to 'prove' that the origin of the cattle arriving at the slaughterhouse is legitimate.

While China is by far the largest destination of Brazilian soy, Europe and particularly the Netherlands, is often mentioned as the second destination. This soy is mostly used as animal feed. Brazilian soy (but not necessarily grown in the Cerrado and Amazon) is also used for local animal protein production, which, in turn, is partly destined for export. So, in addition to imports of soy for animal feed, the EU is also a major importer of Brazilian soy turned into chicken meat in Brazil itself. In 2019, the EU imported 313,759 tonnes of poultry meat from Brazil.⁵⁸

As global demand for various products (cattle and soy, but also timber, gold and bauxite) are driving deforestation in the Amazon, the concept of shared responsibility is a useful concept to better address the issue politically. It acknowledges that there are push and pull factors that explain (illegal) deforestation, making it easier to find solutions and deforestation mitigation measures that address factors on both the supply and demand side. For example, on the supply side one could request that land use by farmers is based on legitimate land titles and with respect of human rights, particularly of traditional populations of the Amazon. Or, probably even more importantly, one could help shift the demand for beef and livestock feed, by halting and reversing the growth in demand and shifting towards more sustainable and healthier plant-based alternatives.

1.1.5 Enabling deforestation: Amazonian infrastructure

The importance of roads as an enabler for deforestation has been well-established. It has been found that in the Amazon nearly 95% of all deforestation occurred within 5.5 km of roads or 1 km of rivers.⁵⁹ Building infrastructure therefore is a recipe for deforestation.

In 1970, the Brazilian military government decided to integrate the relatively disconnected Amazon basin with the rest of the country and economy. Roads were a key first step. This was when deforestation on a larger scale started. Trans-Amazonian roads enabled settlers to colonize the Amazon. Brazil started a colonization program, aimed at transferring Brazilians from the poor northeast to the Amazon, in order to reduce poverty. This program had also a military and geopolitical dimension. With roads and settlements, Brazil would be able to better control the Brazilian Amazon. A non-negligible part of Brazilian politicians and military believe, still today, that foreign powers might want to take parts of the Amazon, or put the Amazon under international regime. Such beliefs are strengthened by declarations of various political leaders, over the decades, arguing for the latter. The idea of an international regime is met with horror by many Brazilians, and certainly by politicians and the military.

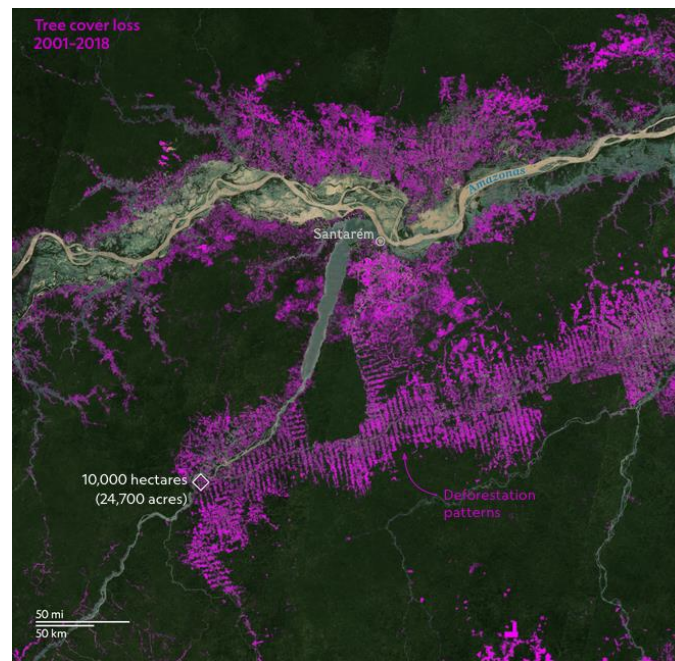
Initially, most Brazilian colonists migrated to the southwestern part of the Brazilian Amazon, near Bolivia and Peru. Using the road BR-364, built in 1968, they could easily access the states of Rondônia and Acre. Loggers and cattle ranchers were the first who started clearing forests on a large scale. They would often work together; before a rancher lights a forest, he would normally allow a timber trader to take out some valuable trees.

The Cerrado and the state of Mato Grosso have become Brazil's soy heartland. However, Mato Grosso is a land-locked state, which is a logistical limitation and leads to relatively high transport costs. Most of the soy used to be transported southwards to Sao Paulo, which lies in the southern hemisphere, from where it could be exported from the port of Santos to export market in the China and Europe.

This all changed when, around the turn of the century, Cargill built a soy export port in Santarém, at the confluence of the Amazon and Tapajos rivers. Santarém is located in the northern hemisphere. Soy from Mato Grosso can now be transported northwards by trucks or boats to Cargill's port in Santarém. Brazil's (in)famous soy highway BR 163 from Mato Grosso, crossing the Amazon, literally ends at the doorstep of Cargill's harbour on the Amazon River in Santarém. From Santarém, the distance to soy destination markets in Europe is substantially lower. With Cargill's soy export port in the Amazon, the distance from a soy export harbour in Brazil to Rotterdam dropped from 10 thousand to 7.7 thousand kilometres, according to a Brazilian logistics consultant.⁶⁰

But the shorter distance between soy supply and production has come at a cost, as this infrastructure led to much deforestation in the region around the port, in combination with related conflicts. New actors involved in agro-strategies and the Amazonian agribusiness economy have experienced new land disputes, new forms of land concentration, and conflicts with indigenous and Maroon communities as well as with peasants' groups in the Santarém region.⁶¹ Hence the term 'conflict soy'.

Figure 2 Tree cover loss in the Santarém region



Source: <https://www.nationalgeographic.com/environment/2019/04/three-million-acres-brazil-rainforest-lost/>

Deforestation in the Santarém region was used by the magazine *National Geographic* to show the pattern of deforestation. The map shows deforestation since 2001, when Cargill started the construction of the soy port. Locally, few doubt that the major increase in deforestation has been mostly caused by the presence of the soy port, in combination with highways. The presence of Cargill's port – and later similar ports in the Amazon – incentives local soy production since the big soy traders purchase a considerable share of soy at spot markets to fully load their vessels. Figure 2 shows the typical fishbone pattern of deforestation near highways.

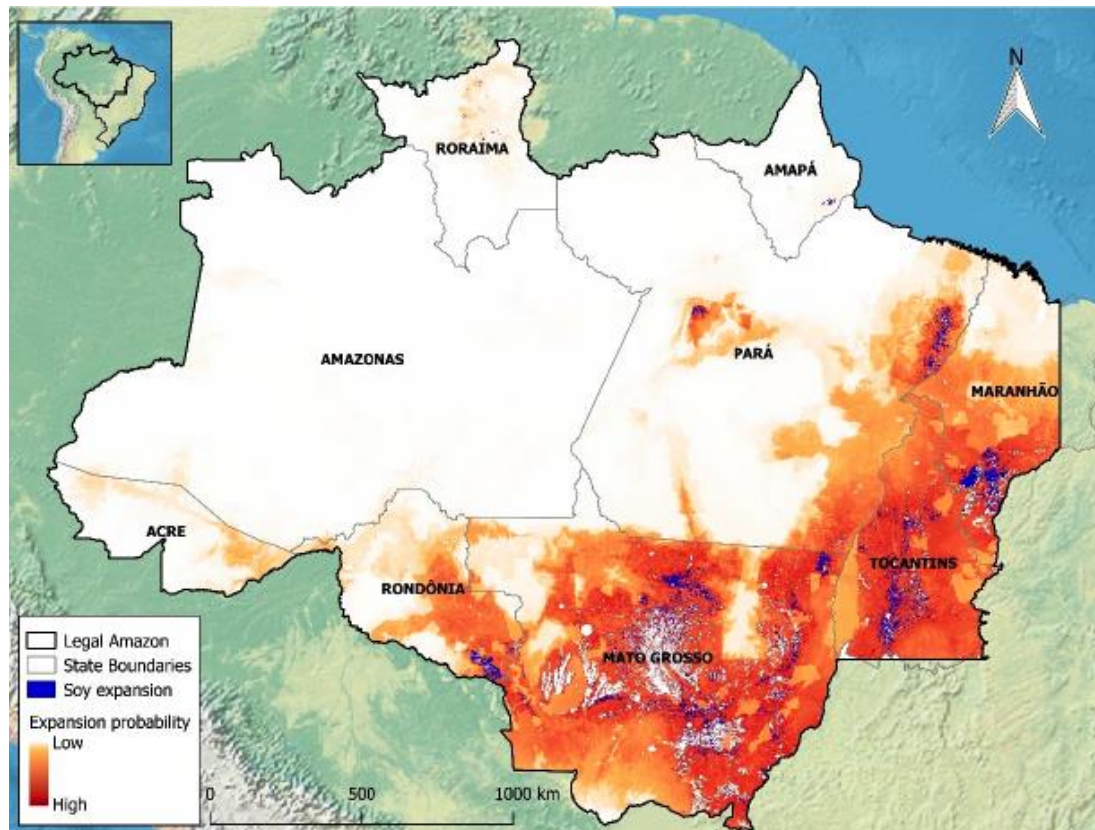
Figure 3, based on simulation models of impacts of soy and infrastructure expansion in the Brazilian Amazon, shows how the Santarém area in Pará stands out in the heart of the Amazon as an area that has a high probability of (forecasted) soy expansion.

Already in 2001, the noted Amazon specialist Fearnside warned about the threat of soybean farming for the environment in the Amazon. He mentioned specifically “the many ways that soybeans and their associated infrastructure catalyse destructive processes”.⁶² In 2016, he also warned about the risks of using waterways for soy transports:

“Then there is the proposed waterway on the Tapajós River, a major tributary of the Amazon with a confluence at Santarém. This project is also a high priority for Brazil's growth plans. The waterway would open up another part of Northern Mato Grosso to soybeans. Locks are planned at all of the Tapajós' rapids so that barges can go travel on the river. Hydroelectric dams would be built at each of these sites. All this construction would have terrible environmental impacts, like destroying the aquatic environments, rapids, the gallery forests along the rivers. It would create more opportunities for deforestation, in the places along the river where new soybean plots are opened up. The impact on indigenous people would also be terrible.”⁶³

To put this in context: the Amazon Basin contains not just the Amazon River, but also 13 other large rivers with drainage systems that encompass more than 100,000 km². The basin of the Tapajós, the only undammed large tributary, is the size of France. The Tapajós has particularly large potential for soy transport, as it flows from Mato Grosso state to the Amazon river Santarém. One of the infrastructural plans is to make dams in the Tapajós River, which would allow for soy barges to pass rapids and waterfalls. Today, the Tapajós is too shallow during the dry season for large ships and barges.

Figure 3 Probability of soy expansion in the Legal Amazon and forecasted soy expansion for 2020



Source:

https://www.researchgate.net/publication/327920645_Simulated_Impacts_of_Soy_and_Infrastructure_Expansion_in_the_Brazilian_Amazon_A_Maximum_Entropy_Approach

In 2009, the Brazilian and Dutch ministers of transport signed a Memorandum of Understanding about infrastructure construction.⁶⁴ This MoU – and successive support provided by the Dutch State - led to the involvement of various Dutch companies in infrastructural developments plans in the Amazon and Cerrado.

In 2012, Dutch consultancy firm Arcadis delivered a large Workplan Report for the Brazilian Ministry of Transport.⁶⁵ It maps out in detail how Brazil’s navigable rivers can become waterways for transport. Soybeans are mentioned in the report as a relevant commodity of which the transport modalities can be calculated. A year later, Arcadis delivered a series of technical reports to Brazil’s Ministry of Transport. The Tapajós River in particular is mentioned as having large potential for soy transport.⁶⁶ Arcadis Report 2 details its potential:

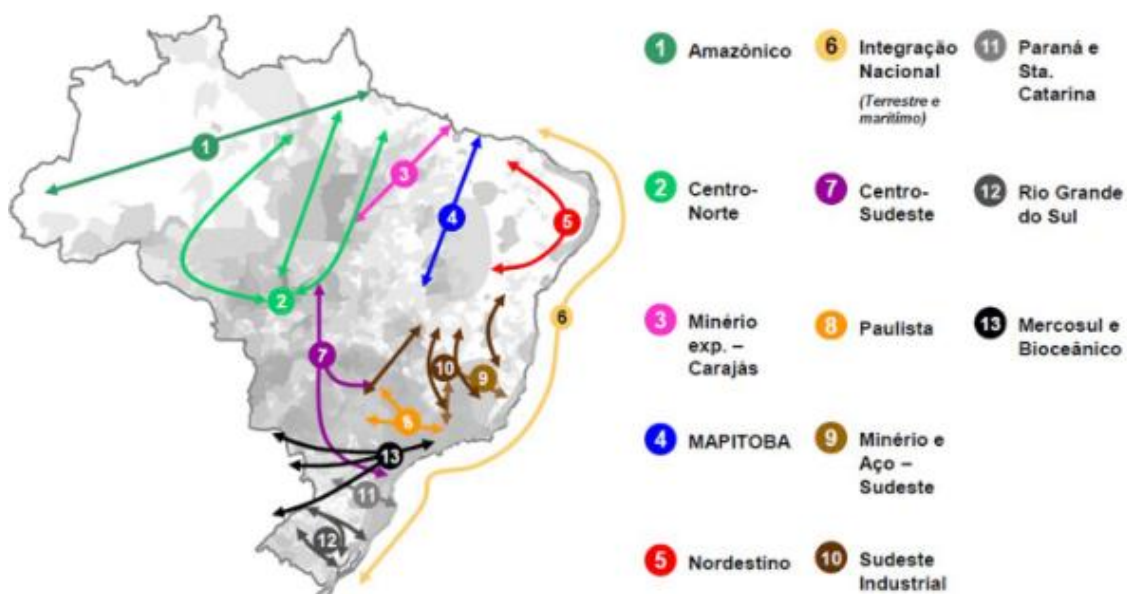
“The Tapajós waterway has a strategic geographic position, connecting large centers of Brazilian agricultural production to the Amazon River and, consequently, to the Atlantic Ocean. However, navigation is only feasible currently from the city of Santarém, at the meeting of the Tapajós and Amazon Rivers, to the city of Itaituba, on the Tapajós River, close to 280 km in length. Upstream of this city, the Tapajós River and its main tributaries (the Teles Pires and Juruena Rivers) have a number of rock outcroppings, rapids and low falls, unpassable by commercial vessels. Being rivers considered strategic from the Brazilian power sector point of view, a number of hydroelectric power plants are planned for these rivers, which will make navigation possible over extensive segments of these rivers.”⁶⁷

The problem with building hydroelectric dams is that this would mean that much land of the Munduruku in the Middle Tapajós will be flooded, and that a series of rapids, which are considered holy to the indigenous Munduruku would be destroyed.⁶⁸ It would also spell disaster for animals in the area and the ecosystems they depend upon. These issues are however not mentioned in the very short section on “Social and Environmental Vulnerabilities” of the company that claims to “deliver **exceptional and sustainable outcomes**” [italics and bold copied from original].⁶⁹ Arcadis later stated it is much more critical now with regard to projects in the Amazon.⁷⁰ But meanwhile, the plans are closer to implementation.

Another Dutch involvement in the infrastructural development in the Brazilian Amazon has been to advise on a network of railroads through the Amazon to facilitate the transport and export of soy and also corn. This advice also resulted from the aforementioned MoU between Brazil and the Netherlands.⁷¹

In 2013, a new collaboration - aimed at creating Dutch business opportunities - was established between several Dutch knowledge and research institutes, coordinated by Panteia and subsidised by the Dutch State.⁷² Other Dutch organisations involved were TNO, STC, EICB and Connekt.⁷³ Brazilian-Dutch teams developed seven transport corridors in Brazil, as shown in Figure 4.

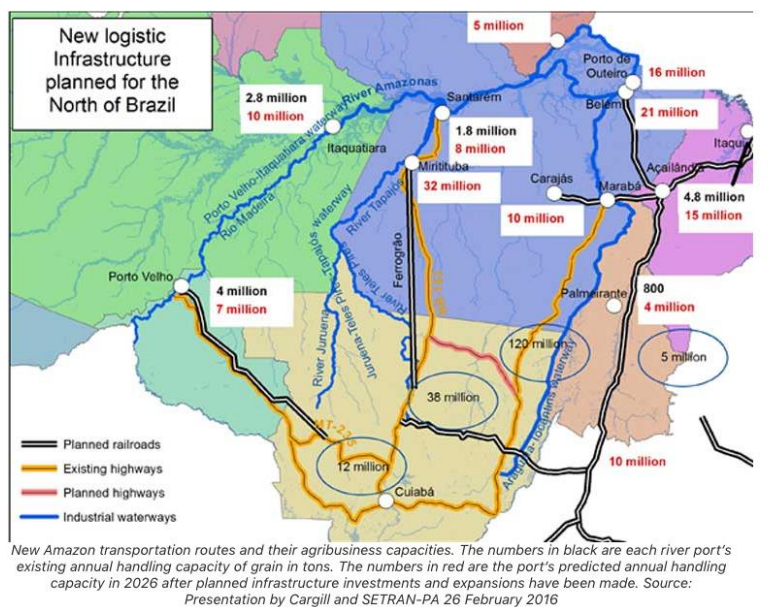
Figure 4 Proposed multi-synchro transport corridors in Brazil as part of the Brazilian-Dutch cooperation in the field of infrastructure



Source: <http://portal.antaq.gov.br/wp-content/uploads/2016/12/Corredores-Multi-e-Sincromodais-no-Brasil.pdf>

The so-called Centre-North Corridor (CNC) was the particular focus of Dutch policy makers and experts, as this could offer opportunities for Dutch business.⁷⁴ Several infrastructural options are mentioned, including the idea of making a railroad from Mato Grosso to Santarém.⁷⁵ The CNC, from Central Brazil to North Brazil, was described as the “logistical connection” between the “agricultural state” Mato Grosso and the “(sea) ports” in the state of Pará, located on the Amazon river.⁷⁶ The expression “(sea) port” maybe confusing, as they refer to ports at the Amazon river, many hundreds of kilometres inland, that are accessible by sea ships.

Figure 5 Map of the Centre-North Corridor (CNC) in North Brazil



Source: <https://news.mongabay.com/2017/02/getting-there-the-rush-to-turn-the-amazon-into-a-soy-transport-corridor/>

The map show that several railroads of over 1,000 km and sometimes 2,700 are being planned.⁷⁷ The various problems that can occur with the railroad plans were discussed in detail in various articles by Dutch investigative journalists. In 2018, investigative journalist Karlijn Kuijpers revealed that Dutch engineering and transport companies had been developing the master plan of this railroad network and so-called multi-modal transport system. It would consist of several 1000+ km railroads, ports of transshipments (on tributaries of the Amazon River), and various additional soy export ports along the Amazon River. Tributaries of the Amazon river have soy ports as well, for smaller boats and large barges with containers, which bring soy and also corn to the export harbours on the Amazon river. While framed as ‘sustainable’ by the Brazilian and Dutch policy makers, there is little doubt that this infrastructural network of ports and railroads will lead to significant deforestation and related conflicts with traditional communities – as well as contribute to a food system that is considered ‘not sustainable’ according to the Dutch cabinet’s 2018 vision on circular agriculture.⁷⁸

The CNC has not received much media attention, but its first branch, the so-called Ferrogrão, a planned railroad of 1,100 km from Mato Grosso to the Tapajós River, has been the focus of various media articles, especially in Brazil. The Ferrogrão is planned to be the first stretch of railroad of the CNC. In 2018, a Brazilian federal judge blocked the concession procedure of the Ferrogrão because he considered the environmental impact assessment insufficient. For example, it did not mention that traditional (Maroon) communities would be affected by the railroad. Almost a year earlier, federal prosecutors had recommended cancelling a series of public hearings about the Ferrogrão, organised by Brazil's National Agency for Terrestrial Transport (ANTT).⁷⁹ These federal prosecutors from the states of Pará and Mato wrote that the public hearings would be illegal because almost twenty traditional communities had not been properly informed and involved. Based on the principle of Free Prior and Informed Consent (FPIC) these hearings would be a breach of ILO Convention 169.⁸⁰

1.1.6 Finance for soy infrastructure

While Brazil has many ambitions for developing its infrastructure, especially to facilitate soy exports, what is lacking is the money to fund the projects. Brazil's economic difficulties do not allow Brazil to pay for the billions that are needed. The Brazilian government aims to issue a 65-year operating license for the Ferrogrão, a system that will have the capacity to move 42 million tonnes of grains annually.⁸¹ Brazil has been looking for other countries, such as Arab countries and also China, to fund the first railroad section of the CNC, the Ferrogrão. In 2017, a group of state-owned Chinese firms was reported to form a consortium to bid for the license.⁸² In October 2019, President Bolsonaro discussed the matter with Saudi prince Mohammad bin Salman. After the meeting, Bolsonaro announced that Saudi Arabia was willing to invest ten billion USD.⁸³

Various soy trading companies have also shown interest in funding the Ferrogrão soy rail road.⁸⁴ A 2019 news report confirmed that the world largest soy traders are preparing a bid to operate the Ferrogrão.⁸⁵ In addition, the soy traders Bunge, Cargill, Dreyfus and Amaggi commissioned a study on operating a 968-kilometer stretch of the BR-163 highway for 10 years.⁸⁶ One of the advantages that the consortium mentions is that the Ferrogrão and BR 163 would better connect the Cerrado to export markets. Moreover, as is mentioned explicitly, the Cerrado has less "environmental requirements" than the Amazon which leads to "higher return on investment and more scale gain".⁸⁷

Rabobank in Brazil sees many further growth opportunities for the soy sector in Brazil and notably in the Amazon, where "[o]ur production is getting closer to the northern ports".⁸⁸ The growing and planned infrastructure for soy is likely to increase soy production in Brazil's North. An analysis by Rabobank showed that in seven years, the soy exports from Brazil's ports in the Amazon, which Rabobank refers to as Northern Arc ports, grew from 15% to 27%, with "plenty of room to keep growing".⁸⁹ A Rabobank analyst said crop production is increasing in the state of Pará, along with the Matopiba region, made up of the states of Maranhao, Tocantins, Piaui and Bahia. "Just like in the United States, this region's proximity to ports lowers transportation costs, giving farmers a better price than in other areas, which also helps motivate expanded production."⁹⁰

Rabobank points at the many opportunities for the soy business expansion in Brazil. "Rabobank expects Brazil's soybean exports to increase by 40% by 2026 and exports via the Northern Arc to increase by at least 130% over the next decade."⁹¹ Rabobank also published a special report in 2016 about soy in Brazil with the ominous title: *Build it and They will Come*.⁹² The documents that

are being produced by Rabobank Brazil raise questions as to how this relates to Rabobank's soy policy and its professed support for sustainable, circular agriculture, including 'protein from own land'.⁹³

While policy makers, consultancy firms, soy traders, and banks express themselves in positive terms about the expansion of soy cultivation and infrastructure, environmental and social risks are mostly ignored and downplayed. At the local level, such as in Santarém, the soy infrastructure creates many problems and tensions. Cargill's soy export port on the western side of the city was already the source of controversy, and stimulated deforestation and related conflicts. Since a few years, plans were underway to also build soy export ports (but not by Cargill) on the eastern side of Santarém, in the Maica Lake (Lago do Maicá) which also has a flooded forest and is one of the natural attractions of the region, as the lake has much wildlife, including many birds, pink dolphins and also the Amazon manatee.

Along and near the lake, many traditional communities are found: indigenous, maroon and also riparian communities of fishermen. For many years, the communities have been protesting against the port.⁹⁴ In 2017, indigenous blocked highways around Santarém to protest against the soy infrastructure and they occupied the City Council of Santarém.⁹⁵ In May 2020, the federal and state prosecutor's office in Santarém suspended the license for the port, as there had been fraud committed and the traditional populations had not been involved in the decision-making, which is required by Brazil's legislation and Convention C 169.⁹⁶ In May 2020, the court of Santarém decided that the port construction would be frozen.⁹⁷

1.2 Pesticide use for soy farming

Pesticides are a crucial element in maintaining the highly intensive Brazilian agricultural model, with soybean crops dominating its consumption. Pesticide use has not just grown in absolute terms, but also relatively: use per hectare has increased a lot since the 1990s. It has become a powerful industry on its own: Brazil's pesticide use accounts for more than USD10 billion annually.⁹⁸

The recent effects of the agricultural lobby in Brazil were already apparent since 2016, under the Temer government.⁹⁹ In 2018 alone, as Brazil's quality newspaper *Folha de São Paulo* reported in 2019, Brazil approved 450 pesticides, which was the highest rate in 13 years.¹⁰⁰ Under the Bolsonaro government, which took office on 1 January 2019, even more harmful pesticides have been allowed, some of which are banned in other countries or regions, including the EU.¹⁰¹ The *Guardian* reported in May 2019 that in the first few months in office, the Bolsonaro government had approved hundreds of pesticide products, and that according to a study more than 1,270 pesticide products had been approved since 2016.¹⁰² Of those, supposedly 193 contain active ingredients banned in the EU.¹⁰³

Concerned Brazilian biologists reacted with a letter in *Science*, published in August 2019, titled 'Brazil unwisely gives pesticides a free pass'. They wrote: "Instead of boosting production as intended, the extensive use of agrochemicals - some of which are prohibited elsewhere - hurts human health, the environment, and the Brazilian economy. Pesticide use erodes ecosystem services, such as pollination, that depend on biodiversity. This service also underpins Brazilian food production, valued at USD 11 billion for 2018."¹⁰⁴

In August 2019, it was reported that in a period of only three months, 500 million honey bees had died in Brazil, which was being attributed to pesticide use.¹⁰⁵ Investigations by Brazil's prosecutor's office found that their death was caused by the insecticide fipronil (prohibited in the EU), that had been used on soy plantations.¹⁰⁶¹⁰⁷

A BBC Brasil report of May 2020, entitled “The soy advance creates a ‘cemetery of beehives’ in the interior of Pará”, described how soy plantations and agrochemicals had environmentally devastating effects in the Brazilian Amazon. It included an interview with a beekeeper from Belterra, Pará state, where soy has become the main business. The man had been beekeeping for 40 years. He used to have 1,000 beehives but since the arrival of soy and pesticides many bees had died and he had only 100 beehives left. He described the arrival of agribusiness and agrochemicals as an atomic bomb that went off in Belterra.¹⁰⁸

Pesticides used in soybean areas do not just negatively impact pollinators and the ecosystems that depend on them, they are also reported to bring forth pests that attack local crops in the surrounding areas. Consequently, farmers feel forced to also use pesticides to protect their vegetable gardens from these pests, creating a vicious cycle.¹⁰⁹

No matter how liberally pesticides can be used legally in Brazil, there is also illegal pesticide use. These pesticides are often produced in China and smuggled into Brazil, for example via Paraguay, as the Washington Post reported early 2020.¹¹⁰ A 2016 study on agrochemicals in waterways in several South American countries found that “banned organochlorines were most frequently detected in Brazil.”¹¹¹

The same study found that multiple insecticides were found “in almost all stream sediment samples in intensive soy production regions, with pyrethroids most often occurring at acutely toxic concentrations”.¹¹² Not surprisingly then, residues of pesticides, have been found in pink river dolphins. High concentrations of organochlorine¹¹³ compounds (DDT, PCB, HCH, HCB, Mirex) and organobrominated compounds (PBDE) were found in samples from different areas of the Brazilian Amazon, including the Solimões, Japurá, Negro, and Madeira rivers.

One study showed that all milk samples (n=62) from dolphins contained evidence of organochlorine accumulation (PCBs were present in 100% of the samples, DDT in 64%, HCHs in 95%, HCB in 64%, and Mirex in 66%). As the IUCN notes: “Pesticide concentrations measured in these samples were similar to those verified in the milk of other aquatic mammals and humans, indicating substantial exposure of calves to organochlorines at a critical developmental stage.” The effects of bioaccumulation of these chemical contaminants have yet to be studied, but are for IUCN a reason for concern.¹¹⁴

Needless to say, these concerns are also applicable to fish – and therefore to fishing, an activity that is a cornerstone for nutrition and livelihoods for many people in the region. The presence of agrochemicals in waterways also means that impacts of pesticide use resulting from soy production are not limited to the Amazon and Cerrado, but also affect another unique and highly biodiverse area, the Pantanal, south-west of the Amazon and encompassing the world's largest tropical wetland area, also under threat from soy production.¹¹⁵

1.2.1 Public health

A group of Brazilian public health researchers studied the intensive use of pesticides in Brazilian agriculture as a public health issue, due to contamination of the environment, food and human health poisoning.¹¹⁶ Their study, published in 2017, gave an overview of the spatial distribution of the planted area of agricultural crops, the use of pesticides, and related health problems.¹¹⁷ They found a correlation between the increased consumption of pesticides and the mean coefficients of health indicators.¹¹⁸ For example, the authors mention that childhood cancer is an important indicator of environmental vulnerability and is the second cause of death of the population aged 0-19 years in Brazil. Scientific literature points to a higher incidence of leukaemia and lymphoma in the central and southern regions of the state of Mato Grosso, both regions with high agricultural – mainly soy - production.¹¹⁹

In three indigenous communities near Santarém - Açaizal, Ipaupixuna and São Francisco da Cavada - people complain about the quality of the water in the streams that are their sources of drinking water.¹²⁰ They observe that during the rainy season, pollution from the agrochemicals from nearby soy fields enter their water streams. The death of a boy after a bath in the stream has only increased the suspicion about soy and agrochemicals. Agricultural fertilizers also flow into the Tapajós river, which increases the growth of algae and turns the normally blue Tapajós green.

Because the water quality had become such a concern locally, biologists and toxicologists studied the water quality and the levels of (herbicide) in the streams near soy fields in the Santarém area. The researchers found glyphosate residue in the water streams, but this was within Brazil's allowable limits of 500 mg/l.¹²¹ The quantities found, however, would surpass the permissible quantity limits in the European Union (of less than 1 mg/l). This large difference in (health) norms between Brazilian and European citizens (500 mg per litre in Brazil versus less than 1 mg per litre in the EU) created some doubt and mistrust among community members about the health norms to which they are exposed.

1.2.2 Glyphosate and soy

The aforementioned 2017 Brazilian public health study showed that soy was the crop that used most pesticides, accounting for 63% of the total, followed by corn (13%) and sugar cane (5%). The authors mention that the extensive areas of high pesticide consumption monocultures are mainly located in the Cerrado. The municipality Sorizo in Mato Grosso state, a municipality known for its large-scale for soy cultivation, stood out for having the highest levels of pesticides use: 14.6 million litres pesticides in 2015. The active ingredients most frequently used in soybeans were glyphosate, with about 5.5 litres per hectare.¹²²

Glyphosate, generally sold under the name Roundup, is the most widely used broad-spectrum systemic herbicide in the world. It was developed by the company Monsanto, which was bought by Bayer in 2018 for 63 billion USD.¹²³ Glyphosate has been the focus of discussion and controversy, particularly around the question whether it can be considered carcinogenic.¹²⁴ Bayer is member of RTRS, with vast interests in continued and expanded soy production.

A meta-analysis, published in 2019, investigated whether an association could be established between high cumulative exposures to glyphosate-based herbicides (GBHs) and non-Hodgkin lymphoma (NHL) in humans. The authors found a clear link between GBHs and NHL. "Overall, in accordance with findings from experimental animal and mechanistic studies, our current meta-analysis of human epidemiological studies suggests a compelling link between exposures to GBHs and increased risk for NHL."¹²⁵

In June 2020, after more than a year of talks, Bayer agreed to pay USD 10.9 billion to settle close to 100,000 U.S. lawsuits claiming that its widely-used weedkiller Roundup caused cancer, resolving litigation that has pummelled Bayer's share price. With the settlement Bayer has come to terms with about 75% of the 125,000 filed and unfiled claims overall.¹²⁶ It may just be the first of many more claims to come.

Interview with Jozenildo, cacique (chief)

Jozenildo is chief of Açaizal (Mundurucu) and a schoolteacher in the indigenous school of the village, nearby a soy field. When the soy farmer sprays his fields, chemicals also enter the school, which has open windows, like most buildings in the region. Over the years, his community has been increasingly surrounded by soy fields. Soy farmers have also deforested forests that the community considered as their traditional land.

"There was also deforestation here, and people deforested parts, but much of the land here was forest; different types of forest, secondary rainforest, tertiary (called capoeira), but also primary ("virgin") forest. When the soy farmers arrived, they pulled down more forest. They always leave some parts standing, to create camouflage. We can see that they deforest more. They also destroyed forest with black earth, which is very important for us, as it reflects our deep history.

It started around 2006, 2007, or 2008, that they started to deforest here. They also deforested an area recently. They have a smart strategy, is what we have been observing. Every year they deforest a strip of forest, every year a couple of meters. They also made a large road, which used to be a narrow forest path, but which now it is a soy road of 50 meters wide. This is their strategy to produce more yields.

We notice that the situation is worsening every year. Hunting becomes more difficult; we cannot collect fruit like before. There are really much less animals. The vegetation reduces and all the wildlife disappears, and the streams are drying up. Some fruits used to be abundance, but not anymore.

The land here is not flat. With heavy rain, all the pesticides and herbicides flow into the stream, where we used to drink from and bath in. But because of the deforestation, the streams are drying up. And there used to be lots of fish, but we think that the agrochemicals killed the fish. From the elder we hear that there used to be much more water in the streams. An elder in our village says that the Amazon is turning into a desert, and that is indeed what we are seeing here."



Jozenildo at street protest by indigenous Munduruku Plantalto Santarém in 2017, to confirm their land claim on the basis of ILO Convention C169 after official announcement at federal university of west Pará in Santarém (photo: Tim Boekhout van Solinge)

1.3 Violations of laws and (human) rights

Deforestation in the Brazilian Amazon is mostly illegal.¹²⁷ Many other law violations occur as well during the process of deforestation. Logging and forest conversion or infrastructural projects often lead to disputes over land tenure, and frequently result in threats and violence. As a result, human rights violations combined with violations of environmental regulations are common. Corruption is also widespread among politicians (who are sometimes land grabbers themselves) and some parts of the public sector.

Considering the almost structural prevalence of corruption in land and deforestation questions, Brazilian public prosecutors increasingly view deforestation in the Amazon and also Cerrado as an organized crime issue.¹²⁸ From a criminological perspective, some types of deforestation in the Brazil can certainly be termed organized crime, considering that the mostly illegal forest conversion is not only accompanied by land document fraud and corruption, but also regularly by threats and violence. The combination of corruption and violence are means to almost reach immunity from law enforcement.¹²⁹ The term 'violent business subculture' has also been coined in this respect, as agribusinesses and timber traders are often involved as perpetrators.¹³⁰ For companies and financial institutions linked to commodities produced in this geography, this should be an issue of big concern.

1.3.1 Human populations and risks of human rights violations

Human populations in the Amazon have changed considerably since the arrival of Europeans, 500 years ago. The original Pre-Colombian indigenous population largely vanished, as many died from illnesses brought by the Europeans (influenza, colds, smallpox). This still happens when a (relatively) isolated tribe or community is getting into contact with outsiders. After many waves of mainly Portuguese colonisers and migrants, the 19th century rubber boom led to new waves of migrations to the Amazon: poor migrants from Brazil's poor northeast, and international merchants such as from the Middle East.

Today's indigenous population in Brazil is estimated at around 900,000, less than 1% of Brazil's population. The majority of the indigenous population lives in the Amazon. As such, it is the main remaining place on earth where indigenous groups live in relative isolation, avoiding contact with outsiders and continuing the age-old semi-nomadic lifestyle of hunting and gathering.

The 1988 Constitution of Brazil recognises the right of indigenous peoples and also maroons (descendants of enslaved people who escaped) to lands they "traditionally occupy". There are some 300 different indigenous peoples or tribes in Brazil, speaking more than 160 different languages and dialects.¹³¹ Today, there exist 462 official and regularized Indigenous Territories in Brazil, recognised by FUNAI.¹³² The Indigenous Territories vary widely in size, but together they represent around 12,2% of Brazil's territory (which is over 200 times larger than the Netherlands). Most of the Indigenous Territories are concentrated in the Amazon Basin. Other traditional communities are riparian communities (*ribeirinhos*) who live on the riverbanks, and extractive communities.

Not every community that considers itself indigenous, is recognised as such by the state institutions. The procedure to be recognised is complicated and may take years or even decades.¹³³ The first step to apply for recognition of indigenous or maroon land is always to demarcate the land with GPS and make a map with GPS coordinates. The current president Bolsonaro has stated during his election campaign that he does not want any more centimetres of indigenous or maroon land to be demarcated.

The 1989 Indigenous and Tribal Peoples Convention (C169) of the International Labour Organisation (ILO), safeguards the rights of indigenous and tribal peoples with regard to the natural resources pertaining to their lands. These rights include the right of these peoples to participate in the use, management and conservation of these resources. The cornerstone of the Convention is the fundamental principle of consultation and participation of indigenous and tribal peoples. In South America, Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru and Venezuela have ratified ILO C169.¹³⁴ Improper consultation and participation processes may constitute a breach of ILO C169. There are various cases where ILO C169 stopped or changed land use change projects.¹³⁵

Notwithstanding, people from traditional communities in the Amazon are overrepresented as the first human victims of deforestation. Traditionally dependent on the forests and rivers where they live, they often oppose deforestation. Leaders of traditional communities in particular are targets of threats and (lethal) violence in conflicts over land use and deforestation, as regularly reported by the indigenous council CIMI and the Pastoral Land commission (CPT).¹³⁶ In the international press, these victims are often called environmental defenders, a term that may suggest that these environmental defenders are members of environmental NGOs. In reality, they are first and foremost defenders of their communities, culture, and way of life, for which the forest is indispensable.

In one particularly deadly conflict, the 2017 Colniza Massacre, nine people were killed by gunmen in a land conflict related to illegal timber extraction and illegal cattle farming. Some of the meat that was sold by the rancher who was later condemned for the murder, was linked to JBS, the Brazilian meat company that is the largest beef company in the world, owned by the Batista family. Joesley Batista has been suspect in various investigations, including in 2016 in the so-called Car Wash Operation, in which the Brazil's Federal Police charged him for alleged bribes made by his company to the former president of the Brazilian parliament. In 2017 the Batista brothers reached agreements to pay USD 3.2 billion in fines for their role in corruption scandals. A year later, Joesley Batista was arrested alongside two former ministers of agriculture. Brazil's Federal Police later said in a statement that the arrests were part of an operation aimed at "dismantling a criminal organization operating in the Chamber of Deputies and the Ministry of Agriculture." 19 people were arrested in the operation, including a deputy, JBS executives, lawyers and former agriculture ministry officials, while 64 raids were carried out in five states. A recent study by Amnesty International points at other illegality in relation to JBS's activities, in particular in its cattle supply chain¹³⁷

Paulo Paulino Guajajara



In November 2019, Paulo Paulino Guajajara, an indigenous land defender, was ambushed and murdered by illegal loggers. Between 2000 and 2018 42 Guajajara indigenous people were murdered, and this year has been marked by an upsurge in violence across Brazil. According to preliminary data published by the Indigenous Missionary Council (CIMI), in the first nine months of 2019 there were 160 cases of invasion of 153 indigenous lands in 19 states. (Photo: Patrick Raynaud, Greenpeace)

1.3.2 Corruption, law enforcement and governance

Corruption is not uncommon among some of Brazil's institutions, especially at lower governmental levels (state and municipal). Whilst corruption is much lower at federal level, the federal environmental protection agency IBAMA has had problems with corruption for a long time.¹³⁸ Also INCRA, the Federal institution for land reform and colonization, is known to be affected by corruption.¹³⁹ The military police has an even worse reputation.¹⁴⁰

In contrast, Brazil's Federal Police (Brazil's equivalent of the FBI) is known for its professionalism, independence, and low levels of corruption. The same is true for Brazil's public prosecutor's office, at both federal and state level. In general, public prosecutors are qualified, independent, and seldom corrupt. Both the federal police and the public prosecutor's office can be considered as strong institutions, managing to remain independent, as the principle of *trias politica* of modern states prescribes.

Considering the corruption, the federal police and public prosecutors therefore sometimes have to investigate other law enforcement institutions, or go after corrupt politicians. In the Amazon, the public prosecutor's office is the institution that probably best defends the rights of traditional populations. Brazil public prosecutors regularly intervene when the rights of traditional populations are not respected.

However, a structural problem with law enforcement in the Amazon is the vastness of the area (the Brazilian Amazon is larger than India), and the low population densities, which makes governmental presence generally extremely low. Government officials might have to travel days if they want to intervene against, for example, illegal logging. There, an official has to "confront armed loggers all too ready to threaten him with violence or, more benignly, ready to offer a bribe".¹⁴¹

For public prosecutors and the current (environmental) law enforcement system in the Brazilian Amazon there are simply too many cases of illegal forest activities (logging, mining, deforestation), unclear land tenure, and land conflicts to detect, let alone to deal with. For example, arson (the illegal forest fires at the end of the dry season) may occur at tens of thousands of different places throughout the Amazon. In other words, the state and its institutions that are supposed to hold the monopoly on violence and are responsible for public order and justice, are often absent. In rural and forested areas of Brazil, large landowners traditionally have a lot of power, sometimes with their own 'strong arms'. A farmer, large landholder or speculator may turn up one day claiming the land in or around where communities live. This claim may be supported by documents and strengthened by the presence of some armed men. As a result, some say that land grabbing is a "way of life" in the Amazon.¹⁴²

1.3.3 Poor land registry and land fraud leading to land grabbing

A general problem with land registry in the Brazilian Amazon is that land is being illegally registered and claimed by large landholders and land speculators. Especially so-called undesignated public forest, both federal and state, is vulnerable for this type of land grabbing, and these forests run a high risks of being deforested. This is shown in a 2020 article in Land Use Policy, which highlighted that for the period 1997–2018 an area of 2.6 million hectares of this type of undesignated public forests in the Brazilian Amazon had been deforested by 2018, resulting in an emission of 1.2 billion tons of CO₂ (Gt CO₂).¹⁴³

Deforestation is much lower when traditional communities have land tenure and land rights over the territories that they inhabit and use, as compared to land under control of cattle or soy farmers. There is a lot of evidence that when traditional communities have land rights over pieces of forests, such as indigenous and maroon communities, this best preserves forests for the future.¹⁴⁴ In the Brazilian Amazon, it is common knowledge that the least deforested areas are areas that are under formal control of traditional communities. This can easily be seen by satellite data or even google maps: indigenous areas are clearly distinguishable as the most forested areas.

Which person or community has formal land rights over certain forest areas leads to regular conflicts in many parts of the Amazon. Areas of land claimed by both farmers (usually large landholders) and traditional communities (usually smallholders) is one of the most typical cases of land conflicts in the Amazon. Even though communities have been living in certain areas for a long time, cattle or soy farmers often manage to obtain certain land documents, which they use to claim it is their land. The process of land claiming land by large-landholders farmers and resulting conflicts with communities usually has the following steps:

- Farmers from outside the Amazon arrive in the area with land documents, claiming a piece of land, where people were already living. Whether the land document is genuine and legal, remains to be seen.
- Traditional communities living in the area retort stating it is their community land, but they often have less documents from notary offices than the farmers, and many communities do not have maps of their territory with GPS data.
- Sometimes the farmer who arrives offers money to family farmers in exchange for leaving.
- Sometimes a farmer hires a gunmen or corrupt policeman to threaten or stimulate local inhabitants to leave and/or accept some money for leaving.

If a community does not want to leave and also wants to claim land as indigenous or maroon territory, priority will eventually be given to the traditional community, as Brazilian law prescribes. Farmers therefore often do not like it when a traditional community officially registers a land claim, as it means that a farmer can never get his so-called CAR, a rural land registry, officialised.¹⁴⁵ But in the meantime, the farmer can graze cattle or grow soy on the contested land, because traders and financial institutions usually only require a CAR, and not a genuine land title.

Few large farmers landholders in the Amazon and particularly in Pará, the Amazon's prime deforestation state, can actually prove that they are the legal owners of all the land on which they produce. This is caused by a poor land registry system, which is not centralised, in combination with large-scale fraud in land documents and corruption. An important part of this governance issue is the aforementioned CAR document, a Rural Agrarian Cadastre, which every farmer and land user needs to have. Many CARs are registered in the names of large landholders, such as cattle and soy farmers. But the CAR does not represent a land title or a document of land ownership. As is stated explicitly in capitals in an official document: "CAR IS NOT A DOCUMENT OF RECOGNITION OF PROPERTY RIGHT OR POSSESSION."¹⁴⁶

Technically, a CAR is no more than a land claim. Eventually, CARs need to be analysed and be approved or rejected by state agencies. Many CAR's will never be approved, because there are so many overlapping CARs. Moreover, in the whole of Brazil, there are 15 million hectares of CARs registered in Indigenous Territories and Nature Conservation Units.¹⁴⁷ In June 2020, Brazil's Federal Prosecutor's Office (MPF) revealed that almost 10,000 land properties that overlapped with indigenous territories, were registered in the CAR system. The Federal Prosecutor's Office (MPF) warned that the CAR should not be used to commit environmental crimes and grab indigenous land.¹⁴⁸ A 2020 article in Land Use Policy also showed that as much over 11 million hectares of public land in the Brazilian Amazon was illegally registered as private land within the CAR system, although this concerned public land. 2.6 million of this land was already illegally deforested by 2018.¹⁴⁹

CARs overlapping indigenous territories can never be approved on the basis of the current legislation. The same holds true for the many CAR's on public land, such as the banks of federal rivers. The current Bolsonaro government however has tried to change the legislation, which would allow for a formalisation of those land claims.

Besides a CAR document, cattle and soy farmers also usually have documents from a notary office, such as a purchase and sale contract that shows that they bought (or sold) land. But the fact that the sale is registered at the notary office, does not mean that the seller of the land was the rightful owner of the land. In fact, much more land is claimed in purchase land contracts in circulation and registered in notary offices than there is land in reality. Much land is therefore registered in a fraudulent manner, even though not every buyer knows that his or her land document is in reality not valid.

Pará state has three times more land on paper than in reality, with many overlapping land claims.¹⁵⁰ Hence, in a legal sense, even the combination of a CAR and a notary document of a land purchase is no proof of land ownership. Ultimately, the current land registry system does not allow for the state to know which land belongs exactly to the state. In order to have a valid land title, one must also be able to show the history of the land title and possible land purchases.

The issue with CARs is that in practice, many agribusiness people use CAR as a way to legitimise irregular land occupations.¹⁵¹ It is also used to suggest that the maximum of 20% deforestation in the Amazon and 80% of Cerrado land under control by a farmer is legal. Some Brazilian banks agreed that in case of overlapping land claims, no credit will be given to farmers.¹⁵² These banks thus acknowledge that a CAR registry does not guarantee land ownership.

This problem of the CAR registry is exacerbated by commodity traders and financial institutions accepting a CAR as sufficient proof of land ownership for doing business. Investors and financial institutions that wish to work legitimately and according to the law, need to be more demanding with respect to the documents that are required from soy and beef producers in the supply chains. Rural property registration must have an origin and a chain of ownership, which needs to be validated to know if the land is legally a private property. Actors and institutions that automatically accept a CAR document as a land title and legitimate land occupation, may actually be complicit, knowingly or unknowingly, in land grabbing and illegal deforestation.

Brazil's history of legitimizing illegal land occupation further compounds the problem of overlapping land claims and unlawful land ownership. The 2012 Forest Act included an amnesty for much of the illegal deforestation that took place prior to 2009. As the agricultural lobby is the most powerful lobby in Brazilian politics, agribusinesses may have reason to believe laws will again change to serve their commercial interests. Current land grabbing may be pardoned and legalized in the future, much to the detriment of the planet and its current and future inhabitants.

1.3.4 Illegal deforestation and illegal forest fires (arson)

When a large landholder has appropriated land with a CAR document and a registration in the notary office, the next common step is to deforest a piece of forest to transform it into productive agricultural land. Burning forest is only legal when approved by the authorities. As a very large majority of the forest fires happen without permission, it concerns most often arson.¹⁵³

During most of the year, it is impossible to burn the Amazon rainforest. The rainforest is simply too wet and humid to set on fire. Only at the end of the dry season, or in exceptionally dry years, does this become feasible. However, a piece of forest can be prepared or 'cleaned' in order to burn it. The common practice is that larger trees are cut and sold, while smaller trees are pulled down, with a bulldozer and by using a metal chain between tractors. This process usually occurs at the beginning of the dry season, when the forest is more easily accessible with equipment, as compared to the wet season when roads and paths are muddy. The early months of the dry season are used to let the smaller trees dry and die. The end of the dry season, around September, is the usual period when farmers set fire to the deforested area. Every year at the end of the dry season, the forest fires occur in the Amazon. This can be called the arson season.

The illegal forest fires at the end of the dry season usually occur at many thousands of places, as farmers in Amazonia have deforested many different relatively small areas of forest and prepared for arson. A way to visualize these forest fires is by imagining that many thousands of football fields across the amazon are on fire. In 2019, there were around 80,000 of these forest fires.¹⁵⁴ The Guardian reported in May 2020, that a study by MapBiomas, a coalition of NGOs, universities and technology companies – found that 75% of the deforested land happened on land registered via CAR. Moreover, 99% of this deforestation was illegal.¹⁵⁵

Interview with Public Prosecutor of Pará - May 2020

Ione Nakamura is public prosecutor of the state public prosecutor's office (MPPA) of Pará state in Brazil. She is the head of the section Agrarian Questions of the MPPA. This section was created in 2017 to deal with the many violent land conflicts in Pará. Pará is for many years Brazil's leading deforestation state. She is interviewed for this case-study regarding the many problems with land registration.



How can one know if the land use of a farmer is legal, in accordance with the law?

To find out whether the land is legal or illegal there are some things that need to be taken into account. The first is to investigate who is the owner of the land. Legally, the owner of the land needs to have a registration at the notary office and this document must be valid as property. I emphasize this because there are several documents such as CAR and purchase and sale receipts of land that can be registered at the notary office, but they are not land ownership documents and therefore do not transfer land ownership.

The second is to verify who occupies the land. not the owner, but the person who actually farms the land, whom we call a squatter or occupier. This person does not own the land document, but he bought it from another squatter or simply appropriated public land.

What types of documents are needed to show that land use is legal?

The Federal Constitution of Brazil of 1988 in article 186 asserts criteria to fulfil the socio-environmental function of land. In other words, whoever owns land in Brazil needs to comply with certain requirements, such as complying with environmental, labour and economic legislation.

Which type of documents do cattle and soy farmers usually have?

Generally, they have a receipt of buying and sale of the land, which they bought from another land occupier. Farmers also usually have a CAR. But I repeat that both documents are not a proof of land ownership.

What is the current situation with regard to land use and documents? How much is legal and illegal? Is it possible to make estimates of legal and illegal land use? Is there a difference between states? Is Pará (very) different from other states in the Brazilian Amazon?

In Pará state where I work, we know that there is three times more land registered than there is in reality. This points to land grabbing with document fraud and problems of overlapping documents.

Knowing that many cattle and soy farmers who produce and who export products, actually do not have documents that show that they are the legal land owners, what can cattle or soy farmers do in an ideal situation, if they want to work totally legally? Which kind of documents do they need, or to which institution should they go, to make sure they work legally, with the right documents?

The person should investigate whether it concerns public or private land and if the previous owner has a valid land document. The person should make sure there is no overlap with indigenous land, maroon land, INCRA or ITERPA settlement, conservation units or overlapping with land of other particular owners. After analysing the land tenure and land document situation of the land, the person needs to seek to regularize the land on his/her name, obtaining the title from the land agency or if he/she already has a valid title, register it at notary office. In addition to regularizing the land, it is mandatory to make the CAR and comply with environmental laws and labour laws.

What could a financial institution ask of an agricultural or livestock company, or soy, to be sure that this farmer is working legally?

The financial institution may request the CAR and the Property Registration with complete ownership history chain that demonstrates the detachment of public assets to the private. If there is a conflict in the area or overlapping of CAR or property registration, verification are required. And financial institutions could follow the practice of Brazilian banks which have an agreement to not give loans to farmers in the case of overlapping land claims.

1.3.5 Murders

In 2014, Global Witness issued the report *Deadly Environment*. It showed that around the world some 900 environmental protectors had been killed in the previous ten years. About half of those murders (448) had occurred in Brazil. Other reports of Global Witness (2016, 2018) also suggested that Brazil is one of the leading countries in terms of murders of land and environmental defenders (57 murders in 2017). 80% of these murders have occurred in the Amazon Region.¹⁵⁶ All in all, since the late 1980s, over one thousand people have been killed in the Brazilian Amazon in disputes related to land conflict, but only 100 cases have proceeded to court. While 80 hired gunmen have been convicted, only 15 people who ordered killings have faced charges.¹⁵⁷

Consequently, the Amazon has a reputation of an area of lawlessness. And within the Amazon, Pará state (30 times the size of The Netherlands) is especially infamous. For many years it has been the state with most deforestation, land grabbing, violent land conflicts, and land and nature defenders who are being threatened and killed by hired *pistoleiros*.¹⁵⁸ In Pará state alone, 772 human rights and forest activists were murdered between 1971 and 2004. Only three of their killers were brought to trial.¹⁵⁹ Hundreds have been living "under the threat of murder because of their fight against a coalition of logger, farmers and cattle ranchers".¹⁶⁰ In 2017, the state public prosecutor's office created a special department, Agrarian Questions, to better deal with the many land conflicts, especially around agriculture. Even so, federal public prosecutor Luis Camões Boaventura said in an interview about soy farming around Santarém that buyers such as in the Netherlands should know that the soy from his region has a taste of blood.¹⁶¹

Interview with Gilson Rego of Brazil Pastoral Land Commission CPT – May 2020

Gilson Rego has been CPT's coordinator in Santarém, Pará state for over a decade. In his work, he visits communities, documents problems and conflicts and helps local communities in attaining their rights. He is interviewed for this case-study to highlight the problems of conflicts in the Amazon region.

Rego explains that traditional communities often oppose deforestation, as it deprives them of the natural resources on which they are dependent. It means they cannot hunt anymore, and they lose food and medicinal trees from the forest. Deforestation also leads to higher temperature and less rain, which leads to lower water levels in streams, which sometimes run dry, whereas those streams used to be their main water source. "The soy kills forest and it kills communities", he said.

He mentioned that an emerging area of conflict is in Amapá state, also in the Amazon, where soy farmers have recently arrived. "There are many conflicts there. Houses of people of traditional communities are being burned". Cattle land and also eucalyptus plantations are being turned into soy fields, he explained, and soy farmers are also deforesting more land. The region is attractive for soy farmers, as a large soy export port has become operational in Santana, near the Amazon River's mouth. For soy farmers it is attractive to be near ports, as this reduces their costs with around 60%, yielding more profits.

He explained the same phenomenon is happening in Amapá, as was happening in west-Pará twenty years ago, after the construction of the soy export port by Cargill: soy farmers arrive from outside the Amazon, buy land and acquire land documents. Those land documents are often illegitimate as they result from land grabbing. Soy farmers regularly get into conflict with traditional communities that live in forested areas, but generally do not have official land titles, even though they are entitled to have them.

Some victims of deforestation related violence receive international attention, such as the murder, in 1987 of Brazilian rubber tapper and union leader Chico Mendes, the murder in 2005 of U.S. Sister Dorothy Mae Stang, and the murder of the married couple João and Maria da Silva in 2011, at the time the best known Amazon rainforest activists in Brazil. The murder of the Da Silvas happened on the same day, 24 May 2011, that the Brazilian House of Representatives voted overwhelmingly for the controversial 2012 Forest Act, which allowed farmers to deforest more of their land and give them a form of amnesty for much of the illegal deforestation that occurred prior to 2009.

However, most of the violence that occurs in the Amazon in the context of deforestation and land conflicts happens almost unnoticed and does not reach international news, as they occur in the interior of the Amazon. The main victims are often leaders or other members of traditional communities.

1.4 Animal cruelty: the soy connection

Although usually ignored, deforestation and pesticide use in the Amazon and Cerrado is also harmful to farm animals. There is a direct link to the mass scale suffering of chickens, pigs, cows and fish - in Brazil, but also overseas, especially in Europe and Asia.

This link is the soy connection. In 2017, Europe imported 8 million metric tonnes of soy from the Cerrado and Amazon biomes, almost all for livestock feed.¹⁶² As such, this soy props up industrial farming and its associated animal welfare problems. These are caused by overcrowded and barren housing conditions, mutilations, early weaning, poor air quality (high levels of ammonia and dust), detrimental feeding regimes, rough handling, long distance transport and inhumane slaughter practices. Moreover, safety measures to protect animals from calamities (failing ventilation systems, fires, extreme weather events et cetera) are inadequate or completely lacking. Animals suffer from stress, boredom, injuries, ailments, hunger, social deprivation and lack of opportunities to express innate behaviours. Annually, 77 billion birds and mammals are 'produced' for slaughter. An estimated 50 billion of these are confined in industrial systems. Furthermore, soybean meal is increasingly used as fish feed in aquaculture, which is also accompanied by a range of welfare problems caused by, inter alia, high stocking densities, insufficient water quality, disease and substandard slaughter methods.

Yet, the soy connection is even more specific than being a significant part of the animal protein value chain. Animals in industrial livestock production are genetically selected to grow fast, have large litters, lay high numbers of eggs or produce a maximum amount of milk. Their 'performance' is often compared to a top sport. Like with extraordinary athletic accomplishments, optimal nutrition is crucial to achieve high yields. Often, high protein contents of animal feed are indispensable to realize the potential of the genetic make-up of the animals. Since soybean meal contains a lot of protein, it is a key input, especially for these livestock systems based on 'high performance' animals.

Unfortunately, this 'high performance' comes at a large cost. Genetic selection for fast growth or other production traits is usually detrimental to animal welfare. If it is a top sport, it is forced upon the animals, fixed in their genes, and entails the hardships and perils, not the perks.

Meat chickens are an obvious case in point. In the past decades, genetic selection of meat chickens has focused on improving feeding efficiency, weight gain, and breast muscle size. The soy content of meat chicken feed is high, about 26%.¹⁶³ This means that for every kilogram of chicken meat, 665 grams of soy is used.¹⁶⁴ Today's broilers can reach their slaughter weight in just 35 days. This excessive fast growth has compromised welfare outcomes. Fast-growing birds often experience leg deformities, skeletal defects, skin problems, and reduced mobility. Moreover, they are susceptible to heat stress. The mortality of fast growing chicken breeds is relatively high.¹⁶⁵

In contrast, birds from slower growing chicken breeds have more balanced skeletal development and function, are better able to carry body weight and suffer from fewer bone and skin problems. Bone health is generally better in slower-growing strains, which reduces the likelihood of leg deformities. Subsequently, they have significantly fewer walking problems and are more active, allowing them to perform natural behaviours that matter to chicken welfare, such as scratching, pecking, walking, running, and perching.¹⁶⁶ As a result, they also tend to present reduced rates of hock burn and food pad dermatitis. These are lesions to the bottoms and backs of the feet that can develop into painful open sores – usually resulting from a combination of poor skin health and long periods of sitting in soiled litter because of reduced mobility.

Animals belonging to slower growing breeds are not top athletes. They do not require the same high protein feed to fulfill their potential. Consequently, and crucially: they do not need much soy (if any).

So although birds belonging to slower growing breeds live longer and therefore require more feed during their lifespan, the feed they eat can have a lower environmental footprint. Moreover, since mortality rates of slower growing meat chickens are generally lower, less feed is lost by being fed to birds that do not make it to slaughter. Thus, contrary to what is often claimed by the industry, higher welfare chickens can also be preferable from a climate change and biodiversity perspective. There are even more benefits in shifting to slower growing breeds. The meat quality is generally better. Slower growing chickens are less affected by breast muscle disease - 'wooden breast' and 'white striping'. Wooden breast is a disease which hardens the breast muscle due to decreased oxygen supply and associated cell death – the meat gets 'woody'. White striping is caused by fat depositing in the breast muscle during the bird's growth. Better meat quality results in lower food waste.¹⁶⁷ Moreover, since the birds are more robust, keeping them healthy does not require as much antibiotics as their conventional counterparts, relatively decreasing the risk of antimicrobial resistance.¹⁶⁸

Currently, the biggest meat chicken producing countries are the US, China and Brazil – together responsible for 44% of global production. In the EU, about 7 billion meat chickens are produced annually. Poland is the biggest producer, followed by Spain, France and Germany. The overwhelming majority of these chickens are fast growing ('plofkippen'). In the Netherlands, more than 600 million meat chickens were slaughtered in 2019 and around two thirds of these belonged to fast growing breeds.

Mitigating meat chicken welfare risks

To mitigate animal welfare risks in livestock production, the FARMS initiative (www.farms-initiative.com) has set responsible minimum standards for the most commonly farmed species. For meat chickens these entail the progressive implementation of:

- breeds that demonstrate higher welfare outcomes, including the Hubbard JA757, 787, 957, or 987, Rambler Ranger, Ranger Classic, and Ranger Gold, or others that meet the criteria of the Royal Society for the Prevention of Cruelty to Animals' Broiler Breed Welfare Assessment Protocol;
- a maximum stocking density of 30 kg/m² or less. Thinning is discouraged and if practised must be limited to one thin per flock;
- no cages or multi-tiered systems for either broilers or broiler breeders;
- at least 2 meters of usable perch space and two pecking substrates per 1,000 birds.
- at least 50 lux of light, including natural light;
- on air quality, the concentration of ammonia (NH₃) must not exceed 20 ppm and the concentration of carbon dioxide (CO₂) must not exceed 3 000 ppm measured at the level of the chickens' heads;
- controlled atmospheric stunning using inert gas or multi-phase systems, or effective electrical stunning without live inversion;
- compliance with the above standards via annual third-party auditing and annual public reporting on progress towards this commitment."

Another example of animals genetically selected to become a 'top athlete' are dairy cows. Again, this has profoundly negative impacts on their welfare. To quote a scientific report by EU institution EFSA: "Long term genetic selection for high milk yield is the major factor causing poor welfare, in particular health problems, in dairy cows. The genetic component underlying milk yield has also been found to be positively correlated with the incidence of lameness, mastitis, reproductive disorders and metabolic disorders."¹⁶⁹

Due to this excessive genetic selection, cows have severe difficulties to extract enough nutrition and energy from grass. They may be hungry or starving because the metabolic output is greater than their input from food.¹⁷⁰ In other words, they risk being milked 'to starvation'.¹⁷¹ To prevent this from happening, these high yielding cows need concentrates with high protein contents, in addition to grass and corn. Soy is usually one of the main ingredients of these concentrates. Dutch cows for example, eat on average more than 5 kg soy per week, according to dairy platform Duurzame Zuivelketen.¹⁷² According to a WUR report, in Dutch dairy production 26 gram soy is used per litre of milk.¹⁷³ Consequently, since the production of 1 kg of cheese requires 10 litres of milk, the production of a unit of cheese requires about 25% of its weight in soy.

In contrast, cows from higher welfare breeds, genetically selected for lower milk yield and higher meat quality – so-called 'double purpose animals'- can flourish on a diet of grass, with little if any added corn and only occasionally some concentrates. Their manure also contains less nitrogen. Therefore, these breeds do not only have lower risk of lameness and mastitis, they are also more sustainable.¹⁷⁴

From a sustainability perspective, arable land should be used to grow food for humans, not feed for livestock. In addition, biomass unsuitable for human consumption could be converted by animals into food.¹⁷⁵ Such a transformation would not just provide benefits from an environmental and food security point of view, it would also lead to better balanced diets, shifting away from the excessive intake of animal proteins that characterize Western diets in particular.¹⁷⁶ Finally, it offers important opportunities – and some risks - for improved animal welfare: it would utilize the natural behaviours of animals such as grazing and would need higher welfare breeds.¹⁷⁷

1.5 Claims about responsible soy

On 27 August 2019, in the midst of forest fires in the Amazon, Dutch newspaper NRC Handelsblad published a fact check ("NRC checkt") on the use of soy in the Netherlands. It fact-checked the

statement that the forest fires in the Amazon were related to the consumption of soy milk, consumed by hipsters. The conclusion was that the statement was untrue (“onwaar”). NRC Handelsblad reported that less than 1% of the soy that is imported into Europe is for human consumption.¹⁷⁸ Moreover, the soy consumed by humans mostly concerns soy from Europe and North America. Almost all the soy that is imported into the Netherlands is used for livestock feed. Of this imported soy, NRC Handelsblad concluded, based on 2017 figures in the 2019 European Soy Monitor, half was deforestation free.

This seemed to imply that the other half of the imported soy was not deforestation-free. To counter this impression, two days later, on 29 August 2019, Nevedi, the Dutch Feed Industry Organisation, issued a press release claiming that all imported soy “is sustainably grown and meets the sustainability standards that have been drawn up at European level within the European Association for the Animal Feed Industry (FEFAC) and that have been laid down in the FEFAC Soy Sourcing Guidelines (FSSG)”.¹⁷⁹ In the same press release, Nevedi also stated that the Dutch animal feed sector has “been using 100% sustainable soy for years”. Moreover, Nevedi underlined that the Dutch feed sector was involved in the establishment of Round Table on Responsible Soy and has subscribed to the Amazon Soy Moratorium since its inception in 2006.¹⁸⁰ In a similar vein, supermarket Albert Heijn had declared in NRC’s fact check “to not use soy from the Amazon”, a statement it repeated via other channels too.

Nevedi’s claim was echoed in the 2020 European Soy Monitor, using data from 2018. Whereas it stated in 2019 that “deforestation-free certification accounted for at least 50% of overall use” for Dutch soy, now it reported that an impressive 99% of soy used was deforestation free.¹⁸¹

Answering questions from Parliament, the Dutch Minister for Foreign Trade and Development Cooperation confirmed this view. She wrote that RTRS guarantees sustainability and zero deforestation. She also stated that all soy from Latin-America reaching Dutch consumers via animal feed in meat, dairy and eggs is produced according to the RTRS criteria.¹⁸²

The above seems to indicate that concerns about the negative impacts of soy imported in the Netherlands for animal feed have been addressed adequately. In this narrative, three different claims can be identified:

1. The soy imported is not from the Amazon area.
2. The soy imported is deforestation-free.
3. The soy imported is sustainable.

However, none of these bold claims stand up closer scrutiny.

1.5.1 Claim 1. The soy imported is not from the Amazon area

Albert Heijn has been outspoken: no soy from the Amazon. When contacted, Ahold Delhaize referred to the Amazon Soy Moratorium as the basis of this claim. Ahold Delhaize stated that various organisations, including Greenpeace, are involved in the monitoring and Ahold Delhaize understands that the moratorium functions well. Ahold Delhaize is not the only company claiming that the Amazon Soy Moratorium guarantees that there is no (longer) soy coming from the Amazon.¹⁸³ However, this interpretation of the Amazon Soy Moratorium is too limited and not correct. Whilst the tremendous importance of Amazon Soy Moratorium is beyond doubt, it does not claim that there is no soy coming from the Amazon. The moratorium involves international soy traders promising to ban soy that is being cultivated on Amazonian land that has been recently deforested (initially defined as deforested since July 2006, later changed to July 2008). However, the agreement doesn't apply to the large areas of Cerrado in the Legal Amazon region due to the opposition of the trading companies members of the Soy Moratorium. There is an obvious reason for this: most of the soy produced and exported by Brazil comes from the Cerrado.

As soy arrived in the Amazon in the late 1990s, this means that the soy that is cultivated on Amazonian land that was deforested before the moratorium is allowed by the global traders. This

can concern land that was deforested by a soy farmer, or it is land that was deforested for another purpose, such as cattle farming. Furthermore, soy producers clearing forests for other purposes than growing soy – to use as pasture or for other crops – are still considered being compliant to the Soy Moratorium, even if they continue to profit from deforestation.¹⁸⁴ There might be another reason why the often celebrated success of the Soy Moratorium may well be less rosy than often imagined. Deforestation is monitored by PRODES, the national deforestation monitoring system, but much of the Amazon deforestation is relatively small-scale and will not be detected by PRODES, which does not consider deforestation of areas smaller than 6.25 ha.¹⁸⁵

Thirdly, the remit of Ahold Delhaizes claim is limited to owned brands. All the other relevant products it sells in its supermarket chains in the low countries, eastern and southern Europe and the US, do not fall under its soy policy. They may or may not be covered by similar policies from other companies.

Besides the Soy Moratorium, there may be another argument why it is stated, or thought, that no soy from the Amazon is imported into the Netherlands. In its aforementioned August 2019 press release, Nevedi stated that “trade flows of soybean meal have changed dramatically due to trade policy tensions between the US and China. Meanwhile, the vast majority of soybean imports to Europe/Netherlands come from North America. Nevedi continues to work towards the sustainable production of soy in South America, but in fact this has hardly touched Dutch animal feed.”

The latter phrase is somewhat cryptic, but if the suggestion is that soy used in the Netherlands for animal feed is hardly sourced from South America, this is false. In 2018 and 2019, there was indeed a strong increase in the imports of soybeans from North America (see Figure 6) on the back of declining exports from North America to China, due to their trade war. However, this does not mean that there was little soy coming from South America and Brazil. The figure shows that the US and Brazil were equal soy suppliers to the Netherlands. For soy meal, which is used as livestock feed, Brazil was by far the largest supplier. This is no surprise and to some extent inevitable, as Brazil has been the world’s largest soy exporter for years. In 2018, Brazil also became the largest soy producer, surpassing the US. On a global scale, Brazil accounts for more than one third of global soybean production. In fact, soy vessels going from ports in the Amazon to Rotterdam can be traced by GPS location (see Figure 8). And to add as a side note: soy production in North America creates its own, massive negative impacts on biodiversity, water quality and carbon emissions, due to pesticides, fertilizers, soil erosion and land use change.¹⁸⁶

Finally, the soy exports from the US to China increased again late 2019 and early 2020, indicating that soy flows shift back again. These ‘dramatic’ changes in soy trade flows point to the fact that soy from North and South America constitute to a large degree the communicating vessels of a world market. Usually driven by price, those first in line to source North American soy will push those last in line to source South-American soy and vice versa. In other words, as important as geography is at production level, at system level this importance evaporates to a large extent and overall soy demand seems to be the overriding factor pressuring land use change.

Figure 6 Dutch soy imports by country in 2018 (in 1,000 tonnes)

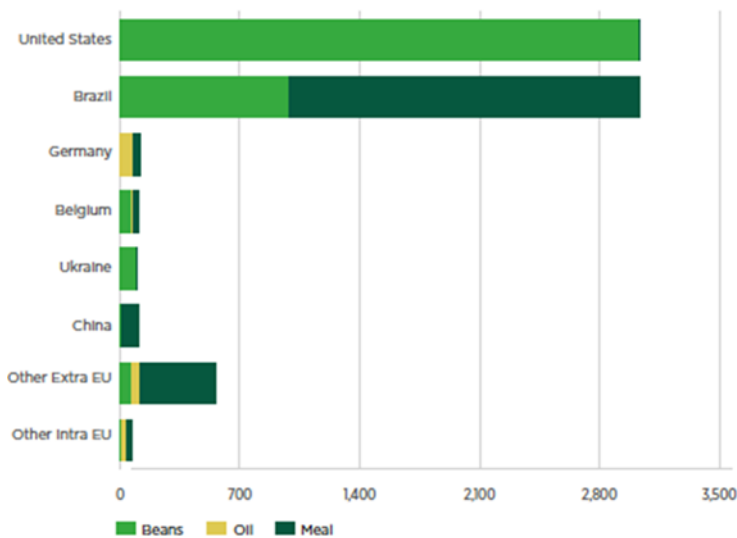
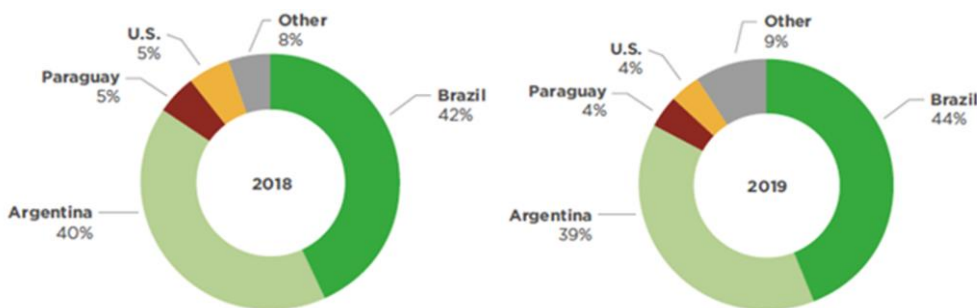


Figure 7 Key countries of origin of soybean meal imports to EU+ countries in 2018 and 2019¹⁸⁷



Source: taken from the European Soy Monitor by IDH (2020)

In the interview, Ahold Delhaize acknowledged that soy is one of the most difficult products in terms of traceability. The company knows the origin of 1.5% of the soy it uses: the soy used for soy products for human consumption. But 98% of their soy concerns animal feed, which is turned into meat, dairy and eggs. This soy arrives by bulk transports from South America. Ahold Delhaize has asked the soy traders (see further) to improve traceability. But since they do not offer real traceability, Ahold Delhaize has turned to so-called RTRS credits to ensure responsible soy. This brings us to the second, even more problematic claim.

1.5.2 Claim 2: The soy imported is deforestation-free.

The conclusion drawn in the 2020 European Soy Monitor about 99% of imported Dutch soy being 'deforestation-free' is based on certification of the Round Table for Responsible Soy (RTRS). Similarly, Nevedi notes that there are "agreements in the Netherlands between the animal feed sector and the production chains for dairy, meat and eggs that only RTRS soy may be used for all animal products sold on the Dutch market. For the sale of animal products outside the Netherlands, RTRS soy must also be used in the case of dairy products."¹⁸⁸

What does this actually mean? For starters, these claims have some initial limitations:

- For most Dutch meat and egg production, which is destined for export, non-RTRS soy can be used. Part of this soy complies to FEFAC Soy Sourcing Guidelines, but these do not exclude deforestation.¹⁸⁹ The other part is not certified at all.¹⁹⁰
- Infrastructural development to transport soy is a substantial driver of deforestation (see 1.1.5). This is not accounted for in RTRS certification, which only looks at sites of production.
- The availability of data is ‘insufficient to map flows of certified soy to and within the EU+ and key sectors’, as the European Soy Monitor notes.¹⁹¹

Notwithstanding these limitations, RTRS does promise zero deforestation. Its website explicitly states that RTRS means zero deforestation and zero (forest) conversion: “Zero means zero”.¹⁹² The more pressing question therefore is about the solidity of RTRS certification and its zero-deforestation claim. For this, a more in-depth understanding of RTRS is necessary.

RTRS offers three types of certification:

1. Segregated – certified soy is kept separate from non-certified soy throughout the entire supply chain;
2. Mass Balance – soy of different production specifications (certified and non-certified soy) is mixed. Certificates are being traded along with the physical flow, according to the actual volume of certified soy in the mix. Control on the mass balance is being performed at every stage of the supply chain;
3. Book & claim (‘credits’) - Certified soy and product certificates (credits) are being traded separately, meaning that soy can be purchased from non-certified producers, but certificates guarantee that a certain volume of production has taken place according to the specific standard.

Furthermore, a hybrid between 2 and 3 called ‘area mass balance’ is increasingly available, which entails a book and claim system, but where the physical product flow comes from the same region as credits are attributed.

The above means that only type 1 RTRS certification ensures that the physical product is fully produced according to RTRS standards. To make matters worse, RTRS type 1 certification seems to hardly exist – if at all. The 2018 RTRS Management report does not report any soy certified under ‘segregation’, nor did the Management Reports of 2017 and 2016. A 2018 WUR study seems to suggest that only a different certification scheme, ProTerra (non-GM) soy, has a segregated supply chain.¹⁹³

Mass Balance certification also concerns the physical product, albeit in this case soy produced according to RTRS standards is mixed with soy not produced according to RTRS standards. RTRS claims that both model 1 and 2 “assure the traceability of RTRS certified soy”. In the case of Mass Balance, this depends heavily on how the mixing volumes of soy is controlled and reflected in the accompanying certificates.

For type 3 certification, no real connection exists between the physical product and the RTRS credits. On its website, RTRS is notably careful about what a RTRS credit actually entails. It does not assure the traceability of RTRS certified soy, but instead signals ‘interest in and commitment with encouraging a form of production that is environmentally appropriate, socially adequate and economically feasible.’ Without diminishing the importance of encouraging better production methods, this also means that RTRS credits allow companies to use soy from non-certified producers, including the use of soy produced on legally and illegally deforested land (see Box on Trase¹⁹⁴ in section 1.5.4).¹⁹⁵

If the segregation model is largely theoretical, what is the ratio between Mass Balance and Book & claim? In its press release, Nevedi acknowledges that in practice, it is “very difficult to set up logistics chains in such a way that product flows of sustainable and non-sustainable soy from the production areas can be transported to Europe completely separately.” Nevedi further states that it is involved in so-called mass balance certification, but without indicating its volume. However, the

2018 RTRS Management Report shows that the soy purchased by the three largest Dutch feed companies – ForFarmers, Agrifirm and De Heus – is all based on the credits system (Book & Claim), not the Mass Balance certification.¹⁹⁶ Similarly, Ahold Delhaize’s sourcing for its own-brand products is covered by RTRS credits. In fact, the large majority of RTRS certification is not based on Mass balance, but based on Book & claim. In terms of sales, the 2018 RTRS Management Report mentions that Mass Balance represents only 11% of the total sales.¹⁹⁷ Apparently, companies are not committed enough to zero deforestation to be willing to incur the extra costs for a physical flow of RTRS certified soy.

Moreover, RTRS supply is (substantially) higher than demand, suggesting that to date adherence is driven by farmers willing to work (or already working) according to good agricultural practices, rather than by companies purchasing RTRS credits. As the European Soy Monitor put it, RTRS certification ‘hasn’t delivered the financial incentive to producers that would stimulate further investment.’¹⁹⁸ Generally speaking, these farmers did not represent the problem – and so their compliance to RTRS criteria, as important and worthy of support as it may be, does not represent the solution either.

At this point, it should be noted that the Netherlands is considered as a forerunner in importing RTRS soy. According to the 2018 RTRS Management Report 40% of RTRS sales could be attributed to The Netherlands (and 0% to China, by far the world’s biggest importer of South-American soy). It should also be acknowledged that RTRS credits do correspond to a certain volume of production according to RTRS criteria. Undoubtedly this amounts to progress, but it will not stop deforestation. Only 3.3% of Brazilian soy is RTRS certified.¹⁹⁹ RTRS seems to have established some progress, but RTRS is a soy trade platform, and not a forest protection system.²⁰⁰ In order to preserve forested areas such as Amazon and Cerrado, more measures and more transparency from RTRS is needed.

Thus, despite their rhetoric, Dutch companies using RTRS credits cannot guarantee that the soy in their supply chains is deforestation free. According to research published in July 2020, about 20% of soy imported from the Amazon and Cerrado to the EU, is potentially contaminated by illegal deforestation.²⁰¹ The same research identifies the Netherlands as biggest EU importer of soy from both these biomes. If also legal deforestation is taken into account, this figure rises.²⁰²

On the upside, since RTRS credits are virtual, companies could choose to support better production methods of soy by purchasing RTRS credits without buying real soy. In practice, these companies, to quote the RTRS again, would express ‘interest in and commitment with encouraging a form of production that is environmentally appropriate, socially adequate and economically feasible.’²⁰³

Or wouldn’t they? The economic feasibility of RTRS soy has been proven, but what about ‘environmentally appropriate’ and ‘socially adequate’? This is the subject of the third claim.

1.5.3 Claim 3: The soy imported is sustainable

Interestingly, unlike the Round table on Sustainable Palm Oil (RSPO), RTRS does not use the adjective “sustainable” in its name but “responsible”. This term is used for soy that was “produced with considerably less negative social and environmental impact”, based on criteria under the following principles:

1. Legal compliance and good business practices;
2. Responsible labour conditions;
3. Responsible community relations;
4. Environmental responsibility;
5. Good agricultural practices.

But, as a WUR report in 2018 duly notes: “the feed industry prefers the term ‘responsible soy’. A term which, however, is being opposed by NGOs.”²⁰⁴

Notwithstanding its name, 'responsible' and 'sustainable' have become interchangeable in the discourse on certified soy. RTRS firmly promotes itself as an organization that certifies sustainable soy production. Government-funded organisations like CBS and IDH also consider RTRS as sustainable. CBS for example uses the term "sustainable certified soy" which also includes RTRS soy. IDH, which aims to stimulate sustainable trade, considers soy as sustainable when it is compliant – like RTRS - with the Soy Sourcing Guidelines (SSG) of the European Association for the Animal Feed Industry (FEFAC).²⁰⁵ This would arguably align with how the term "sustainability" is often used in Brazil. A 2015 study by The Hague Centre for Strategic Studies found that in Brazil, "sustainability" is primarily used in an economic sense: a production-based sustainability scheme. In other words, Brazil's agricultural production model is "based on economically sustainable schemes rather than on environmentally sustainable schemes".²⁰⁶

However, the concept of sustainable production has a long history in international policy circles and it has become part of the UN Sustainable Development Goals (SDGs). Sustainable consumption and production (SCP) are commonly defined by the UN as: "the use of services and related products, which respond to basic needs and bring a better quality of life while minimizing the use of natural resources and toxic materials as well as the emissions of waste and pollutants over the life cycle of the service or product so as not to jeopardize the needs of further generations".

Notwithstanding acknowledgment of the important criteria RTRS includes, it is highly questionable whether soy monocultures, requiring large quantities of water and fertilizer as well as pesticides (see previous section 2 about pollution), meet this description, especially when these monocultures are located in the most biodiverse regions of the planet. Agrochemicals are a case in point. RTRS allows the use of a range of controversial pesticides, including ones that are banned in the EU. Even the notorious Paraquat is only required to be phased out by the end of 2020.²⁰⁷

Finally, the UN urges us to look beyond the isolated product and consider sustainable production and consumption patterns. To mass produce soy on one side of the Atlantic to feed animals on the other side, creating nitrogen surpluses which negatively impact local biodiversity in the process; sustaining industrial livestock systems and its associated animal welfare problems and public health risks; and contributing to food consumption patterns that run counter to dietary recommendations – can one really call this sustainable?

It certainly is at odds with the vision on agriculture of the Dutch Minister of Agriculture, Nature and Food Quality, 'Agriculture, nature and food: valuable and connected' (2018). This vision acknowledges the urgent need for structural changes and a transition towards circular agriculture. Why? 'The way in which we produce our food is shifting ever more out of balance. We are taking more than the planet can give, and this is not *sustainable*.'²⁰⁸ In the government vision, circular agriculture pertains to reducing 'the size of nutrient cycles' to 'close the loop at the lowest possible level'.²⁰⁹ In other words, this marks a move towards locally grown feed crops. Also, since natural resources need to be used efficiently, such system would use less feed crops: animals are expected to be fed increasingly with waste streams. Or, as professor Imke de Boer put forward, circular agriculture is based on the principle that plant biomass is the basic building block of food and should be used by humans first. The role of animals in such a vision is limited to converting waste streams into food and grazing on lands not suitable for growing food.²¹⁰

One cannot have it both ways. Despite certification, the reality of the soy commodity chain – from production to transport and transport infrastructure, from use in large-scale industrial farms to its contribution to consumption patterns – sits ill with the vision of the Dutch government for sustainable agricultural and seems far removed from the sustainability concept as developed over the years such as by the UN since the 1992 Rio Earth Summit.

Figure 8 Vessels carrying soybeans from Brazil to international destinations, 22 March 2019



Source: <https://twitter.com/kannbwx/status/1109136825870737409>; <https://www.findbrazil.org/2020/03/soja-ja-fortes-exportacoes-do-brasil-devem-registrar-maior-aceleracao/>

The map shows a trail of soy vessels leaving Brazil via the Amazon River. Two soy vessels can be seen in Spain (Barcelona) and two other ones in the Netherlands.

1.5.4 How responsible is soy from companies lacking in CSR?

The global soy market is dominated by a handful of private players, commodity traders, which are the world's four largest agribusinesses. These traders, or trading houses, are often called the ABCD companies: ADM, Bunge, Cargill, and Dreyfus.²¹¹ One of the main strategies of the ABCD companies is vertical integration, taking control over the different stages of the chain – not just purchase of beans, storage, transport and trade, but also production and sales of inputs, financing and farm insurance services and technical advisory services.²¹² Each of the companies have revenues varying from several dozens of billion USD to over 100 billion USD, such as in the case of Cargill, the largest of the ABCD.²¹³

Soy cultivation, beef and illegal deforestation

A study by Trase published in June 2020²¹⁴, identified the traders likely to be exporting soy from the top 15 municipalities where illegal deforestation has occurred. The three companies most exposed to trade in soy from farms linked to illegal deforestation in Mato Grosso: Amaggi, Cargill and Bunge. The latter company exports soy from its port in the Amazon to Rotterdam, after taking over two soy crushers from Cargill in The Netherlands.

The study identified large-scale illegal deforestation for soy in the state of Mato Grosso, both in the Northern Amazonian half of Mato Grosso and the southern Cerrado half. The study also found illegal deforestation on soy properties in the Amazon. In the Amazonian part of Mato Grosso, the researchers first found that 24,000 ha of soy had been planted on land deforested between 2012-2017. This was consistent with non-compliance reported by the Soy Moratorium monitoring mechanism (which identified 68,000 ha of soy in Mato Grosso as non-compliant since 2008). Later they found an additional 115,000 ha of deforestation within the boundaries of soy farms in the Amazon biome in Mato Grosso, of which 106,000 ha (92%) was deforested illegally.

The authors mention that these areas had not been converted for soy by 2017, and would not be detected by the Soy Moratorium monitoring mechanism because it only monitors the area of land where soy is grown and not the entire farm. “Yet these farms were still in breach of the Forest Code due to illegal deforestation. As a result, the soy produced on these farms may have been exported as deforestation-free under the Soy Moratorium, putting global markets at risk of importing soy from farms linked to illegal deforestation in the Amazon”.

In the Cerrado of Mato Grosso the researchers found that 880,000 ha of native vegetation had been cleared in between 2012-2017. Almost all of it (98.5%) was illegal and 235,000 ha of the illegal deforestation in the Cerrado took place on soy farms. The study mentioned: “We estimate that approximately 19% of the EU’s soy imports from Mato Grosso in 2018 were likely to have come from farms where illegal deforestation took place. This represents trade worth approximately USD 295 million.” The study found that seventy percent of the soy that is estimated to be exported to the EU and linked to illegal deforestation is likely to have come from just 15 municipalities, with one single municipality (Paranatinga) accounting for over 10%. Paranatinga was one of the 10 municipalities with the highest number of fires in Mato Grosso in 2019.

These outcomes are comparable to those from a scientific study published in July 2020. The authors calculated that ‘roughly 20% of soy exports and at least 17% of beef exports from both biomes [Amazon and Cerrado] to the EU may be contaminated with illegal deforestation.’ They add the warning that the uncertainty upper bound for contaminated soy may be underestimated, since their property sampling covers about 80% of planted soy in the Amazon and Cerrado biomes: ‘if all left-out properties growing soy would have committed illegal deforestation, which is unlikely, the upper bound would reach 37%, if only half of them, the upper bound would amount to 28%.’

Regarding beef, they estimated that in 2017 of a total of 4,3 million cattle from Pará and Mato Grosso, 60% may be contaminated with potentially illegal deforestation from direct and indirect suppliers, in the latter case as the cattle pass from one property to another before being slaughtered.²¹⁵

All four are members of the RTRS. Glencore (Switzerland) is another large player that is member of RTRS, and so is Amaggi, Brazil’s largest soy company, owned by soy billionaire Blairo Maggi, former governor of ‘soy state’ Mato Grosso and former federal minister of agriculture. He is sometimes dubbed Brazil’s soy king. It should be noted that although these companies are members of the RTRS, most soy they trade is non-RTRS and largely not certified at all. If RTRS would signal ‘being responsible’, the trade of these companies is most definitely to a large extent ‘not responsible’.

They do not have the reputation of being very transparent either. Belgian law professor Olivier De Schutter, in his capacity as UN Special Rapporteur on the Right to Food, was unable to speak to what he calls ‘The Big Five’. In an interview with NRC Handelsblad, De Schutter said that ADM, Bunge, Cargill, Glencore and Louis Dreyfus were not interested in having a dialogue because the general public does not know them.²¹⁶ Dutch investigative journalists Mitchell van der Klundert and Frank Mulder also found that the ABCD companies do not disclose much information, although they noted a difference between ADM and Bunge, which are public and more transparent, compared to Cargill and Louis Dreyfus, which are family companies that do not need to listen to the stock market.²¹⁷

In April 2020, environmental activists demanded that Ahold Delhaize breaks ties with Cargill. Several international NGO’s²¹⁸ called Cargill the most destructive agro-industrial company in the world.²¹⁹ Their accusation was based upon a 2019 report by US NGO Mighty Earth, which had described Cargill as the worst company in the world.²²⁰ Mighty Earth mentioned they were “particularly disappointed when Cargill released a “Soy Action Plan” that permits suppliers to continue deforestation, and more recently when it issued a letter to its suppliers opposing the spread of forest conservation policies to the Brazilian Cerrado”.²²¹ Cargill has a policy objective of zero deforestation in 2030.

More generally, the industry is pushing for deregulation. For example, Aprosoja, the Brazilian Association of Soybean Growers, is demanding the end of the soy moratorium in the Amazon under the pretext of free trade principles and national sovereignty.²²²

2

Structure and key actors of the Brazilian soy and beef supply chains

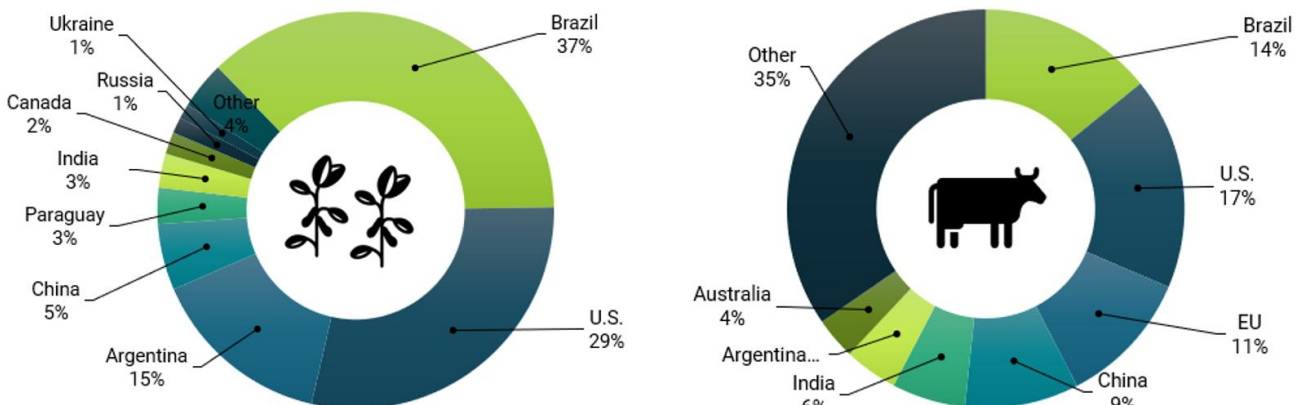
The Amazon and Cerrado biomes in Brazil have for years been among the hotspots of deforestation, driven by the growing demand for soy, beef and other commodities from domestic as well as export markets. The following sections describe the supply chains of Brazilian soy and beef as major drivers of deforestation and identify key actors in these chains.

2.1 Brazil's leading role as producer of soy and beef

Soybeans are the most widely cultivated oilseed globally. The total harvested area has increased by almost 70% over the course of 20 years, reaching 127 million hectares in 2020. In recent years, Brazil has overtaken the U.S., making it the top soybean producer globally today (Figure 9). Brazil's surface area dedicated to soybean cultivation accounts for around one third of the oilseed's global cultivation area, while its high productivity means that Brazil's production share is even higher.²²³

The link between soy expansion and Amazon deforestation was weakened by the introduction of the Amazon Soy Moratorium in 2006.²²⁴ Since then, soy-driven land conversion has been concentrated in the Cerrado, especially in the Matopiba region in the Northeast (spreading over the states Maranhão, Tocantins, Piauí and Bahia), where most of the remaining native vegetation of this forested savanna resides. The Cerrado is a highly biodiverse ecosystem with an important role for hydrological systems and carbon sequestration. Today only about 55% of the Cerrado's native vegetation remains.²²⁵ Much of the Cerrado conversion is legal as the Brazilian Forest Code requires farmers only to set aside 20% of natural vegetation – in contrast to 80% in the Amazon.²²⁶

Figure 9 Brazil's role in soy and beef production globally, 2019



Source: U.S. Foreign Agriculture Service (2020), "Production, supply & distribution – Custom query", viewed in July 2020; Soybean icon by Botanicals.

Similar to its leading role in soybean cultivation, Brazil boasts the largest beef cattle herd globally with 214 million heads in 2019.²²⁷ Consequently, the country is among the largest beef producers globally, second only to the U.S. (Figure 9).

Since 2009, the leading meatpackers with activities in the Amazon are subject to legally binding cattle sustainability agreements. However, these pacts so far focus only on direct suppliers, leaving indirect suppliers largely out of sight. As cattle often are subject to multiple transactions between birth and slaughter, leakage from illegal operations into supply chains regularly occurs.²²⁸

Cattle ranching continues to be the leading cause of Amazon deforestation and fires, with (mostly illegal) clearance for cattle pasture responsible for 80% of Amazon deforestation.²²⁹ Government data released in May 2020 showed that the Brazilian Amazon saw deforestation increase for the fourteenth consecutive month.²³⁰ Meanwhile, fears about another devastating fire season are raised by a sharp increase in Amazon fires in June-August 2020.²³¹

2.2 Key actors in the Brazilian soy supply chain

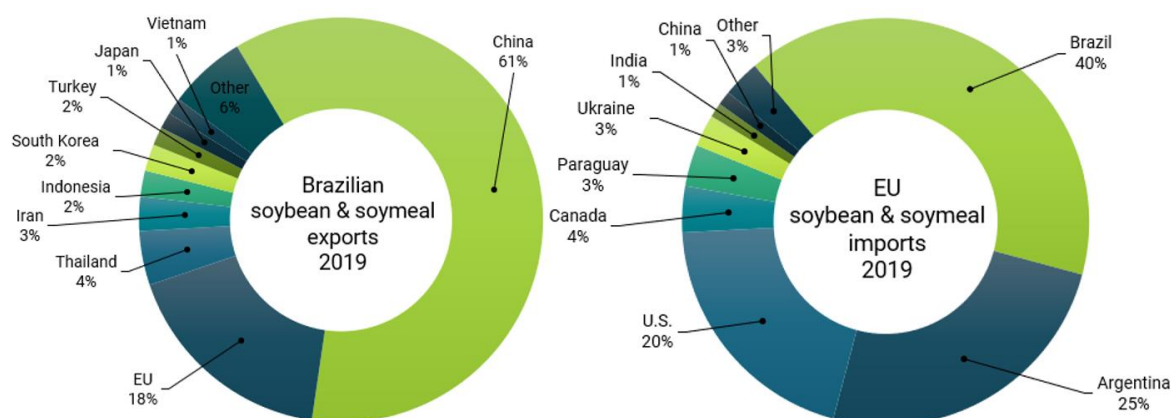
The soy supply chain includes domestic as well as international actors (Figure 11). Around 22% of the soy harvest is consumed domestically in 2019/20, as soymeal in livestock feed (18 million tonnes) and as soybean oil (7.4 million tonnes) in food (51%) and biodiesel (49%).²³² The Brazilian compound feed industry is the third largest globally.²³³ This position is due to Brazil's role as one of the world's largest livestock producers, and the country's high per capita meat consumption. Due to the high level of integration in the industries, the large feed producers are also leading meatpackers.

In the livestock sectors that consume most soymeal, the country is the world's no. 4 producer and exporter of pork; the no. 2 producer and no. 1 exporter of poultry; and the no. 6 producer of eggs.²³⁴ At the same time, poultry and pork are the livestock sectors consuming the highest feed ratios of soymeal.

Important destinations for poultry exports include China, the Middle East and Japan. China is also the key destination for pork exports from Brazil.²³⁵ Chinese meat imports further increased as its domestic pork production was hit hard by the recent outbreak of African Swine Fever and the resulting decimation of livestock in the country.²³⁶

The remaining 78% of the Brazilian soy production is exported - in the form of beans, or as soymeal after crushing of the beans. China is the top destination for unprocessed soybean exports, receiving around 60% of all Brazilian soy exports in 2019 (Figure 10). China has large domestic crushing capacity and a high market demand for soymeal as well as soybean oil.²³⁷ This is followed by the EU, whose member states accounted for around 18% of exports, in the form of soybeans for further processing as well as soymeal.²³⁸ In China as well as the EU, soymeal supports the large-scale livestock industries.

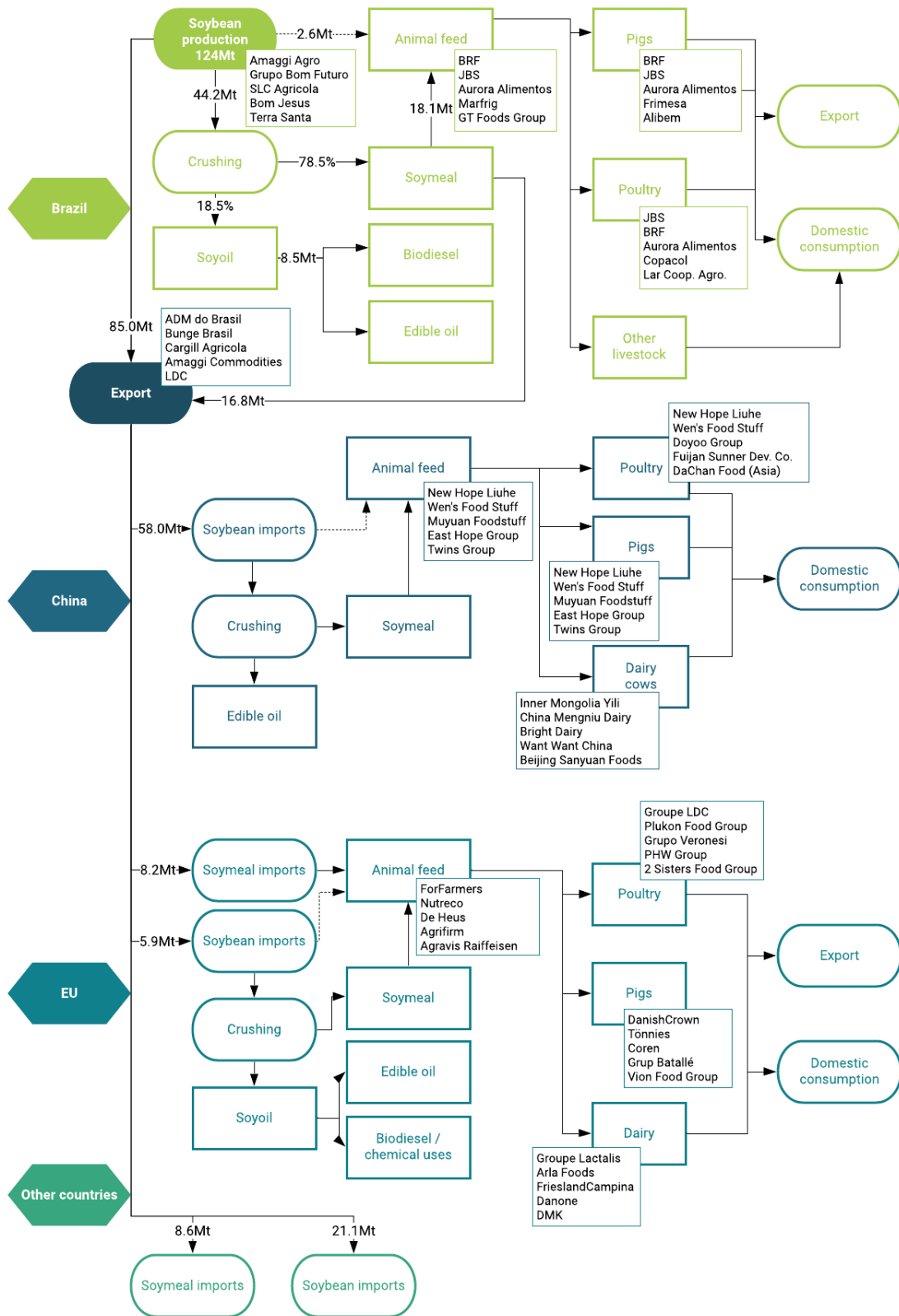
Figure 10 Key destinations of Brazilian soy exports and origins of EU soy imports, 2019



Note: Based on soybean equivalents (SBE). SBE are calculated based on an average result of 0.785 tonnes of soybeans from the crushing of 1 tonnes of soybeans.

Source: "ITC Trade Map (2020), "Exports – Yearly time series", viewed in July 2020; Eurostat (2020), "EU trade since 1988 by HS2-HS4", viewed in July 2020.

Figure 11 Domestic and international supply chain of Brazilian soy



Note: Simplified illustration focussing on key flows. Volumes in million tonnes (Mt). Beginning stocks 2019/20: 32 million tonnes (Mt); production: 124 million; ending stocks: 25 million.
 Source: U.S. Foreign Agriculture Service (2020), "Production, supply & distribution – Custom query", viewed in July 2020; Reus, A. (2018, November 21), "Top 10 South American animal feed companies", *Feed strategy*; ITC Trade Map (2020), "Exports – Yearly time series", viewed in July 2020; company publications; Profundo elaboration.

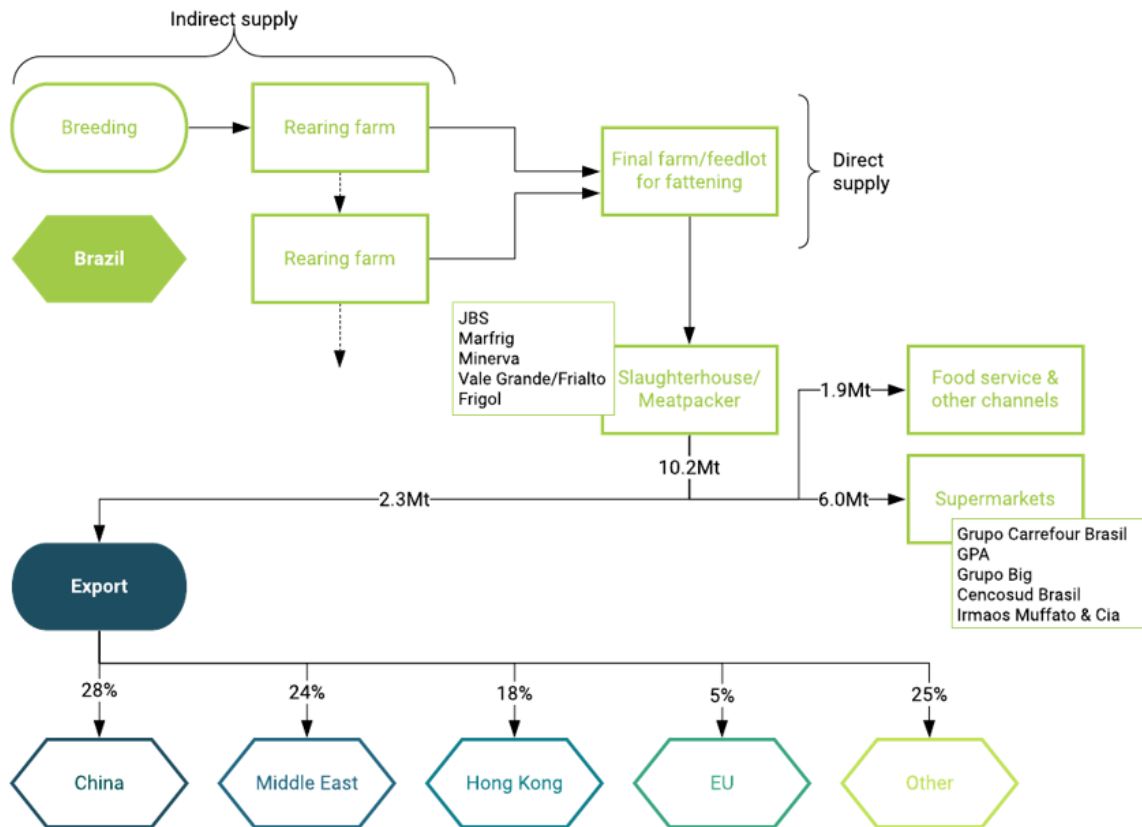
2.3 Key actors in the Brazilian beef supply chain

Due to a wave of consolidation in the Brazilian meat processing sector, a couple of large meatpackers account nowadays for a large share of cattle processing.²³⁹ In the Amazon alone, the top-3 – JBS, Minerva, and Marfrig – control around 70% of the cattle slaughter capacity.²⁴⁰ They also dominate Brazilian beef exports, with a combined share of around 60% in 2017.²⁴¹

In 2019, the domestic Brazilian market accounted for the consumption of around 76% of the produced beef.²⁴² The retail sector is the most important channel in food distribution, responsible for around 80% of flows to Brazilian consumers. This position makes supermarkets also the most important sales channel for beef.²⁴³ Around 24% of the beef went to export. A year-on-year increase of 16% in the export volume of fresh meat could be observed in 2019, owed to new destination countries as well as an increase in exports to already consolidated markets, such as China.²⁴⁴

The supply chain set up and key actors in Brazil and internationally are illustrated in Figure 12.

Figure 12 Domestic and international supply chain of Brazilian beef



Note: including trade in fresh or chilled and frozen beef, frozen offal, prepared or preserved meat or offal of bovine animals.

Source: U.S. Foreign Agriculture Service (2020), "Production, supply & distribution – Custom query", viewed in July 2020; ITC Trade Map (2020), "Exports – Yearly time series", viewed in July 2020; company publications; Profundo elaboration.

3

Methodology to assess financial institutions

This chapter describes the methodology used for this research project. First, the objective and research questions are discussed in section 3.1. The financial institutions selected for this research project are listed in section 3.2, while section 3.3 describes the different research steps taken to collect the data needed for this project. Section 3.4 clarifies the due hearing process.

3.1 Objective and research questions

The objective of this research project is to investigate the financial involvement of Dutch banking groups, insurance companies and pension funds in companies which run the risk of being directly or indirectly (through their supply chains) involved in deforestation in the Amazon and Cerrado regions in South America, and the actions that these financial institutions active on the Dutch market are taking to prevent and stop deforestation and related issues, such as biodiversity, climate change, land rights and animal welfare.

Based on this research objective, the following research questions were formulated:

1. **What is the financial involvement of financial institutions active on the Dutch market in companies related to deforestation in the Amazon and Cerrado regions in South America?**

To what extent are Dutch banking groups, insurance companies and pension funds financing, or investing in, companies active in economic sectors that are known as key drivers of deforestation in the Amazon and Cerrado regions? And to what extent are they financing, or investing in, companies that are buying, trading and processing products from the companies primarily responsible for deforestation?

2. **What policies do financial institutions active on the Dutch market have on deforestation and related sustainability issues?**

What policies have Dutch banking groups, insurance companies and pension funds developed on deforestation and related issues, such as biodiversity, climate change, land rights and animal welfare, especially in relation to deforestation-risk commodities? To what extent are these policies aligned with international standards and agreements related to deforestation, biodiversity, climate change, land rights and animal welfare?

3. **What are financial institutions active on the Dutch market doing to prevent and stop deforestation and related issues?**

What steps are Dutch banking groups, insurance companies and pension funds taking to avoid financing companies which directly or indirectly (through their supply chains) are involved in deforestation and related issues such as biodiversity, climate change, land rights and animal welfare? Steps they could take are screening, engagement, voting, clauses in contracts, divestments and collective initiatives towards governments.

4. **Are financial institutions active on the Dutch market willing to do more to prevent deforestation and related issues?**

Are Dutch banking groups, insurance companies and pension funds that are found to be involved in financing, or investing in, sectors related to deforestation in the Amazon and Cerrado regions willing to make a concrete, written commitment to take explicitly named actions within 1 year towards companies in which they invest and that might be involved in deforestation in the Amazon or Cerrado region or in related sustainability issues such as biodiversity, climate change, land rights and animal welfare?

3.2 **Selection of financial institutions active on the Dutch market**

For this research project the 26 Dutch banking groups, insurance companies and pension funds which are included in the rankings of the Eerlijke Geldwijzer were selected. The financial institutions active on the Dutch market are listed in Table 7.

Table 7 **Selected banks, insurers and pension funds active on the Dutch market**

Banks	Insurers	Pension funds
ABN Amro	Achmea	ABP
ING	Aegon	BPF Bouw
NIBC	Allianz	BPL Pensioen
Rabobank	ASR	Pensioenfonds Detailhandel
Volksbank	CZ	Pensioenfonds Horeca en Catering
Triodos Bank	Menzis	Pensioenfonds Vervoer
Van Lanschot Kempen	NN	Pensioenfonds Zorg en Welzijn
	VGZ	PME
	Vivat	PMT
		StiPP

3.3 **Research steps**

To answer the research questions, the following research steps were undertaken:

3.3.1 **Overview of the soy and beef supply chains and their involvement in deforestation and related issues**

As a first research step, an overview is provided of the soy and beef sectors, the two economic sectors that are seen as the most important drivers of deforestation in the Amazon and Cerrado regions in South America. The Amazon region extends over parts of Brazil, Venezuela, Colombia, Ecuador, Peru, Bolivia, Guyana, Surinam and French Guiana. The Cerrado region is located in the northeast and central west of Brazil.

In chapter 1 of this report, the deforestation trends in the Amazon and Cerrado regions are analysed. The economic sectors causing deforestation in these regions are analysed, showing how the soy and beef sectors have become the main drivers. Apart from the impacts on deforestation, the impacts of the soy and beef sectors and their international supply chains on pollution, human rights and animal welfare issues are also discussed in chapter 1. This chapter falls outside the responsibility of Profundo and was written by Dr. Tim Boekhout van Solinge, geographer-criminologist, independent (UN) consultant, and research fellow in criminology at the Erasmus University Rotterdam, with contributions by Dr. Dirk-Jan Verdonk, director World Animal Protection Netherlands.

In chapter 2, Profundo describes the different national and international markets for soy and beef originating from the Amazon and Cerrado regions are then analysed, and the different types of companies in the (international) supply chains for soy and beef are identified. Sources used for this chapter are markets studies, publications by industry sources, research initiatives, NGOs and media.

3.3.2 Selection of companies in the soy and beef sectors

The most relevant companies in the South American soy and beef sectors and their (international) supply chains are selected. As both sectors, including their (international) supply chains, involve many thousands of South American and international companies, a manageable selection of companies had to be made. Due to the lack of sourcing and supply chain transparency in both sectors, selecting the companies that are most involved in deforestation, biodiversity, climate change, land rights and animal welfare, directly and indirectly (through their supply chains), is not a feasible option.

Obviously, this lack of supply chain transparency creates risks for financial institutions as any major company in the international soy and beef supply chains can be significantly involved in deforestation, biodiversity, climate change, land rights and animal welfare issues. Therefore, in this research project, the most important companies in these sectors are identified and an assessment is made of how the financial institutions identify, manage and avoid these risks. The company selection is therefore based on the following two criteria:

- Which companies are most prominent (in terms of turnover and market share) in the two most important deforestation-risk sectors (the soy and beef sectors) and in the different stages of their (international) supply chains?
- Which companies are most likely to attract financing or investments from financial institutions active on the Dutch market? This criterion translates into a relative preference for companies which are European-owned and/or stock exchange listed.

Using these two criteria and following the most relevant stages in the (international) supply chains, the following selection of companies is made:

- **Beef sector**

The Brazilian beef sector plays a significant role in deforestation processes in the Amazon and Cerrado regions. Most cattle are slaughtered domestically and most beef is consumed domestically, whereby supermarkets are the key sales channel to consumers. Based on this state of affairs and the two selection criteria mentioned above, the following selection of companies is made:

- Top-5 Brazilian beef slaughterhouses;
- Top-5 Brazilian supermarket chains.

- **Soy sector**

The continuous expansion of soy farming plays an important role in the deforestation processes in the Amazon and Cerrado regions. Around 80% of soy is exported, and China and the European Union are the main export markets. In export markets, the soy is processed into animal feed for the livestock and dairy sectors. Additionally, part of the soy is consumed as animal feed by the Brazilian livestock sector (namely poultry and pork).

Based on this state of affairs and the two selection criteria mentioned above, the following selection of companies is made:

- Top-5 soy farmers in Brazil;
- Top-5 Brazilian poultry and pork slaughterhouses;
- Top-5 soy traders exporting from the Amazon and Cerrado regions;

- Top-5 animal feed producers in China;
- Top-5 livestock slaughterhouses in China;
- Top-5 dairy companies in China;
- Top-5 animal feed producers in Europe;
- Top-5 livestock slaughterhouses in Europe;
- Top-5 dairy companies in Europe.

Sources used for this selection process include market studies and publications of research initiatives, NGOs and media. The selection process has resulted in a list of 59 companies (see Appendix 1).

3.3.3 Researching the financing of selected companies

Recent financial relationships between the Dutch banking groups, insurance companies and pension funds and the 59 selected companies (see Appendix 1) were researched. This research focused on the provision of loans, underwriting services and other credits, as well as investments in the shares and bonds issued by these companies. The research was limited to recent forms of financial involvement by using the following criteria:

- Loans and other credits granted in the last five years, provided they are still (partially) outstanding;
- Underwritings of share and bond issuances during the last year; and
- Investments in shares and bonds as of the most recent portfolio date.

This research step resulted in an overview of all financial institutions active on the Dutch market, showing which companies from the selected list of companies each bank, insurance company and pension fund has recent financial relationships with. Key details (type of finance, date, original value, value of current position) on each financial link are provided in the overview.

Information sources used for banking groups and insurance companies include the Bloomberg, Thomson EIKON (part of Refinitiv), Orbis, IJGlobal and TradeFinanceAnalytics databases; annual reports and stock exchange filings of companies; company registers and media sources. Financial relationships with pension funds are researched separately, using portfolio disclosures where possible. It should be noted that not all pension funds disclose the value of their exposure to specific companies, only the fact that they hold these positions. These relationships are nevertheless included in this study.

3.3.4 Assessment of the policies of financial institutions

For all financial institutions active on the Dutch market with financial relationships with the international soy and beef sectors (as identified in research step 3.3.3), the publicly available responsible investment and credit policies are assessed. For these policy assessments an assessment framework is developed based on the *Fair Finance Guide Methodology 2020*, taking elements in particular from the following themes:²⁴⁵

- Nature;
- Human rights;
- Labour Rights;
- Animal Welfare; and
- Transparency and Accountability.

The policy criteria included in the FFG Methodology which are relevant for this case study are grouped in four assessment pillars, adding a few additional criteria relevant for the land rights' situation in Brazil.

- Forests and Biodiversity;
- Human Rights;

- Animal Welfare; and
- Transparency and Accountability

All publicly available policy documents of the financial institutions were researched to assess which of these criteria are included in their policies. Based on the number of criteria included in their policies, scores on a scale of 1 to 10 were assigned to the financial institutions for each of the four pillars. The overall *Policy score* for each financial institution is the average of the scores it has received for the four pillars. All elements included in the assessment framework are listed in Appendix 2.

3.3.5 Survey on engagement efforts

To assess the concrete engagement efforts which the financial institutions active on the Dutch market are making to implement their policies, a survey was sent to all financial institutions active on the Dutch market identified in research step 3.3.3. The survey included a small number of questions to assess all relevant steps that each financial institution takes to avoid financing, or investing in, companies that are directly or indirectly (through their supply chains) involved in deforestation and related issues such as biodiversity, climate change, land rights and animal welfare. The relevant steps considered were:

- Screening;
- Engagement;
- Voting;
- Clauses in contracts;
- Divestment; and
- Collective initiatives.

For each step, the questions were formulated in such a way that clarity could be achieved on three aspects:

- When the financial institution claims to take a certain step, does this cover all stages in the supply chains of the soy and beef sectors in which the financial institution is found to be involved?
- Can the financial institution provide evidence (e.g. screening reports, voting reports, engagement reports, etc.) that supports its answers?
- Can the financial institution clarify what results are achieved with each of the steps taken?

The survey questions are listed in Appendix 3. Based on the answers given to the survey and on documents publicly available on the websites of the financial institutions (such as engagement reports, voting records, etc.), all financial institutions were assigned an *Engagement score* on a scale from 1 to 10.

3.3.6 Overall assessment of the financial institutions

The Eerlijke Geldwijzer and its partners Both ENDS and Hivos expect financial institutions which are financing, or investing in, companies active in the soy and beef sectors in the Amazon and Cerrado regions or in the domestic and international soy and beef supply chains to:

- have strict policies on avoiding deforestation and related issues, such as biodiversity, climate change, land rights and animal welfare, in place; and
- take sufficient actions to avoid that they finance companies which directly or indirectly (through their supply chains) are involved in deforestation and related issues such as biodiversity, climate change, land rights and animal welfare.

Based on this expectation, the results of the research steps described in sections 3.3.3, 3.3.4 and 3.3.5 were combined into an overall assessment. All Dutch banking groups, insurance companies and pension funds included in this research project received an overall assessment, based on a traffic-light model: green, orange or red. The scoring guidelines for this overall assessment are clarified in Table 8.

Table 8 Scoring guidelines for the overall assessment

Overall score	Assessment	Financial relationships	Policy assessment and engagement score
Green	The financial institution has no financial relationships with companies which are directly or indirectly (through their supply chains) involved in deforestation.	No	Not assessed
Green	The financial institution takes sufficient steps to prevent that companies with which they have financial relationships are neither directly nor indirectly (through their supply chains) involved in deforestation.	Yes	Both 8 or higher
Orange	The financial institution is able to demonstrate that it takes steps to prevent that the companies it has financial relationships with are directly or indirectly (through their supply chains) involved in deforestation, but is still not able to exclude its involvement in deforestation.	Yes	Both 5 or higher
Red	The financial institution does not have an active approach to prevent that the companies it has financial relationships with are directly or indirectly (through their supply chains) involved in deforestation. Its policies do not cover the most important standards and the financial institution did not take sufficient actions to prevent deforestation.	Yes	Either or both below 5

3.4 Due hearing and commitment to improve

The selected Dutch banking groups, insurance companies and pension funds (see Table 7) were sent the results of this research project relating to their financial institution well in advance. All financial institutions were given 2.5 weeks to comment. All comments received were assessed carefully, and where the comments were deemed justified the scores were adjusted.

All financial institutions that were found to be involved in financing, or investing in, sectors related to deforestation in the Amazon and Cerrado regions were given the opportunity to make a concrete, written commitment to take explicitly named actions within 1 year towards companies which they are financing or in which they invest. When a financial institution would commit to make a significant improvement to its policies and/or engagement activities related to the international soy and beef supply chains, they were offered a bonus point to either the policy assessment or the engagement score.

4

How financial institutions active on the Dutch market deal with deforestation risks

This chapter provides the results of the research on how financial institutions active on the Dutch market deal with deforestation risks in the soy and beef supply chains. For all financial institutions, the financial involvement in soy and beef supply chains was identified, their policies on deforestation and other sustainability issues were analysed and the practical steps they take to avoid that they directly or indirectly finance deforestation and related issues such as biodiversity, climate change, land rights and animal welfare were assessed. The results for the Dutch banking groups are presented in section 4.1, the results for the insurance companies are shown in section 4.2 and for the pension funds in section 4.3.

4.1 Banking groups

Of the seven Dutch banks researched, only De Volksbank cooperated with this study by filling in the survey on engagement efforts (see section 3.3.5) and Triodos commented on the draft research results. The other banks did not fill in the survey and did not provide feedback on the draft scores sent to them for due hearing (see section 3.4). Three banks (ABN Amro, ING and Rabobank) responded to the request to fill in a survey with an email, referring to public documents on their website. In the case of Rabobank, this included a new policy document on their financings in the Amazon region. The other two banks (NIBC and Van Lanschot Kempen) did not respond at all.

The assessments on how these Dutch banks deal with deforestation risks in the soy and beef supply chains are thus based on documents these banks disclose on their websites, plus financial databases and other sources as indicated in section 3.3.3. The assessments made, based on these sources, are summarised in the following sub-sections.

4.1.1 Financial involvement of Dutch banking groups

Apart from De Volksbank, all Dutch banks were found to have financial relationships with one or more of the 59 companies active in the international soy and beef supply chains (see Appendix 1). Table 9 summarises the loans provided by Dutch banking groups to these companies in the past five years, while Table 10 summarises the underwritings of share and bond issuances in the same period. Table 11 provides an overview of the investments in shares and bonds by the asset managers of the Dutch banking groups.

Table 9 Loans from Dutch banking groups to companies in the soy and beef supply chains (2015-2020, million USD)

Group	ABN Amro	ING	NIBC	Rabobank	Total
Agravis Raiffeisen				183.66	183.66
Archer Daniels Midland	104.81	104.81		104.81	314.43
Bright Food Group	54.26	158.57		224.31	437.14

Group	ABN Amro	ING	NIBC	Rabobank	Total
Bunge	285.13	715.13		185.13	1,185.38
Cargill	782.10	1,012.48		983.59	2,778.18
Carrefour Group		705.25			705.25
Casino		42.13		122.49	164.62
China Mengniu Dairy				365.43	365.43
Danone		784.72		135.68	920.40
DMK		9.38		77.37	86.74
ForFarmers	68.21	68.21		68.21	204.62
FrieslandCampina		87.42		87.42	174.85
Groupe Lactalis		605.08		605.08	1,210.15
JBS				1,109.80	1,109.80
Louis Dreyfus Company	562.69	356.83		619.96	1,539.48
Nutreco	177.91	160.90		67.79	406.60
Plukon Food Group	n.a.	n.a.		n.a.	n.a.
Royal Agrifirm Group		93.97		93.97	187.94
Vion Food Group	54.88		54.88		109.76
Want Want Holdings				31.25	31.25
Total	2,089.98	4,904.87	54.88	5,065.94	12,115.67

Table 10 **Underwritings by Dutch banking groups in share and bond issuances of companies in the soy and beef supply chains (2015-2020, million USD)**

Group	ABN Amro	ING	Rabobank	Total
Archer Daniels Midland			77.55	77.55
Bunge	90.20	207.85	97.20	395.24
Cargill			83.33	83.33
Carrefour Group		219.53		219.53
China Mengniu Dairy			71.43	71.43
COFCO			9.91	9.91
Danone		1,170.90		1,170.90
DMK		190.41	100.92	291.33
JBS			186.46	186.46
Louis Dreyfus Company	75.00			75.00
Marfrig		50.00	50.00	100.00
Total	165.20	1,838.69	676.80	2,680.68

Table 11 Investments by the asset managers of Dutch banking groups in shares and bonds of companies in the soy and beef supply chains (most recent date, million USD)

Group	ABN Amro	ING	Triodos	Van Lanschot Kempen	Total
Archer Daniels Midland	0.19			13.15	13.34
Boparan Holdings	0.54				0.54
Bunge	0.10	0.24			0.35
Carrefour Group	2.87	0.89	2.90	8.98	15.64
Casino	0.41				0.41
China Mengniu Dairy	2.94				2.94
Danone	27.63		42.76	23.96	94.35
ForFarmers				36.01	36.01
Marfrig	1.30				1.30
Minerva	1.93				1.93
Total	37.91	1.13	45.66	82.10	166.80

This research found that four Dutch banks provided loans totalling USD 12.1 billion to the selected 59 companies in the period 2015-2020 and helped them with share and bond issuances worth USD 2.7 billion. The asset managers of four Dutch banks invested USD 167 million in the shares and bonds of these companies.

The involvement of the three main Dutch banks is much more significant than those of the other three banks, and also much larger than the outstanding investments of the insurance companies active in the Netherlands and pension funds. For Rabobank we identified loans to these companies in the past five years with a total amount of USD 5.1 billion. ING Bank granted almost the same amount of loans in the past five years, USD 4.9 billion, to companies in the soy and beef supply chains. ABN Amro followed with USD 2.8 billion in loans.

Significant amounts were also underwritten by these three banks to help the selected companies with share and bond issuances in the past five years. ING underwrote issuances for a total value of USD 1,8 billion, followed by Rabobank (USD 677 million) and ABN Amro (USD 165 million).

The financial involvement of the other three banks is much smaller: USD 55 million in loans for NIBC and investments with a total value of USD 82 million and USD 46 million for the asset management divisions of Van Lanschot Kempen and Triodos respectively.

4.1.2 Policy assessments of Dutch banking groups

As no financial involvement was found for De Volksbank, its policies were not assessed. The policy scores of the other six banks were not far apart and ranged from 5.1 (Van Lanschot Kempen) to 7.3 (Triodos). Table 12 shows the scores of the six banks on the four pillars which together compose their policy scores.

Table 12 Four assessment pillars for the policy assessments of Dutch banking groups

Banking group	Forests and Biodiversity	Human Rights	Animal Welfare	Transparency and Accountability	Overall policy assessment
ABN Amro	5.6	7.5	7.5	5.7	6.6
ING	7.3	6.9	6.3	5.0	6.4
NIBC	7.3	7.7	3.8	3.8	5.6
Rabobank	7.7	8.1	7.5	5.2	7.1
Triodos	7.9	8.7	9.4	8.3	8.6
Van Lanschot Kempen	5.6	6.9	1.3	6.7	5.1

For most banks, Table 12 does not show big differences between the scores each banking group receives for the four pillars - the pillar scores are close to the overall scores. This is not the case for Van Lanschot Kempen, which clearly scores much lower on Animal Welfare (1.3) than on the other three pillars and on the overall policy assessment (5.1). Also, for NIBC, there is a clear discrepancy between its scores on Animal Welfare and Transparency and Accountability (both 3.8) and its scores on Forests and Biodiversity (7.3) and Human Rights (7.7). For these banks, it is clear which aspects of their policies are priorities for further attention.

For the other banks, the scores for the four pillars are fairly close to each other. The highest scores are for Triodos, on Animal Welfare (9.4) and Human Rights (8.7). Overall, Triodos also has the highest policy score by far (8.6). Its policies deal with all issues related to deforestation and related issues such as biodiversity, climate change, land rights and animal welfare, in a strong and consistent way.

The other three banks - ABN Amro, ING and Rabobank - deal with all issues that are relevant in a policy on deforestation and related issues such as biodiversity, climate change, land rights and animal welfare, but their policies still lack in granularity and detail. This increases the risks that in their screening processes, relevant issues at deforestation-risk companies pass by unnoticed.

4.1.3 Engagement scores of Dutch banking groups

Apart from De Volksbank (not assessed), the engagement scores of all banks are lower than their policy scores. Scores range from 2.7 (Van Lanschot Kempen) to 5.8 (Triodos). All banks make it insufficiently clear in their public documents how they do screening and engagement with companies in the soy and beef supply chains, or how they follow up on agreements with companies in the form of clauses in loan contracts, monitoring or divestments.

On their websites, most banks do describe (in varying levels of detail) how they plan to screen companies and how their engagement processes are organized in general, but comparing the limited number of their reported engagements with the sheer size of their financing of the soy and beef supply chains makes it very unlikely that they have screened and engaged all companies in these supply chains in a systematic way. Rabobank for instance reports that in 2018 and 2019 combined, it had engaged with 9 clients in the soy sector and 1 in the beef sector on sustainability issues related to deforestation. For both sectors this is only a minimal percentage (<1%) of the total number of clients the bank has in these sectors.

While the surveys sent to the banks were intended to understand how systematically their general screening and engagement procedures are applied on their clients in the soy and beef sectors, none of the six banks took this opportunity to provide additional information for this research. This might, or might not, have impacted the engagement scores of the banking groups, but it certainly shows a lack of transparency regarding legitimate requests from civil society organisations.

The banks with asset management divisions usually do report on their voting behaviour, also in relation to shareholder resolutions calling for a stronger company policy to prevent deforestation in its supply chain. Only the asset management divisions of Triodos and Van Lanschot Kempen participated in some collective initiatives: both Kempen Capital Management and Triodos Investment Management endorsed the “Statement of Support for the Cerrado Manifesto” in October 2017²⁴⁶ and Triodos Investment Management endorsed the “Investor statement on deforestation and forest fires in the Amazon” in September 2019.²⁴⁷

4.1.4 Overall assessments of Dutch banking groups

The research findings for the seven Dutch banking groups included in the Eerlijke Bankwijzer are summarised in Table 13.

Table 13 Dutch banking groups and deforestation in the Amazon and Cerrado

Banking group	Financial involvement	Policy assessment	Engagement score	Overall assessment
ABN Amro	Yes	6.6	3.3	Red
De Volksbank	No	Not assessed	Not assessed	Green
ING	Yes	6.4	3.1	Red
NIBC	Yes	5.6	2.3	Red
Rabobank	Yes	7.1	4.6	Red
Triodos	Yes	8.6	5.8	Orange
Van Lanschot Kempen	Yes	5.1	2.7	Red

The Eerlijke Geldwijzer and its partners Both ENDS and Hivos expect banking groups which are financing, or investing in, companies active in the soy and beef sectors in the Amazon and Cerrado regions or in the domestic and international soy and beef supply chains to:

- have strict policies on avoiding deforestation and related issues, such as biodiversity, climate change, land rights and animal welfare, in place; and
- take sufficient actions to avoid that they finance companies which directly or indirectly (through their supply chains) are involved in deforestation and related issues such as biodiversity, climate change, land rights and animal welfare.

Based on this expectation, the results of the research on financial involvement (section 4.1.1), the policy assessment (section 4.1.2) and the engagement score (section 4.1.3) were combined into an overall assessment based on a traffic light model (see Table 13).

The overall assessment of De Volksbank is **green**, because the banking group has chosen not to have any financial involvement in the soy and beef sectors.

For Triodos the overall assessment is **orange**, as both its policy assessment and engagement scores are higher than 5. This means that this banking group is to demonstrate that it takes some steps to prevent that the companies they have financial relationships with are directly or indirectly (through their supply chains) involved in deforestation. The banking group is not assessed **green**, as Triodos should improve its transparency on divestments and screening procedures.

For the other five banks - ABN Amro, ING, NIBC, Rabobank and Van Lanschot Kempen - the overall assessment is **red** as their engagement scores are lower than 5. This means that the bank does not have an active approach to prevent that the companies it has financial relationships with are directly or indirectly (through their supply chains) involved in deforestation.

4.2 Insurance companies

Of the nine insurance companies researched, only Allianz cooperated with this study by filling in the survey on engagement efforts (see section 3.3.5). The other insurance companies did not fill in the survey and did not provide feedback on the draft scores sent to them for due hearing (see section 3.4). Four insurance companies (Achmea, ASR, NN and Vivat) responded that they did not want to cooperate with the research project. The other four insurance companies (Aegon, CZ, Menzis and VGZ) did not respond at all.

The assessments on how these insurance companies deal with deforestation risks in the soy and beef supply chains are thus based on documents they disclose on their websites, plus financial databases and other sources as indicated in section 3.3.3. The assessments made, based on these sources, are summarised in the following sub-sections.

4.2.1 Financial involvement of insurance companies active in the Netherlands

The investments of the nine insurance companies researched in the selected companies (see Appendix 1 are summarised in Table 14 (shares) and Table 15 (bonds).

Table 14 Investments of insurance companies active in the Netherlands in shares of companies in the soy and beef supply chains (in million USD)

Group	Achmea	Aegon	Allianz	ASR	NN	Vivat	Total
Archer Daniels Midland		3.82	76.01	1.01	8.62	5.10	94.56
BRF		0.24	0.53			0.20	0.97
Bunge	1.21	0.00	25.68	1.94	2.63	2.90	34.37
Carrefour Group		1.62	27.61	1.16	0.05	3.56	34.00
Casino		0.54	4.10	0.32	0.03	0.51	5.51
Cencosud		0.16	0.01		0.03	0.07	0.27
China Mengniu Dairy		0.75	26.13		0.67	0.86	28.40
Danone		10.76	55.60	19.67	81.78	64.14	231.96
ForFarmers			0.34				0.34
Inner Mongolia Yili Industrial Group		0.31					0.31
JBS		0.46	3.42			0.39	4.28
Muyuan Foodstuff		0.28				0.26	0.54
New Hope Liuhe						0.15	0.15
SLC Agricola			0.52		3.33		3.86
Want Want Holdings		0.47	0.11		0.76	0.35	1.69
Wen's Food Group		0.26	2.10			0.20	2.56
Total	1.21	19.69	222.16	24.12	97.89	78.71	443.78

Table 15 Investments of insurance companies active in the Netherlands in bonds of companies in the soy and beef supply chains (in million USD)

Group	Aegon	Allianz	NN	Vivat	Total
Bunge	17.15	26.50	0.18		43.83
Carrefour Group		14.48	0.00	7.18	21.67
Casino	8.30	41.22	7.72		57.23
China Mengniu Dairy		24.71			24.71
Danone		193.84			193.84
Total	25.45	300.74	7.90	7.18	341.27

For the four insurance companies which are (predominantly) active on the health insurance market (Achmea, CZ, Menzis and VGZ) no significant financial involvement in the international soy and beef supply chains was found. In the case of Achmea there was one single shareholding with a value below the threshold seen as significant in this research (USD 5 million). For the other three, no share- or bondholdings were found. The policies and engagement efforts of these insurance companies are therefore not assessed.

For the other five insurance companies, all active on the life insurance market, investments in the shares and bonds of some of the 59 companies active in the international soy and beef supply chains (see Appendix 1) were found. Six insurers active in the Netherlands have currently invested USD 785 million in shares and bonds of these companies. The largest amount of investments outstanding at the most recent reporting date was found for Allianz: USD 523 million. Amounts invested by the four other insurance companies (Aegon, ASR, NN and Vivat) were much lower, ranging from USD 24 million for ASR to USD 106 million for NN.

4.2.2 Policy assessments of insurance companies active in the Netherlands

As no financial involvement was found for Achmea, CZ, Menzis and VGZ, their policies were not assessed. The policy scores of the other five insurance companies ranged from 4.8 (Allianz) to 8.6 (Vivat). Table 16 shows the scores of the five insurance companies on the four pillars which together compose their policy scores.

Table 16 Four assessment pillars for the policy assessments of insurance companies active in the Netherlands

Insurance company	Forests and Biodiversity	Human Rights	Animal Welfare	Transparency and Accountability	Overall policy assessment
Aegon	2.3	6.3	6.3	4.7	4.9
Allianz	3.5	5.0	5.0	5.9	4.8
ASR	8.1	8.8	8.8	7.6	8.3
NN	6.2	7.9	7.5	7.4	7.2
Vivat	8.8	8.3	10.0	7.4	8.6

Table 16 shows that the five insurance companies generally score quite consistently on the four assessment pillars. ASR and Vivat score good on all four pillars, resulting in good overall policy scores of 8.3 (ASR) and 8.6 (Vivat). ASR scores particularly high on Human Rights and Animal Welfare (both 8.8), while Vivat scores best on Forests and Biodiversity (8.8) and Animal Welfare (10.0).

NN is not far behind with a 7.2 overall policy score. Aegon and Allianz stay behind with overall policy scores of 4.9 and 4.8 respectively. Both insurance companies in particular score weak on their policies on Forests and Biodiversity: 2.3 for Aegon and 3.5 for Allianz.

4.2.3 Engagement scores of insurance companies active in the Netherlands

Apart from Achmea, CZ, Menzis and VGZ (not assessed), the engagement scores of the insurance companies are usually lower than their policy scores and are remarkably close to each other. Scores range from 5.0 (ASR and Aegon) to 6.2 (Vivat). All insurance companies make insufficiently clear in their public documents how they do screening and engagement with companies in the soy and beef supply chains, nor how they follow up on agreements with companies in the form of monitoring or divestments.

Most insurance companies do describe on their websites in more or less detail how they plan to screen companies and how their engagement processes are organized in general, but details are lacking. While the surveys sent to the insurance companies were intended to understand how systematically their general screening and engagement procedures are applied on their investments in the soy and beef sectors, only Allianz took this opportunity to provide additional information for this research. This might, or might not, have impacted the engagement scores of the insurance companies, but it certainly shows a lack of transparency with regard to legitimate requests from civil society.

The insurance companies usually do report on their voting behaviour, also in relation to shareholder resolutions calling for a stronger company policy to prevent deforestation in its supply chain. All five insurance companies did participate in some collective initiatives, such as letters to companies in the sector and the Brazilian government. These include:

- The “Statement of Support for the Cerrado Manifesto”, which aims to halt deforestation in the Cerrado, was published in October 2017 and is endorsed by 56 investors, including Actiam (part of Vivat), Aegon Asset Management, Allianz Global Investors and NN Investment Partners;²⁴⁸
- The statement on “Investor expectations on deforestation in cattle supply chains”, was published in September 2018 and is endorsed by 44 investors representing approximately USD 6.4 trillion in assets, including Achmea Investment Management, Actiam, Aegon Asset Management and ASR Nederland;²⁴⁹
- The statement on “Investor expectations on deforestation in soybean supply chains”, was published in March 2019 and is endorsed by 57 investors representing approximately USD 6.3 trillion in assets, including Achmea Investment Management, Actiam, Aegon Asset Management and NN Investment Partners;²⁵⁰
- The “Investor statement on deforestation and forest fires in the Amazon” was published in September 2019 and is endorsed by 230 investors representing approximately USD 16.2 trillion in assets, including Actiam, Aegon Asset Management, ASR Asset Management and NN Investment Partners;²⁵¹ and
- An “Open letter from financial institutions to halt deforestation in Brazil” urging immediate action from the Brazilian government towards curbing deforestation and putting pressure on companies across agricultural supply chains, was sent in June 2020 by 29 financial institutions representing USD 3.7 trillion in assets, including Actiam, ASR and NN Investment Partners.²⁵²

4.2.4 Overall assessments of insurance companies active in the Netherlands

The research findings for nine large insurance groups active on the Dutch market which are included in the Eerlijke Verzekeringswijzer, are summarised in Table 17.

Table 17 Insurance companies active on the Dutch market and deforestation in the Amazon and Cerrado

Insurance company	Financial involvement	Policy assessment	Engagement score	Overall assessment
Achmea	No	Not assessed	Not assessed	Green
Aegon	Yes	4.9	5.0	Red
Allianz	Yes	4.8	5.8	Red
ASR	Yes	8.3	5.0	Orange
CZ	No	Not assessed	Not assessed	Green
Menzis	No	Not assessed	Not assessed	Green
NN	Yes	7.2	5.8	Orange
VGZ	No	Not assessed	Not assessed	Green
Vivat	Yes	8.6	6.2	Orange

The Eerlijke Geldwijzer and its partners Both ENDS and Hivos expect insurance companies which are investing in companies active in the soy and beef sectors in the Amazon and Cerrado regions or in the domestic and international soy and beef supply chains to:

- have strict policies on avoiding deforestation and related issues, such as biodiversity, climate change, land rights and animal welfare, in place; and
- take sufficient actions to avoid that they invest in companies which directly or indirectly (through their supply chains) are involved in deforestation and related issues such as biodiversity, climate change, land rights and animal welfare.

Based on this expectation, the results of the research on financial involvement (section 4.2.1), the policy assessment (section 4.2.2) and the engagement score (section 4.2.3) were combined into an overall assessment based on a traffic light model (see Table 17).

The overall assessment of Achmea, CZ, Menzis and VGZ is **green**, because these insurance companies have no significant financial involvement in the soy and beef sectors. As these are predominantly health insurance companies, this is probably related to their business model in which investments do not play an important role.

For ASR, NN and Vivat the overall assessment is **orange**, as both their policy assessments and its engagement scores are higher than 5. This means that these insurance companies are able to demonstrate that they take steps to prevent that the companies they have financial relationships with are directly or indirectly (through their supply chains) involved in deforestation. However, these steps are not strong enough to enable the insurance companies to exclude any involvement in deforestation.

For the other two insurance companies, Aegon and Allianz, the overall assessment is **red** as their policy assessments are (just) below 5. This means that these insurance companies do not have an active approach to prevent that the companies they invest in are directly or indirectly (through their supply chains) involved in deforestation. Its policies do not cover the most important standards and the financial institution did not take sufficient actions to prevent deforestation.

4.3 Pension funds

Of the ten pension funds included in Table 21, five pension funds (ABP, BPF Bouw, Pensioenfond Horeca en Catering, Pensioenfond Zorg en Welzijn and PMT) cooperated with this study by filling in the survey on engagement efforts (see section 3.3.5). Pensioenfond Horeca en Catering and PMT also provided feedback on the draft scores sent to them for due hearing (see section 3.4). These surveys and the feedback provided were used for the assessments, next to public sources.

The other pension funds (BPL Pensioen, Pensioenfond Detailhandel, Pensioenfond Vervoer, PME and StiPP) did not fill in the survey and did not provide feedback on the draft scores sent to them for due hearing (see section 3.4). The assessments on how these pension funds deal with deforestation risks in the soy and beef supply chains are thus based on documents they disclose on their websites, plus financial databases and other sources as indicated in section 3.3.3. The findings made, based on these sources, are summarised in the following sub-sections.

4.3.1 Financial involvement of Dutch pension funds

All ten pension funds have investments in the shares and bonds of some of the 59 companies active in the international soy and beef supply chains (see Appendix 1). Their investments in shares are summarised in Table 18 and their investments in bonds in Table 19. Due to a lack of transparency, the exact amounts of their investments are not available for BPL Pensioen, Pensioenfond Detailhandel and Pensioenfond Vervoer. StiPP is not included in the tables as details on its investments are not available. But as StiPP uses the asset manager of Van Lanschot Kempen to manage its investments, significant investments in the international soy and beef sectors are assumed (see Table 11).

Table 18 Investments of Dutch pension funds in the shares of companies in the soy and beef supply chains (in million USD)

Group	ABP	BPF Bouw	BPL Pensioen	Pensioenfond Detailhandel	Pensioenfond Horeca en Catering	Pensioenfond Vervoer	Pensioenfond Zorg en Welzijn	PME	PMT	Total
Archer Daniels Midland	1.84	0.19	n.a.	n.a.		n.a.	20.85	11.75		34.62
BRF	61.93	7.73				n.a.	8.98	0.56	0.76	79.96
Bunge			n.a.	n.a.		n.a.	19.96	4.12		24.08
Carrefour Group	25.96	3.73	n.a.	n.a.	8.27	n.a.	28.10	11.83	5.31	83.21
Casino				n.a.	0.93		3.88	1.04		5.85
Cencosud	0.58	0.07				n.a.	3.47	0.45	0.56	5.13
China Mengniu Dairy	114.37	14.28				n.a.	48.56	1.58	2.20	180.99
COFCO		0.01					3.16	0.09	0.16	3.40
Danone	16.59	5.21	n.a.	n.a.		n.a.	99.06	23.09	44.27	188.23
ForFarmers	61.24	6.34								67.57
Fujian Sunner Development Co.	10.05	1.25					4.52			15.82
Groupe Lactalis									0.00	0.00

Group	ABP	BPF Bouw	BPL Pensioen	Pensioenfonds Detailhandel	Pensioenfonds Horeca en Catering	Pensioenfonds Vervoer	Pensioenfonds Zorg en Welzijn	PME	PMT	Total
Inner Mongolia Yili Industrial Group	29.86	3.73				n.a.	2.30	20.54	15.49	71.92
JBS	191.56	22.80			0.21	n.a.	13.02	0.11		227.70
Marfrig	1.91	0.24								2.15
Minerva	21.64									21.64
Muyuan Foodstuff	7.48	0.93					2.11	0.07	0.09	10.68
New Hope Liuhe	0.65	0.08					0.35	0.06	0.09	1.24
Want Want Holdings	23.52	2.94						1.16	1.37	28.99
Wen's Food Group	9.68	1.21						0.13	0.10	11.11
Zhengbang Tech							0.16			0.16
Total	578.86	70.73	n.a.	n.a.	9.41	n.a.	258.46	76.59	70.40	1,064.45

Table 19 Investments of Dutch pension funds in the bonds of companies in the soy and beef supply chains (in million USD)

Group	ABP	BPF Bouw	Pensioenfonds Detailhandel	Pensioenfonds Horeca en Catering	Pensioenfonds Vervoer	Pensioenfonds Zorg en Welzijn	PME	PMT	Total
Advent International		1.09							1.09
Archer Daniels Midland			n.a.				17.03	27.05	44.08
Boparan Holdings	3.36	0.54				0.82			4.73
BRF			n.a.						n.a.
Bunge			n.a.	0.67			34.08	51.58	86.33
Cargill	2.24	0.54	n.a.				9.88	26.50	39.16
Carrefour Group			n.a.			46.17	34.25	60.05	140.47
Casino		5.45	n.a.			8.82	15.05	33.47	62.79
Danone	2.24	0.54	n.a.				6.81	9.85	19.44
JBS	103.13	10.90	n.a.			64.48	2.69	8.25	189.44
Marfrig			n.a.	1.77			48.93		50.70
Minerva		0.54	n.a.			28.05			28.60

Group	ABP	BPF Bouw	Pensioenfond Detailhandel	Pensioenfond Horeca en Catering	Pensioenfond Vervoer	Pensioenfond Zorg en Welzijn	PME	PMT	Total
Total	110.98	19.62	n.a.	2.43	n.a.	197.27	119.78	216.74	666.82

Four pension funds (BPL Pensioen, Pensioenfond Detailhandel, Pensioenfond Vervoer and StiPP) have investments in companies active in the international soy and beef supply chains, but no investment amounts are available.

The other six Dutch pension funds have invested USD 1,064 million in the shares of the selected companies and USD 667 million in their bonds (total investments of USD 1,731 million). The largest amount of investments outstanding at the most recent reporting date were found for the two largest pension funds in the Netherlands: ABP (USD 690 million) and Pensioenfond Zorg en Welzijn (USD 456 million). The amounts invested by the other four pension funds were lower, ranging from USD 12 million for Pensioenfond Horeca en Catering to USD 287 million for PMT.

4.3.2 Policy assessments of Dutch pension funds

The policy scores of the ten pension funds are overall much lower than those of the banking groups and insurance companies, ranging from 1.7 (StiPP) to 3.7 (Pensioenfond Zorg en Welzijn).

Table 20 shows the scores of the ten pension funds on the four pillars which together compose their policy scores.

Table 20 Four assessment pillars for the policy assessments of Dutch pension funds

Pension fund	Forests and Biodiversity	Human Rights	Animal Welfare	Transparency and Accountability	Overall policy assessment
ABP	2.5	5.2	0.0	6.4	3.5
BPF Bouw	1.2	4.2	0.0	7.8	3.3
BPL Pensioen	1.0	3.8	0.0	4.7	2.4
Pensioenfond Detailhandel	0.8	4.2	0.0	6.1	2.8
Pensioenfond Horeca en Catering	1.2	4.4	0.0	6.4	3.0
Pensioenfond Vervoer	0.4	3.1	0.0	5.6	2.3
Pensioenfond Zorg en Welzijn	1.0	6.2	0.0	7.5	3.7
PME	1.3	4.0	0.0	6.1	2.9
PMT	1.5	5.8	0.0	6.5	3.5
StiPP	0.4	3.1	0.0	3.2	1.7

Table 20 shows that the ten pension funds score quite different on the four assessment pillars. Seven pension funds score sufficiently on Transparency and Accountability, with BPF Bouw scoring highest (7.8). On Human Rights all pension funds score somewhat lower, ranging from 3.1 (StiPP and Pensioenfond Vervoer) to 6.2 (Pensioenfond Zorg en Welzijn). But on Forests and

Biodiversity and on Animal Welfare, the policies of all ten pension funds achieve very low scores. For Forests and Biodiversity the scores range from 0.4 (StiPP and Pensioenfond Vervoer) to 2.5 (ABP), while for Animal Welfare all pension funds score a zero as they do not cover this sustainability issue in their policies at all.

4.3.3 Engagement scores of Dutch pension funds

The engagement scores of the ten pension funds are usually higher than their policy scores and are relatively good for some funds. ABP (8.1), Pensioenfond Zorg en Welzijn (7.3) and BPF Bouw (6.9) all score better on engagement than all of the banking groups and insurance companies. The engagement scores of the other seven pension funds range from 2.7 (BPL Pensioen) to 4.6 (Pensioenfond Horeca en Catering).

The pension funds with high scores for engagement have made sufficiently clear in their public documents and in the surveys they filled in how they conduct screening and engagement with companies in the soy and beef supply chains, and how they follow up on agreements with companies in the form of monitoring or divestments. They do not clarify, however, what exactly they are demanding from these companies and what their criteria are. The assessments of their policies (see Table 20) do not provide confidence that they use clear criteria in their engagements, especially not on Forests and Biodiversity and on Animal Welfare.

The other seven pension funds make their engagement activities insufficiently clear, possibly also because five of these seven pension funds did not fill in a survey. This might, or might not, have impacted the engagement scores of these pension funds, but it certainly shows a lack of transparency with regard to legitimate requests from civil society.

Most pension funds do report on their voting behaviour, also in relation to shareholder resolutions calling for a stronger company policy to prevent deforestation in its supply chain. Some pension funds (ABP, BPF Bouw, PME and PMT) did participate directly or via their asset managers in some collective initiatives, such as letters to companies in the sector. These include:

- The “Statement of Support for the Cerrado Manifesto”, which aims to halt deforestation in the Cerrado, was published in October 2017 and was endorsed by 56 investors, including APG Asset Management (the asset manager of ABP and BPF Bouw) and Pensioenfond ABP itself;²⁵³
- The statement on “Investor expectations on deforestation in cattle supply chains”, was published in September 2018 and is endorsed by 44 investors representing approximately USD 6.4 trillion in assets, including APG Asset Management;²⁵⁴
- The statement on “Investor expectations on deforestation in soybean supply chains”, was published in March 2019 and is endorsed by 57 investors representing approximately USD 6.3 trillion in assets, including APG Asset Management;²⁵⁵ and
- The “Investor statement on deforestation and forest fires in the Amazon” was published in September 2019 and is endorsed by 230 investors representing approximately USD 16.2 trillion in assets, including APG Asset Management and MN (the asset manager of PME and PMT);²⁵⁶

4.3.4 Overall assessments of Dutch pension funds

The research findings for the main ten Dutch pension funds included in the Eerlijke Pensioenwijzer are summarised in Table 21.

Table 21 Dutch pension funds and deforestation in the Amazon and Cerrado

Pension fund	Financial involvement	Policy assessment	Engagement score	Overall assessment
ABP	Yes	3.5	8.1	Red
BPF Bouw	Yes	3.3	6.9	Red
BPL Pensioen	Yes	2.4	2.7	Red
Pensioenfonds Detailhandel	Yes	2.8	3.1	Red
Pensioenfonds Horeca en Catering	Yes	3.0	4.6	Red
Pensioenfonds Vervoer	Yes	2.3	3.1	Red
Pensioenfonds Zorg en Welzijn	Yes	3.7	7.3	Red
PME	Yes	2.9	3.8	Red
PMT	Yes	3.5	4.2	Red
StiPP	Yes	1.7	3.5	Red

The Eerlijke Geldwijzer and its partners Both ENDS and Hivos expect pension funds which are investing in companies active in the soy and beef sectors in the Amazon and Cerrado regions or in the domestic and international soy and beef supply chains to:

- have strict policies on avoiding deforestation and related issues, such as biodiversity, climate change, land rights and animal welfare, in place; and
- take sufficient actions to avoid that they invest in companies which directly or indirectly (through their supply chains) are involved in deforestation and related issues such as biodiversity, climate change, land rights and animal welfare.

Based on this expectation, the results of the research on financial involvement (section 4.3.1), the policy assessment (section 4.3.2) and the engagement score (section 4.3.3) were combined into an overall assessment based on a traffic light model (see Table 21).

For all ten pension funds, the overall assessment is **red** as their policy assessments were below 5. For seven pension funds the engagement scores were also below 5, but for three pension funds (ABP, BPF Bouw and Pensioenfonds Zorg en Welzijn) the engagement scores were clearly above 5. Their overall assessment nevertheless is **red**, as intensive engagement is not effective if it is not grounded on clear and specific policies. The policies of these pension funds especially fall short when it comes to Forests and Biodiversity, and to Animal Welfare (see Table 20).

Overall, this means that the ten pension funds do not have an active approach to prevent that the companies they invest in are directly or indirectly (through their supply chains) involved in deforestation. Their policies do not cover the most important standards and the financial institution did not take sufficient actions to prevent deforestation.

5

Conclusions and recommendations

This chapter draws conclusions from the research on how financial institutions active on the Dutch market deal with deforestation risks in the soy and beef supply chains (section 5.1) and provides recommendations to financial institutions active on the Dutch market, as well as to the Dutch government and the European Union (section 5.2).

5.1 Conclusions

Based on the outcomes of this research, the following conclusions can be drawn:

1. Many financial institutions active on the Dutch market have financial relationships with deforestation-risk companies. These are companies in Brazil, China and Europe which are possibly involved in deforestation and related sustainability issues such as biodiversity, climate change, land rights and animal welfare, as they are either active themselves in soy cultivation or cattle ranching in the Amazon and Cerrado regions, or because they are buying and processing soy and beef from these regions. Based on a sample of 59 important deforestation-risk companies in Brazil, China and Europe, we found that 6 out of 7 Dutch banks, 5 out of 9 insurance companies active in the Netherlands and 10 out of 10 Dutch pension funds have financial relationships with one or more of these companies.
2. Four Dutch banks provided loans totalling USD 12.1 billion to the selected 59 companies in the period 2015-2020 and helped them with share and bond issuances worth USD 2.7 billion. Six insurers active in the Netherlands have USD 785 million currently invested in shares and bonds of these companies. Six Dutch pension funds have invested USD 1,731 million and the asset managers of four Dutch banks another USD 167 million.

Most Dutch money goes to the soy traders Cargill (United States) and Louis Dreyfus (Netherlands), followed by the French dairy group Danone and the Brazilian meat company JBS. The three big Dutch banks have the most significant financial relationships with the selected 59 companies in the international soy and beef supply chains, with loans provided in the past five years totalling USD 5.1 billion (Rabobank), USD 4.9 billion (ING Bank) and USD 2.8 billion (ABN Amro). Among the pension funds, the two largest Dutch pension funds ABP (USD 690 million) and Pensioenfondsen Zorg en Welzijn (USD 456 million) have the biggest exposure. Among the insurance companies Allianz (USD 523 million) and NN (USD 106 million) have invested most.

3. These investments run against the need to shift to circular and sustainable agriculture - closing and shortening loops at local and regional level - and to healthy diets that are more plant-based and less based on animal products. This not only pertains to investments in beef production, but also to investments in soy production since South-American soy is almost exclusively used to feed livestock in industrial systems in China and Europe. It is therefore highly problematic to frame soy produced under certification schemes like the Roundtable on Responsible Soy (RTRS) as 'sustainable' when it is used as an input for intensive meat and dairy production.
4. Five of the researched financial institutions (Achmea, CZ, De Volksbank, Menzis and VGZ) score **green**, because they have no financial involvement in the soy and beef sectors.

5. None of the other 21 banks, insurance companies or pension funds which were found to finance or invest in companies in the (inter)national soy and beef supply chains and which are thus exposed to the risk of being involved in financing deforestation, climate change, biodiversity loss, human rights' violations and animal cruelty, takes sufficient steps (screening, engagement, voting, divestment, etc.) which are based on strong policies to prevent and halt deforestation in the Amazon and Cerrado regions.

The reasons why these financial institutions fail to address the risk of becoming involved in deforestation, climate change, human rights violations and animal cruelty in the international soy and beef supply chains, differ per category of financial institutions. Most banking groups' public documents are insufficiently clear regarding how they do screening and engagement with companies in the soy and beef supply chains and on how they ensure that companies meet their criteria in the form of clauses in loan contracts, monitoring or divestments.

Some pension funds are much clearer on their engagement activities, but they have failed to develop adequate policies, especially on Forests and Biodiversity and on Animal Welfare. As these pension funds lack adequate policies, their engagement, while in itself well organized, is not doing enough. The expectations these pension funds have for companies in the soy and beef supply chains are not strong enough, leaving room for involvement in deforestation, climate change, biodiversity loss, human rights' violations and animal cruelty.

6. Among the 21 financial institutions which were found to be exposed to deforestation-risk companies in the international soy and beef supply chains, only four are able to demonstrate that they take steps to prevent that the companies they have financial relationships with are directly or indirectly (through their supply chains) involved in deforestation. These are banking group Triodos and the three insurance companies ASR, NN and Vivat, which received an overall **orange** assessment in this study. These four financial institutions combine active engagement activities with sufficient policies on deforestation and related sustainability issues such as biodiversity, climate change, land rights and animal welfare. However, they do not score **green** as there are still clear weaknesses in their policies and/or engagement efforts and therefore they can not be sure that they take sufficient steps yet to prevent any involvement in deforestation and related sustainability issues such as biodiversity, climate change, land rights and animal welfare. Triodos should be more transparent on divestments and screening procedures. The three insurance companies should not only focus on collective investor statements, but also engaging individual companies and - where necessary - withdrawing investments.
7. All financial institutions were given extensive opportunities to provide information about their engagement activities and to comment draft research results. One bank (De Volksbank), one insurance company (Allianz) and five pension funds ABP, BPF Bouw, Pensioenfonds Horeca en Catering, Pensioenfonds Zorg en Welzijn and PMT) cooperated fully with this study by filling in the survey sent to them on their engagement efforts. Three financial institutions (Pensioenfonds Horeca & Catering, PMT and Triodos) commented on the draft research results. The other 18 financial institutions did not use the opportunities given to provide additional information for this research, although 14 of them are exposed to deforestation-risk companies in the international soy and beef supply chains. Their unwillingness to cooperate shows a lack of transparency with regard to legitimate requests from civil society.

5.2 Recommendations

5.2.1 Recommendations to financial institutions

Based on the outcomes of this research, the Eerlijke Geldwijzer and its partners Both ENDS and Hivos make the following recommendations to financial institutions:

1. **Commit to zero tolerance for deforestation in all financial relations:** A transformation of global food systems is necessary to reduce the impact of the global agriculture and food sectors on deforestation and related sustainability issues, such as biodiversity, climate change, land rights and animal welfare. Therefore, financial institutions need to develop a vision on alternative development paths for a sustainable, circular agriculture system based on a 1.5 degrees scenario aligned with the Paris Climate Agreement. Inter alia, this requires a transition from animal proteins to plant proteins (contributing to a decrease in global demand for beef and soy for animal feed) and strong support for circular agricultural systems (closing and shortening loops at local and regional level). In view of such broader scenarios, any involvement in deforestation-risk sectors such as the soy and beef sectors is problematic and needs to be reconsidered. Involvement in these sectors will likely if not inevitably contribute to further deforestation and related risks to biodiversity, climate change, land rights and animal welfare.
2. **Develop a robust policy on deforestation and sustainable food systems:** This policy should set clear and strict criteria for investments and/or financings regarding deforestation and food systems, also covering related sustainability issues such as biodiversity, climate change, land rights and animal welfare. The policy should be based on the principles included in legislations and in international agreements and standards such as the UN Declaration on the Rights of Indigenous Peoples, the Paris Climate Agreement, the UN Guiding Principles on Business and Human Rights, ILO Conventions, the New York Declaration on Forests and the Five Freedoms for animal welfare (as operationalized in the FARMS initiative). This policy should cover all deforestation-risk commodities and deforestation-risk regions (such as the Amazon and the Cerrado) and should not rely exclusively on certification systems. In developing such a policy, financial institutions can make use of the *Fair Finance Guide Methodology 2020*.²⁵⁷

The policy needs to be accompanied by Key Performance Indicators (KPIs) that are Specific, Measurable, Ambitious, Realistic and Timebound (SMART) on how and when all financings and investments will be brought in line with the policy criteria. A strong policy and SMART KPIs are crucial to tackle deforestation and related sustainability issues and should be the driver of screening, engagement, voting and divestment. Without strong policies and KPIs, every strategy to change company behaviour is at risk of requiring too little from a company to actually stop deforestation and prevent or mitigate negative impacts on humans, animals and the planet. If the criteria are unclear, there may be numerous engagements which may be successful by their own standards, but the overall goals (halting deforestation and preventing or limiting impacts on biodiversity, climate change, land rights and animal welfare) will not be reached. Such engagement may even be counterproductive as it could result in “greenwashing”, by creating a false sense of “addressing the issue”.

3. **Disclose and be transparent:** Make full transparency a condition for investment and financing. Disclose all the names and relevant details of the deforestation-risk companies in financing and investment portfolios. Banks need to make new corporate lending and project finance contingent on clients consenting to the disclosure of key details. Once client consent is factored into standard loan agreements, banks should publish a regularly updated database of project and corporate loans.

Transparency to stakeholders - including NGO's, clients and consumers/pension fund participants - is required on deforestation-related policies, screening procedures, engagement processes, voting behaviour and collective initiatives, and the progress achieved against the SMART KPI's formulated alongside the policy. This transparency needs to be enhanced by adding relevant details, for instance on what is agreed in the engagement with companies, which results are reached and in which cases the financial institution needed to divest. Finally, be open and transparent on information requests on behalf of credible civil society initiatives.

4. **Communicate expectations and formalize requirements:** Clearly communicate sustainability expectations to new and existing clients and investee companies. When granting a loan, these expectations should be formalized by a clause in the loan contract. The latter do not need to be limited to new contracts: banks can also seek ways to amend their current contracts based on a mutual acknowledgement of the need to address deforestation and related sustainability risks. If an existing client refuses, this should be an alarm for the banks and can prompt a process of evaluation of that financial relationship.
5. **Screen all deforestation-risk companies:** Screen all deforestation-risk companies in financing and investment portfolios on a regular basis, not only new clients or investments. Screening should aim to identify if the company and - when relevant - its suppliers meet the principles and criteria included in the financial institution's policy.

Systematic market and supply chain research is needed to identify the deforestation-risk companies in the portfolio of the financial institution. In particular, understanding the possible involvement of midstream and downstream companies in agricultural and livestock supply chains - such as traders, slaughterhouses, meat and dairy companies, animal feed producers, agrochemical and seed suppliers - might require further research. Company involvement in deforestation may also well pertain to lobby activities aimed to weaken legislation and enforcement to protect forests, human rights and biodiversity – or prevent these to be strengthened.

To do this screening properly, the information from companies themselves and from service providers needs to be triangulated with all relevant information obtained from NGOs, experts and knowledge institutes as well as meaningful engagement with local actual and potentially affected stakeholders, such as indigenous peoples and other affected communities. In other words, do not rely solely on one or two ethical rating agencies, but use specialized information sources such as Trase, SPOTT, Forest500 and Chain Reaction Research. Build contacts with international and national NGOs focussing on deforestation and food supply chain issues, as well as with (organisations of) local communities. The engagement with the local stakeholders should be done in a culturally and gender sensitive way, in which respect is paid to the local context in which these communities live. In case of doubt, commission independent research to verify facts and repeat this screening process regularly.

6. **Exclude clear offenders:** When the screening process clarifies that a company is systematically involved in deforestation and related harmful impacts on sustainability issues, such as biodiversity, climate change, land rights and animal welfare, and prospects for improvement are low, the decision should be taken to not invest in this company and to exclude the company from financings.
7. **Engage with companies:** When screening suggests that one of the deforestation-risk companies in the portfolio might not be meeting all principles and criteria included in the financial institution's policy, follow-up in a consistent way. Each deviation found in the screening process should trigger a follow-up action, either direct divestment (see recommendation 6) or a dialogue with the company. For such a dialogue to be meaningful, other stakeholders (such as local communities, NGOs, trade unions or local governments) need to be consulted as well. Engagement with a company must lead to a clear understanding of the problem and an agreement on the steps needed to address the issue. This agreement needs to be summarised in a time-bound action plan to which the company commits, including a clear description of the consequences when the company breaches these commitments. For loans, this commitment should be formalized by a clause in a loan contract. Determining what amounts to a "reasonable time period" should be primarily based on the salience of the issue at hand.

8. **Monitor and act:** Monitor the company's progress with implementing an action plan and meeting criteria on deforestation and related sustainability issues, such as biodiversity, climate change, land rights and animal welfare. If progress is insufficient after a reasonable time period, financial institutions must decide to divest or - in case of a loan - apply for dissolution of the loan contract because the company defaults on one of the clauses. Expanding the sustainability department of the financial institution will be necessary to have sufficient capacity for these systematic engagement processes with all deforestation-risk companies in the portfolio.
9. **Vote on deforestation shareholder resolutions:** Investors should use the voting rights on the shares of deforestation-risk companies they hold. At various deforestation-risk companies, shareholders resolutions are being filed to demand the company to take meaningful action to ensure that it will not be involved in deforestation and related sustainability issues such as biodiversity, climate change, land rights and animal welfare.²⁵⁸ At the very least, investors should vote in favour of these and similar shareholder resolutions.

Moreover, since such shareholder resolutions may not adequately address root causes of deforestation, investors should also take the initiative - in collaboration with other investors - to file and recruit support for more transformational shareholder resolutions.
10. **Take collective initiative:** Financial institutions should increase their leverage towards their clients and investees by collaborating with peers (within the boundaries of competition legislation), with NGOs, national and local governments and other stakeholders to collectively call upon corporate actors in the soy and beef supply chains, as well as the Brazilian government, to prevent, cease and remediate deforestation and its effects, including impacts on biodiversity, climate change, land rights and animal welfare.²⁵⁹ Further collective initiatives are needed to transform the current unsustainable food system into a sustainable food system.
11. **Ensure effective grievance mechanisms:** Effective grievance mechanisms should be in place for all relevant stakeholders, who could be affected by deforestation linked to companies financial institutions are financing or investing in. Financial institutions should provide (and/or collaborate with others) for appropriate remediation if and when for example local communities have been affected by deforestation by companies they finance or invest in.

5.2.2 Dutch government

Financial institutions cannot bring about the required changes alone, especially governments need to show strong leadership. The Eerlijke Geldwijzer and its partners Both ENDS and Hivos make the following recommendations to the Dutch government, based on the outcomes of this research, and acknowledging that the 2018 Vision of the Ministry of Agriculture, Nature and Food Quality, the 2018 food consumption advice of the Council for the Environment and Infrastructure²⁶⁰ and the 2020 opinion of the Council of Animal Affairs²⁶¹ provide useful points of departure:

12. Develop and implement coherent policies to **transition to circular agriculture and sustainable food systems**. This should include, inter alia:
 1. policies ensuring a phase out of soy imports from across the Atlantic to feed livestock in The Netherlands (and wider in the EU through exports of imported soy). Such a phase-out is also needed for imports of other forest-risk-crops;
 2. shifting away from unsustainable diets heavily depending on animal protein, and towards healthy, sustainable, primarily plant-based diets;
 3. improving animal welfare standards, including the adoption of higher welfare breeds and the phasing out of cages.

Dutch support for the current EU-Mercosur association agreement is not coherent with such a transition.²⁶²

13. Adopt general **due diligence legislation** for companies, including financial institutions, to ensure full compliance with the OECD Guidelines and UNGPs.

5.2.3 European Union

The Eerlijke Geldwijzer and its partners Both ENDS and Hivos make the following recommendation to the European Union, based on the outcomes of this research, and acknowledging that the 2020 Farm to Fork strategy and the EU Biodiversity Strategy provide useful starting points:

14. **Legislate at the EU level the market access of commodities** of which the extraction, harvesting or production has, or risks having, a detrimental impact on forests, other ecosystems and related human rights and animal welfare. This legislation should also contain due diligence rules for financial institutions, among others, to ensure that the European financial and banking sector does not contribute directly or indirectly to deforestation, degradation of forests, conversion or degradation of natural ecosystems, human rights violations or animal welfare infringements.

References

- 1 In the case of Achmea there is one single shareholding found, with a value below the threshold considered as significant in this research (USD 5 million).
- 2 Voor Achmea is er één belegging in de aandelen van een bedrijf gevonden, waarvan de waarde lager was dan de drempelwaarde die in dit onderzoek als relevant wordt beschouwd (USD 5 miljoen).
- 3 Goulding, M., R. Barthem and E. Ferreira (2003), *The Smithsonian Atlas of the Amazon*, Washington and London: Smithsonian, p. 18.
- 4 Goulding, M., R. Barthem and E. Ferreira (2003), *The Smithsonian Atlas of the Amazon*, Washington and London: Smithsonian, p. 44.
- 5 Goulding, M., R. Barthem and E. Ferreira (2003), *The Smithsonian Atlas of the Amazon*, Washington and London: Smithsonian p. 21.
- 6 Silva, J.M.C. et al. (2005), The fate of the Amazonian areas of endemism, *Conservation Biology*, 19, 689-694;. Verweij ,P. et al. (2009), *Keeping the Amazon Forests Standing: A Matter of Values*. Zeist: WWF, p. 12
- 7 This section followed the categorisation of Goulding, M., R. Barthem and E. Ferreira (2003), *The Smithsonian Atlas of the Amazon*, Washington and London: Smithsonian, p. 44.
- 8 CEPF, updated February 2017, "Ecosystem Profile: Cerrado Biodiversity Hotspot Extended Summary, p.9, online: <https://www.cepf.net/sites/default/files/cerrado-ecosystem-profile-summary-english-revised-2017.pdf>, viewed June 2020
- 9 Seymour, F. (2018, June 27) "Deforestation is Accelerating, Despite Mounting Efforts to Protect Tropical Forests. What Are We Doing Wrong?" Blog of Global Forest Watch, Online: <https://blog.globalforestwatch.org/data/deforestation-is-accelerating-despite-mounting-efforts-to-protect-tropical-forests-what-are-we-doing-wrong>, viewed June 2020.
- 10 Correa, P. (2020, June 15), Brazil's drives increase in global deforestation, *Phys.org*, online: <https://phys.org/news/2020-06-brazil-worldwide-forest-loss.html>, viewed in July 2020.
- 11 Loureiro, V.R. (2011), *Amazônia. Historia e Análise de Problemas*. Belém: Editora Cejup.
- 12 Nobre, A.D. (2014), *The Future Climate of Amazonia. Scientific Assessment Report*, p. 24, *Articulacion Regional Amazonica (ARA)*, Sao José dos Campos: (SP): Edition ARA, CCST-INPE and INPA. . Online at: http://www.ccst.inpe.br/wpcontent/uploads/2014/11/The_Future_Climate_of_Amazonia_Report.pdf, viewed June 2020.
- 13 Asner, G.P. et al. (2005), Selective logging in the Brazilian Amazon, *Science* volume 310, p.480-482.
- 14 CEPF (2017), "Ecosystem Profile: Cerrado Biodiversity Hotspot Extended Summary", online: <https://www.cepf.net/sites/default/files/cerrado-ecosystem-profile-summary-english-revised-2017.pdf>, viewed June 2020
- 15 See the official Brazilian site with deforestation data: http://www.inpe.br/noticias/noticia.php?Cod_Noticia=5294
- 16 Escobar, H. (2019. July 28), "Deforestation in the Amazon is shooting up, but Brazil president calls the data a lie", *Science*, online: <https://www.sciencemag.org/news/2019/07/deforestation-amazon-shooting-brazil-s-president-calls-data-lie>, viewed June 2020.
- 17 Amigo, I. (2020, February 25) "When will the Amazon hit a tipping point?", *Nature*, online: <https://www.nature.com/articles/d41586-020-00508-4>; <https://www.sciencemag.org/news/2019/07/deforestation-amazon-shooting-brazil-s-president-calls-data-lie>, viewed June 2020.
- 18 Watts, J. (2019, July 25), "Amazon deforestation accelerating towards unrecoverable tipping point", *The*

Guardian, online: <https://www.theguardian.com/world/2019/jul/25/amazonian-rainforest-near-unrecoverable-tipping-point>, viewed June 2020.

- 19 Escobar, H. (2019, November 22), "Brazil's deforestation is exploding – and 2020 will be worse", Science, online: <https://www.sciencemag.org/news/2019/11/brazil-s-deforestation-exploding-and-2020-will-be-worse>, viewed June 2020
- 20 Watanabe, P. (2020, July 13), "Amazon Has 14th Consecutive Month of Increased Deforestation", Folha de São Paulo, online: <https://www1.folha.uol.com.br/internacional/en/scienceandhealth/2020/07/amazon-has-14th-consecutive-month-of-increased-deforestation.shtml>, viewed in July 2020
- 20 Spring, J., M.C. Marcello (2020, August 12), "Brazil's Bolsonaro calls surging Amazon fires a 'lie'", Reuters, online: <https://www.reuters.com/article/us-brazil-environment-fires/brazils-bolsonaro-calls-surging-amazon-fires-a-lie-idUSKCN2572WB>, viewed August 2020.
- 22 Spring, J. (2020, June 19), "Exclusive: European investors threaten Brazil divestment over deforestation", Reuters, online: <https://www.reuters.com/article/us-brazil-environment-divestment-exclusi/exclusive-european-investors-threaten-brazil-divestment-over-deforestation-idUSKBN23Q1MU>, viewed June 2020.
- 23 Paráguassu, L. and J. Spring (2020, July 9), "Brazil bans fires in Amazon rainforest as investors demand results", Reuters, online: <https://www.reuters.com/article/us-brazil-environment/brazil-bans-fires-in-amazon-rainforest-as-investors-demand-results-idUSKBN24A2DV>, viewed June 2020.
- 24 Gomes, P. and G. Mazui (2020, July 9), "Após reunião com Mourão, fundos aguardarão resultados de ações ambientais do Brasil", Reuters, online: <https://g1.globo.com/politica/noticia/2020/07/09/apos-reuniao-com-mourao-fundos-aguardarao-resultados-de-acoes-ambientais-do-brasil.ghtml>, viewed June 2020.
- 25 Amigo, I. (February, 2020 25), "When will the Amazon hit a tipping point?", Nature, online: <https://www.nature.com/articles/d41586-020-00508-4>, viewed June 2020
- 26 Goulding, M., R. Barthem and E. Ferreira (2003), The Smithsonian Atlas of the Amazon, Washington and London: Smithsonian, pp. 26-27.
- 27 Boekhout van Solinge, T. (2015), Deforestation in the Brazilian Amazon in: R. Sivanpillai (ed.) Biological and Environmental Hazards, Risks, and Disasters, Hazards and Disasters Series, Amsterdam/Oxford/Waltham: Elsevier, pp. 373-395.
- 28 Nobre, A.D. (2014), The Future Climate of Amazonia. Scientific Assessment Report, Articulação Regional Amazonica (ARA), Sao José dos Campos (SP): Edition ARA, CCST-INPE and INPA..
- 29 Makarieva, A.M. and V.G. Gorshkov (2007), Biotic pump of atmospheric moisture as driver of the hydrological cycle on land, Hydrol. Earth Syst. Sci. 11, pp. 1013-1033.
- 30 Pearce, F. (2020, June 18), "A controversial Russian theory claims forests don't just make rain- they make wind", Science, online: <https://www.sciencemag.org/news/2020/06/controversial-russian-theory-claims-forests-don-t-just-make-rain-they-make-wind>, viewed June 2020.
- 31 Hilker, T. et al. (2014), Vegetation dynamics and rainfall sensitivity of the Amazon. Proc. Natl. Acad. Sci. U.S.A. 111 (45), 16041e16046. <http://dx.doi.org/10.1073/pnas.1404870111>.
- 32 Goulding, M., R. Barthem and E. Ferreira (2003), The Smithsonian Atlas of the Amazon, Washington and London: Smithsonian p. 21.
- 33 Verweij, P. et al. (2009), Keeping the Amazon Forests Standing: A Matter of Values, Zeist: WWF Netherlands.
- 34 Nepstad, D.C. et al. (2007), Mortality of large trees and lianas following experimental drought in an Amazon forest, Ecology, Vol. 88, 9, pp.2259-2269.
- 35 Amigo, I. (February, 2020 25), "When will the Amazon hit a tipping point?", Nature online:

<https://www.nature.com/articles/d41586-020-00508-4#ref-CR5>, viewed June 2020.

- 36 See e.g. YouTube (2019, August 27), "Amazon Fires: interview with Carlos Nobre, University of Sao Paulo", online: <https://www.youtube.com/watch?v=Jh1J6il8DJ4>, viewed July 2020.
- 37 Amigo, I. (February, 2020 25), "When will the Amazon hit a tipping point?", Nature online: <https://www.nature.com/articles/d41586-020-00508-4#ref-CR5>, viewed June 2020.
- 38 Lovejoy, T.E. and C. Nobre (2019) *C. Sci. Adv.* 5, p29-49.
- 39 See also Carlos Nobre's October 2019 article in Nature: Nobre, C. (2019, October 22), "To save Brazil's rainforest boost its science", Nature, online: <https://www.nature.com/articles/d41586-019-03169-0> , viewed June 2020.
- 40 Earth Innovation Institute (2019, August 23), "Amazon fires: what we know and what we can do", online: <https://earthinnovation.org/2019/08/amazon-fires-what-we-know-and-what-we-can-do/>, viewed June 2020.
- 41 Fearnside, P. (2011), "Brazil's Amazon forest in mitigating global warming: unresolved controversies", *Climate Policy*, volume 12, issue 1, online: <https://www.tandfonline.com/doi/abs/10.1080/14693062.2011.581571>
Davidson, J. (2020, February 12), "Amazon Deforestation Is Causing 20% of Forests to Release More Carbon Than They Absorb", *EcoWatch*, online: <https://www.ecowatch.com/amazon-deforestation-carbon-emissions-2645127492.html?rebelltitem=2#rebelltitem2>, viewed July 2020.
- 42 Fearnside, F (2018) Brazil's Amazonian forest carbon: the key to Southern Amazonia's significance for global climate, *Environmental Change* 18: 47-61, online: <https://link.springer.com/article/10.1007/s10113-016-1007-2>
- 43 Lenton, T.M. (2019, November 27), "Climate tipping points – too risky to bet against", *Nature*, , corrected 9 April 2020, online: https://www.nature.com/articles/d41586-019-03595-0?fbclid=IwAR0axCO7TmkJ34bprB2948XqNQUXPr8tMX4VZjz4AC6dm_f7uvH37hUSMQo.
- 44 Schiermeier, Q. (2019, August 8) "Eat less meat: UN climate-change report calls for change to human diet", *Nature* , online: <https://www.nature.com/articles/d41586-019-02409-7>, viewed July 2020.
- 45 IPCC (2019), "Climate Change and Land", online: https://www.ipcc.ch/site/assets/uploads/sites/4/2019/12/04_Chapter-1.pdf, p.84, 101, viewed in July 2020.
- 45 Schiermeier, Q. (2019, August 8) "Eat less meat: UN climate-change report calls for change to human diet", *Nature* , online: <https://www.nature.com/articles/d41586-019-02409-7>, viewed July 2020.
- 46 Gibb, R. et al (2020), 'Zoonotic host diversity increases in human-dominated ecosystems', *Nature*, online: <https://www.nature.com/articles/s41586-020-2562-8.epdf>, viewed August 2020. See also: Wolfe, N. D., Daszak, P., Kilpatrick, A. M., & Burke, D. S. (2005). Bushmeat hunting, deforestation, and prediction of zoonoses emergence. *Emerging infectious diseases*, 11(12), 1822–1827, online: <https://doi.org/10.3201/eid1112.040789>, viewed June 2020.
- 47 Petrovan, S.O. et al (2020), 'Post COVID-19: a solution scan of options for preventing future zoonotic epidemics', online: <https://osf.io/4t3en/>, viewed July 2020. As a counterpart, the authors listed increasing the acceptability of lower-risk substitutes like plants or synthetic substitutes for animal derived food.
- 49 Malhi, Y. et al. (2008) *Climate Change, Deforestation, and the Fate of the Amazon*, *Science* 319 5860, p. 169.
- 50 Lawson, S. and L. MacFaul (2010) *Illegal Logging and Related Trade. Indicators of the Global Response*, Chatham House; Lawson, S. (2014) *Consumer Goods and Deforestation: An Analysis of the Extent and Nature of Illegality in Forest Conversion for Agriculture and Timber Plantations*, *Forest Trends*.
- 51 Verweij, P. et al. (2009) *Keeping the Amazon Forests Standing: A Matter of Values*, WWF Netherlands.

- 52 Goulding, M. and R. Barthem and E. Ferreira (2003) *The Smithsonian Atlas of the Amazon*, p. 56.
- 53 Greenpeace Brazil (2009), *Amazon Cattle Footprint. Mato Grosso: State of Destruction*, Greenpeace, Brasil.
- 54 Such can be derived from the table with Brazil's official deforestation figures per state in the Amazon. Brazilians refer to the Brazilian Amazon as 'Amazônia legal', in which nine different states ('estados') of Brazil are found. For the deforestation data since 2004 see <http://www.obt.inpe.br/OBT/assuntos/programas/amazonia/prodes>
- 55 Barona, E. et al. (2010), The role of pasture and soybean in deforestation of the Brazilian Amazon. *Environ. Res. Lett.* 5, 024002. <http://dx.doi.org/10.1088/1748-9326/5/2/024002>, p.9
- 56 Verweij, P. et al. (2009) *Keeping the Amazon Forests Standing: A Matter of Values*, WWF Netherlands, p. 40
- 57 See a recent example: Spring, J. (2020, June 4), "Brazil meatpackers bought cattle linked to deforestation, says Greenpeace", Reuters, online: <https://www.reuters.com/article/us-brazil-environment-meat/brazil-meatpackers-bought-cattle-linked-to-deforestation-says-greenpeace-idUSKBN23B0AU>, viewed June 2020.
- 58 European Commission (2020, June 18), "EU market situation for poultry, Committee for the Common Organisation of the Agricultural Markets", online: <https://circabc.europa.eu/sd/a/cdd4ea97-73c6-4dce-9b01-ec4fdf4027f9/24.08.2017-Poultry.pptfinal.pdf>, viewed June 2020.
- 59 Barber, C. (2014, September), "Roads, deforestation, and the mitigating effect of protected areas in the Amazon", *Biological Conservation*, volume 177, online: <https://www.sciencedirect.com/science/article/abs/pii/S000632071400264X>, viewed June 2020.
- 60 "Outra vantagem da saída de navios pela região da foz do rio Amazonas é a distância menor até os compradores internacionais, na comparação com Santos, principal saída dos produtos brasileiros. Por exemplo, o trajeto até Roterdã, na Holanda, cai de 10 mil Pará 7,7 mil quilômetros". See: Bonata, G. (2014, May 23), "Especial-A soja mais competitiva do Brasil abre caminhos pelo norte", Reuters, online: <https://br.reuters.com/article/businessNews/idBRKBN0E31JE20140523>, viewed June 2020.
- 61 Sauer, S. (2018), "Soy expansion into the agricultural frontiers of the Brazilian Amazon: The agribusiness economy and its social and environmental conflicts", *Land use Policy*, Volume 79, online: <https://www.sciencedirect.com/science/article/abs/pii/S0264837718300863>
- 62 Fearnside, P. (2002), "Soybean cultivation as a threat to the environment in Brazil", *Environmental Conservation*, volume 28, issue 1, online: <https://www.cambridge.org/core/journals/environmental-conservation/article/soybean-cultivation-as-a-threat-to-the-environment-in-brazil/191311DBCD27A85DBF0782E989956867>
- 63 Grossman, D. (2016, June 13), "Q&A: How a soybean Boom threatens the Amazon", Pulitzer Center, online: <https://pulitzercenter.org/reporting/how-soybean-boom-threatens-amazon>, viewed June 2020.
- 64 Antaq (2009), "PROTOCOLO DE COOPERAÇÃO ENTRE O MINISTÉRIO DOS TRANSPORTES DA REPÚBLICA FEDERATIVA DO BRASIL E O MINISTÉRIO DOS TRANSPORTES, OBRAS PÚBLICAS E MANEJO DA ÁGUA DO REINO DOS PAÍSES BAIXOS", online: <http://portal.antaq.gov.br/wp-content/uploads/2016/12/Protocolo-de-coopera%C3%A7%C3%A3o-Brasil-e-Pa%C3%ADses-Baixos.pdf>, viewed June 2020.
- 65 Ministerio da Infraestrutura (n.d.), online: <http://transportes.gov.br/conteudo/113-politica-e-planejamento-de-transportes/7494-plano-hidroviario-estrategico.html>, viewed June 2020.
Ministerio da Infraestrutura (n.d.), "Transporte Hidrovario", online: https://www.infraestrutura.gov.br/images/TRANSPORTE_HIDROVIARIO/PHE/PHE_WorkplanReport.pdf, viewed June 2020.
- 66 Ministerio da Infraestrutura (n.d.), "Transporte Hidrovario", online: https://www.infraestrutura.gov.br/images/TRANSPORTE_HIDROVIARIO/PHE/DIAGNOSE_REPORT_01.

pdf, p. 81 and p. 99, viewed June 2020.

- 67 Ministerio da Infraestrutura (n.d.), "Transporte Hidrovário", online https://www.infraestrutura.gov.br/images/TRANSPORTE_HIDROVIARIO/PHE/DIAGNOSE_REPORT_02.pdf, p. 386, viewed June 2020.
- 68 The Guardian, "A government of death is plundering our ancient Munduruku lands. Help us stop it." online: <https://www.theguardian.com/global-development/2017/apr/25/a-government-of-death-is-plundering-our-ancient-munduruku-lands-help-us-stop-it-brazil-amazon>, viewed June 2020.
- Brandford, S. and M. Terres (2017, January 7), "The end of a people: Amazon dam destroys sacred Munduruku heaven.", Mongabay, online: <https://news.mongabay.com/2017/01/the-end-of-a-people-amazon-dam-destroys-sacred-munduruku-heaven/>, viewed June 2020
- 69 Arcadis (2015, December 14), "Arcadis confirms its team in Brazil supports Federal Authorities with their information request on the São Francisco Project.", online: <https://www.arcadis.com/en/middle-east/news/press-releases/arcadis-confirms-its-team-in-brazil-supports-federal-authorities-with-their-information-request-on-the-sao-francisco-project/1992050/>, viewed June 2020.
- 70 van Hulst B. and N. Klaassen (2019, August 23), "WNF wil actie na Amazone drama: doe foute soja in de ban", Algemeen Dagblad, online: <https://www.ad.nl/binnenland/wnf-wil-actie-na-amazone-drama-doe-foute-soja-in-de-ban~a01ee189/>, viewed June 2020.
- 71 See also:
http://www.antt.gov.br/backend/galeria/arquivos/2018/07/25/MOU_2012_Brazilie_Portuguese_versie.pdf, viewed June 2020.
- 72 Rijksdienst Ondernemend Nederland (2013), "Multi- en Synchronodale corridors Brazilië", online: <https://www.rvo.nl/subsidies-regelingen/projecten/multi-en-synchronodale-corridors-brazili%C3%AB>, viewed June 2020.
- 73 De Nederlandse Grondwet (2014, December 17), "Seminar multimodale transportcorridors in Brazilië, online: https://www.denederlandsegrondwet.nl/id/vjpa6qrqpspx/agenda/seminar_multimodale_transportcorridors?ctx=virkij3d3ypo&v=1&tab=1&start_tab1=140, viewed June 2020.
- 74 Big Wobber (2018), "Mission statement: werkbezoek staatssecretaris Mansveld van Infrastructuur en Milieu aan Brazilië, 31 maart t/m 3 april 2014, online: <https://bigwobber.nl/wp-content/uploads/osd/20180608/948.pdf>, viewed June 2020.
- Rijksdienst Ondernemend Nederland (2013), "Multi- en Synchronodale corridors Brazilië", online: <https://www.rvo.nl/subsidies-regelingen/projecten/multi-en-synchronodale-corridors-brazili%C3%AB>, viewed June 2020.
- 75 Big Wobber (2018), "Mission statement: werkbezoek staatssecretaris Mansveld van Infrastructuur en Milieu aan Brazilië, 31 maart t/m 3 april 2014, online: <https://bigwobber.nl/wp-content/uploads/osd/20180608/948.pdf>, viewed June 2020., p. 20.
- 76 Big Wobber (2018), "Mission statement: werkbezoek staatssecretaris Mansveld van Infrastructuur en Milieu aan Brazilië, 31 maart t/m 3 april 2014, online: <https://bigwobber.nl/wp-content/uploads/osd/20180608/948.pdf>, viewed June 2020, p.20
- 77 Big Wobber (2018), "Mission statement: werkbezoek staatssecretaris Mansveld van Infrastructuur en Mikieu aan Brazilië, 31 maart t/m 3 april 2014, online: <https://bigwobber.nl/wp-content/uploads/osd/20180608/948.pdf>, viewed June 2020., p. 20.
- 78 Kuijpers, K. (2018, April 18), "Dutch support soy transport mega-project, posing major risk to Amazon", Investico, online: <https://www.platform-investico.nl/artikel/dutch-support-soy-transport-mega-project-posing-major-risk-amazon/>, viewed June 2020.
- Kuijpers, K. (2018, April 25), "Duurzaamheid is slechts een verhaaltje", De Groene Amsterdammer, online: <https://www.groene.nl/artikel/duurzaamheid-is-slechts-een-verhaaltje>, viewed June 2020.

- 79 MPF—Ministério Público Fédéral (2017, 10 November), MPF recomenda cancelamento de audiências públicas sobre a Ferrogrão. <http://www.mpf.mp.br/mt/sala-de-imprensa/noticias-mpf-recomenda-cancelamento-de-audiencias-publicas-sobre-a-ferrograo>
- 80 MPF—Ministério Público Fédéral (2018, 31 October) Justiça paralisa concessão da Ferrogrão por insuficiência de estudos socioambientais. Online. Available HTTP < <http://www.mpf.mp.br/pa/sala-de-imprensa/noticias-pa/justica-paralisa-concessao-da-ferrograo-por-insuficiencia-de-estudos-socioambientais> (Consulted 10 November 2018).
- 81 Mano, A. (2017, December 4), “Cargill may partner on \$4.3 billion rail project, Brazil chief says”, Reuters, online: <https://www.reuters.com/article/us-cargill-investments/cargill-may-partner-on-4-3-billion-rail-project-brazil-chief-says-idUSKBN1DY2H9>, viewed June 2020.
- 82 Mano, A. (2017, December 4), “Cargill may partner on \$4.3 billion rail project, Brazil chief says”, Reuters, online: <https://www.reuters.com/article/us-cargill-investments/cargill-may-partner-on-4-3-billion-rail-project-brazil-chief-says-idUSKBN1DY2H9>, viewed June 2020.
- 83 Zeni, C. (2019, Octubre 29), “Bolsonaro: investimentos da Arabia Saudia devem viabilizar Ferrogrão em MT”, Livre, online: <https://olivre.com.br/bolsonaro-investimentos-da-arabia-saudita-devem-viabilizar-ferrograo-em-mt>, viewed June 2020.
- Globo (2019), “Bolsonaro diz que vai usar \$10 bilhoes da arabia saudita em ferrovias, online: <https://oglobo.globo.com/economia/bolsonaro-diz-que-vai-usar-us-10-bilhoes-da-arabia-saudita-em-ferrovias-defesa-1-24054667>, viewed June 2020.
- 84 Mano, A. (2017, December 4), “Cargill may partner on \$4.3 billion rail project, Brazil chief says”, Reuters, online: <https://www.reuters.com/article/us-cargill-investments/cargill-may-partner-on-4-3-billion-rail-project-brazil-chief-says-idUSKBN1DY2H9>, viewed June 2020.
- 85 Soybean and Corn Advisor (2019, March 18), “Grain companies to bid on BR-163 and Ferragrao railroad in Brazil”, online: http://www.soybeansandcorn.com/news/Mar18_19-Grain-Compaines-to-bid-on-BR-163-and-Ferrograno-Railroad-to-Brazil, viewed June 2020.
- 86 Mano, A. (2019, March 11), “Brazil’s Amaggi and 4 big grain traders mull road, railway adventure”, Reuters, online: <https://www.reuters.com/article/us-brazil-logistics/brazils-amaggi-and-big-4-grain-traders-mull-road-railway-venture-idUSKBN1QS257>, viewed June 2020.
- 87 Veritasagro, “Ferrogrão Railway, positive investment outlook”, online: https://m.europages.com/filestore/gallery/53/27/17079346_1d65a6ef.pdf, viewed June 2020.
- 88 Dehlinger, K.(2018, May 24), “South America calling: Brazil ports ready for soybean boom”, DTN Farm, online: <https://www.dtnpf.com/agriculture/web/ag/blogs/south-america-calling/blog-post/2018/05/24/brazil-ports-ready-soybean-boom>, viewed June 2020.
- 89 Dehlinger, K.(2018, May 24), “South America calling: Brazil ports ready for soybean boom”, DTN Farm, online: <https://www.dtnpf.com/agriculture/web/ag/blogs/south-america-calling/blog-post/2018/05/24/brazil-ports-ready-soybean-boom>, viewed June 2020.
- 90 Dehlinger, K.(2018, May 24), “South America calling: Brazil ports ready for soybean boom”, DTN Farm, online: <https://www.dtnpf.com/agriculture/web/ag/blogs/south-america-calling/blog-post/2018/05/24/brazil-ports-ready-soybean-boom>, viewed June 2020.
- 91 Rabobank RaboResearch (2018, May), “Brazilian G&O Barging in- Waterway Transport on the rise”, online: <https://research.rabobank.com/far/en/sectors/grains-oilseeds/Brazilian-Grains-and-Oilseeds-Barging-in.html>, viewed June 2020.
- 92 Rabobank RaboResearch (2018, May), “Brazilian G&O Barging in- Waterway Transport on the rise”, online: <https://research.rabobank.com/far/en/sectors/grains-oilseeds/Brazilian-Grains-and-Oilseeds-Barging-in.html>, viewed June 2020.
- Rabobank RaboResearch (2016, June), “Build it and they will come: The impact of port expansion on Brazilian soybean output”, online: <https://d21buns5ku92am.cloudfront.net/27385/documents/30824->

Rabobank_IN558_Build_It_and_They_Will_Come_Rasmussen_Ikeda_Jun2016-86c478.pdf, viewed June 2020.

- 93 Rabobank Group, "Sustainability Policy Framework", p.80-81 online: <https://www.rabobank.com/en/images/sustainability-policy-framework.pdf>, viewed June 2020.. See for example: Rabobank, "Boeren in balans", online: <https://www.noardlikefryskewalden.nl/wp-content/uploads/2020/02/Presentatie-Jeen-Nijboer-Rabobank.pdf>, viewed June 2020.
- 94 see e.g. Terra de Direitos (2017,5), "Portos de Maíca", online: <https://terradedireitos.org.br/casos-embematicos/portos-do-maica/15788>, viewed June 2020.
- 95 Fase, online: <https://fase.org.br/pt/informe-se/noticias/17596/>, viewed June 2020. See also the youtube video which shows the various protests: Youtube (2017, September 20), "Os Povos do Tápajos na Rota da Soja", online: <https://www.youtube.com/watch?v=JJkWr6FgEo>, viewed June 2020.
- 96 Santarém E Região (2020, April 22), "MPF e MPPA pedem suspensão de licenças e obras por fraude em licenciamento do porto do Maicá", online: <https://g1.globo.com/pa/Santarém-regiao/noticia/2020/04/22/mpf-e-mppa-pedem-suspensao-de-licencas-e-obras-por-fraude-em-licenciamento-do-porto-do-maica.ghtml>, viewed June 2020.
- 97 Santarém E Região (2020, May 22), "Licenciamento de terminal portuário em Santarém é suspenso pela Justiça Federal", online: <https://g1.globo.com/pa/Santarém-regiao/noticia/2020/05/22/licenciamento-de-terminal-portuario-em-Santarém-e-suspenso-pela-justica-federal.ghtml>, viewed June 2020.
- 98 Gonzales, J. (2020, March 12), "Brazil sets record for highly hazardous pesticide consumption: report", Mongabay, online: <https://news.mongabay.com/2020/03/brazil-sets-record-for-highly-hazardous-pesticide-consumption-report/>, viewed June 2020.
- 99 Philips, D. (2019, June 12), "Hundreds of new pesticides approved in Brazil under Bolsonaro", The Guardian, online: <https://www.theguardian.com/environment/2019/jun/12/hundreds-new-pesticides-approved-brazil-under-bolsonaro>, viewed June 2020.
- 100 Cancian, N. (2019, March 6), "Pesticides approved for sale reached record high in 2018", Folha de S.Paulo, online: <https://www1.folha.uol.com.br/internacional/en/brazil/2019/03/pesticides-approved-for-sale-reached-record-high-in-2018.shtml>, viewed June 2020.
- 101 Philips, D. (2019, June 12), "Hundreds of new pesticides approved in Brazil under Bolsonaro", The Guardian, online: <https://www.theguardian.com/environment/2019/jun/12/hundreds-new-pesticides-approved-brazil-under-bolsonaro>, viewed June 2020.
- 102 Philips, D. (2019, June 12), "Hundreds of new pesticides approved in Brazil under Bolsonaro", The Guardian, online: <https://www.theguardian.com/environment/2019/jun/12/hundreds-new-pesticides-approved-brazil-under-bolsonaro>, viewed June 2020.
- 103 Philips, D. (2019, June 12), "Hundreds of new pesticides approved in Brazil under Bolsonaro", The Guardian, online: <https://www.theguardian.com/environment/2019/jun/12/hundreds-new-pesticides-approved-brazil-under-bolsonaro>, viewed June 2020.
- 104 Coelho, F. (2019), "Brazil unwisely gives pesticides a free pass", Science, volume 365, issue 6453, online: <https://science.sciencemag.org/content/365/6453/552.2>
- 105 Hanson, T. (2019, August 23), "Why have 500m bees dies in Brazil in the past three months?", The Guardian, online: <https://www.theguardian.com/commentisfree/2019/aug/29/500-million-bees-brazil-three-months>, viewed June 2020.
- 106 Torres, A. (2019, September 17), "O agrotóxico que matou 50 milhões de abelhas em Santa Catarina em um só mês", BBC, online: <https://www.bbc.com/portuguese/brasil-49657447>, viewed June 2020.
- 107 Carta Campinas (2019, March 7), "Com 500 milhões de abelhas mortas em três meses, agricultura brasileira pode entrar em colapso", online: <https://cartacampinas.com.br/2019/03/com-500-milhoes-de-abelhas-mortas-em-tres-meses-agricultura-brasileira-pode-entrar-em-colapso/>, viewed June 2020. See for current state of play on the partial EU ban on neonicotinoids: European Commision (2020),

online:

https://ec.europa.eu/food/plant/pesticides/approval_active_substances/approval_renewal/neonicotinoids_en, viewed June 2020.

- 108 Regía, M. and E. Oliveira (2020, May 31), "Avanço da soja cria 'cemitério de colmeias' no interior do Pará", BBC, online: <https://www.bbc.com/portuguese/brasil-52776670>, viewed June 2020.
- 109 See for example Schlesinger, S. (2014), *The whole Pantanal, not just the half. Soy, waterway and other threats to the integrity of the Pantanal*, p.25; interview with Jozenildo is chief of Açaizal.
- 110 McCoy, T. (2020, February, 9), "In agricultural giant Brazil, a growing hazard: The illegal trade in pesticides ", *The Washington Post*, online: https://www.washingtonpost.com/world/the_americas/in-agricultural-giant-brazil-a-new-and-growing-hazard-the-illegal-trade-in-pesticides/2020/02/09/2c0b2f2e-30b3-11ea-a053-dc6d944ba776_story.html, viewed June 2020.
- 111 Hunt, L. et al. (2016), "Insecticide concentrations in stream sediments of soy production regions of South America", *Science of the Total Environment*, volume 547, online: <https://www.sciencedirect.com/science/article/pii/S0048969715312961?via%3Dihub>
- 112 Wittmann, F. and J. Wolfgang (2016), "The Amazon River Basin", in *The Wetland Book*, New York: Springer publication, p.16, online: https://www.researchgate.net/publication/309761642_The_Amazon_River_Basin
- 113 See e.g. Arias et al. (2011), "Organochlorine Pesticide", *Microbial Biodegradation and Bioremediation*, online: <https://www.sciencedirect.com/topics/earth-and-planetary-sciences/organochlorine-pesticide>, viewed June 2020.
- 114 IUCN (2018, June 21), "Amazon River Dolphin", online: <https://www.iucnredlist.org/species/10831/50358152#threats>, viewed June 2020.
- 115 De Seina, A. (2013), "Organochlorine Pesticides in the Pantanal: A Qualitative and Semi-Quantitative Water Analysis", *W&M Scholarworks*, online: <https://scholarworks.wm.edu/cgi/viewcontent.cgi?article=1621&context=honorstheses>;
Schlesinger, S. (2014), *The whole Pantanal, not just the half. Soy, waterway and other threats to the integrity of the Pantanal*, *The Ecosystem Alliance*, online: https://www.bothends.org/uploaded_files/document/4The_whole_Pantanal_not_just_the_half_Ecosystem_Alli.pdf
- 116 The authors mentioned the 20 most frequently used active ingredients that were found in the period 2012-2016: Glyphosate (herbicide), Chlorpyrifos (insecticide), 2,4-D (herbicide), Atrazine (herbicide), mineral oil (adjuvant), Mancozeb (fungicide), Methoxyfenozide (Insecticide), Acephate (insecticide), Haloxypop-P-methyl (herbicide), Lactofen (herbicide), Methomyl (insecticide), Diquat (herbicide), Picoxystrobin (fungicide), Flumetsulam (herbicide), Teflubenzuron (insecticide), Imidacloprid (insecticide), Lambda-cyhalothrin (insecticide), Imazethapyr (herbicide), Azoxystrobin (Fungicide) and Flutriafol (Fungicide). The authors note that of these active ingredients, 15% are extremely toxic, 25% highly toxic, 35% moderately toxic, and 25% are poorly toxic in the toxicological classification for humans.
- 117 Wanderlei, A. et al. (2017), "Spatial distribution of pesticide use in Brazil: a strategy for Health Surveillance", online: <https://www.scielosp.org/article/csc/2017.v22n10/3281-3293/en/#>, viewed June 2020.
- 118 Ibidem.
- 119 Ibidem.
- 120 The Inter-American Commission on Human Rights (IACHR) mentioned about the pollution of agrochemicals in the soy growing areas: 'IACHR has received information that farmland expansion into the Amazon region has brought a significant increase in the use of pesticides and herbicides. With regard to Brazil, the Açaizal indigenous people of Santarém, Pará State, are reportedly being harmed by the pollution of rivers and groundwater from the indiscriminate use of pesticides, herbicides, and other

chemicals. Large ranching projects have also been set up in the Brazilian Amazon over the past number of decades. Particularly in relation to agri-industry, the widespread use of herbicides, pesticides, and chemical fertilizers is a major cause of water pollution. The consumption of contaminated water by indigenous communities downstream from plantations has led to problems of poisoning.’
<http://www.oas.org/en/iachr/reports/pdfs/Panamazonia2019-en.pdf>, p. 67.

- 121 Pires, N.L. (2020, June 25), “Determination of glyphosate, AMPA and glufosinate by high performance liquid chromatography with fluorescence detection in waters of the Santarém Plateau, Brazilian Amazon”, *Journal of Environmental Science and Health*, online: <https://www.tandfonline.com/doi/abs/10.1080/03601234.2020.1784668> Passos, C.J.S. et al (2016), “Resíduos de glifosato y ampa en fuentes naturales de agua y límites normativos para valorar la contaminación en Brasil y Colombia” in T. Boekhout van Solinge et al (eds.). *Terra e direitos em águas turbulentas: Conflitos socioambientais em Brasil e Colombia*. Utrecht: Utrecht University/ Lands and Rights in Troubled Waters.
- 122 Wanderlei, A. et al. (2017), “Spatial distribution of pesticide use in Brazil: a strategy for Health Surveillance”, online: <https://www.scielo.org/article/csc/2017.v22n10/3281-3293/en/#>, viewed June 2020. (see under Results)
- 123 Burger, L. and T. Bellon (2020, June 24), “Bayer to pay up to \$10.9 billion to settle bulk of Roundup weedkiller cancer lawsuits”, Reuters, online: <https://www.reuters.com/article/us-bayer-litigation-settlement/bayer-settles-roundup-cancer-lawsuits-for-up-to-10-9-billion-idUSKBN23V2NP>, viewed June 2020.
- 124 Cox, D. (2019, March 9), “The Roundup row: is the world’s most popular weedkiller carcinogenic?”, *The Guardian*, online: <https://www.theguardian.com/environment/2019/mar/09/spray-pray-is-roundup-carcinogenic-monsanto-farmers-suing>, viewed June 2020.
- 125 Zhang, L. et al (2019), “Exposure to glyphosate-based herbicides and risk for non-Hodgkin lymphoma: A meta-analysis and supporting evidence”, *Science*, volume 781, online: <https://www.sciencedirect.com/science/article/pii/S1383574218300887>
- 126 Burger, L. and T. Bellon (2020, June 24), “Bayer to pay up to \$10.9 billion to settle bulk of Roundup weedkiller cancer lawsuits”, Reuters, online: <https://www.reuters.com/article/us-bayer-litigation-settlement/bayer-settles-roundup-cancer-lawsuits-for-up-to-10-9-billion-idUSKBN23V2NP>, viewed June 2020.
- 127 Lawson, S. and L. MacFaul (2010) *Illegal Logging and Related Trade. Indicators of the Global Response*, Chatham House
- Lawson, S. (2014) *Consumer Goods and Deforestation: An Analysis of the Extent and Nature of Illegality in Forest Conversion for Agriculture and Timber Plantations*, *Forest Trends*.
- 128 For example, in February 2020, Brazil’s Federal Public Prosecutor’s Office MPF (which is independent and has a good reputation, just like Brazil’s Federal Police) organized a seminar with Transparency International on the fight against organized crime and corruption as drivers of deforestation in the Amazon. <http://www.mpf.mp.br/pgr/noticias-pgr/mpf-propoe-atuacao-conjunta-no-combate-ao-crime-organizado-e-a-corrupcao-que-movimentam-o-desmatamento-na-amazonia>. See also: In May 2020, Abrampa, the Brazilian Association of members of the public prosecutor’s office for the environment, organized a webinar entitled: “Deforestation, illegal timber and gold exploration, land grabbing. Organized crime involvement in environmental crimes.” <https://abrampa.org.br/abrampa/site/index.php?ct=conteudoEsq&id=845&modulo=NOT%C3%8DCIA>
- 129 See e.g. Albanese, J.S. (2005) *North American Organized Crime*: M. Galeotti (ed.) *Global Crime Today. The Changing Face of Organized Crime*. Routledge, 8-18; C. Fijnaut et al. (1998) *Organized Crime in the Netherlands*, Kluwer Law International; T. Boekhout van Solinge (2014) *Illegal Exploitation of Natural Resources* in: Letizia Paoli (ed.), *Oxford Handbook of Organized Crime*, Oxford University Press, pp. 500-528; T. Boekhout van Solinge (2016) *Ontbossing en criminaliteit in de Braziliaanse Amazone*, *Cahiers Politiestudies* (38) 1 87-110; T. Boekhout van Solinge et al. (2016) *Organized Forest Crime. A criminological Analysis with Suggestions from Timber Forensics* in: Daniela Kleinschmit et al. (eds.)

Illegal Logging and Related Timber Trade – Dimensions, Drivers, Impacts and Responses, IUFRO, pp. 81-96.

- 130 Boekhout van Solinge, T. (2014), Researching Illegal Logging and Deforestation, *International Journal for Crime, Justice and Social Democracy* (3) 2 p. 35-48.
- 131 Povos Indígenas No Brasil (n.d.), “Línguas”, online: <https://pib.socioambiental.org/pt/L%C3%ADnguas>, viewed June 2020.
- 132 Ministério da Justiça e Segurança Pública (n.d.), “Modalidades de Terras Indígenas”, online: <http://www.funai.gov.br/index.php/indios-no-brasil/terras-indigenas>, viewed June 2020.
- 133 The bureaucratic process of formal recognition is not always geared towards the reality on the ground. For example, indigenous community need to apply at the institution FUNAI, whereas Maroons needs to apply at the Federal institution INCRA. But what if a community, or a family, is of mixed descent, as is quite common in especially the Lower Amazon?
- 134 International Labour Organization (n.d.), “Ratifications of C169 - Indigenous and Tribal Peoples Convention, 1989 (No. 169)”, online: https://www.ilo.org/dyn/normlex/en/f?p=1000:11300:0::NO:11300:P11300_INSTRUMENT_ID:312314, viewed June 2020.
- 135 UNIPP (n.d.), “UNIPP Success Stories”, online: https://www.ilo.org/wcmsp5/groups/public/---dgreports/---nylo/documents/publication/wcms_243275.pdf, viewed June 2020.

See the handbook of ILO: International Labour Organization (2013), “Understanding the Indigenous and Tribal Peoples Convention, 1989 (no. 169)”, online: https://www.ilo.org/wcmsp5/groups/public/---ed_norm/---normes/documents/publication/wcms_205225.pdf, viewed June 2020.
- 136 CPT is a Brazilian NGO that was founded by the Catholic Church in the 1975s, during Brazil’s military dictatorship. CPT is the authority on land conflicts in Brazil and assists communities by informing them about their rights and by helping them to getting access to justice and access to state institutions. Since 1985, CPT issues annual report about land conflicts in Brazil, with detailed explanation about the nature of the conflicts around land and increasingly also water. CPT’s most recent report of 2019 showed that North Brazil, the Amazon, is still the region with most land conflicts. Comissão Pastoral da Terra (2020) *Conflitos no campo Brasil 2019*, p. 102. <https://www.cptnacional.org.br/publicacoes-2/destaque/5167-conflitos-no-campo-brasil-2019>
- 137 Amnesty International (2020), “From Forest to Farmland”, Amnesty International, online: https://www.amnesty.nl/content/uploads/2020/07/From-Forest-To-Farmland_AMR-1926572020-FINAL.pdf?x99513
- 138 As can be found in many media reports, see e.g. Globo (2019, October 21), “Justiça condena ex-chefe do Ibama em Mossoró por corrupção”, online: <https://g1.globo.com/rn/rio-grande-do-norte/noticia/2019/10/21/justica-condena-ex-chefe-do-ibama-em-mossoro-por-corrupcao.ghtml>, viewed June 2020.
- 139 See e.g. Braziliaanse overheid (2019, August, 29), “PF apura atos de corrupção de servidora do INCRA no RN”, online: <http://www.pf.gov.br/agencia/noticias/2018/08/pf-apura-atos-de-corrupcao-de-servidora-do-incra-no-rn>, viewed June 2020.

Dolce, J. (2020, January 14), “Como a corrupção no Incra levou à expulsão de um pequeno agricultor de sua terra”, *Carta Capital*, online: <https://www.cartacapital.com.br/sociedade/como-a-corrupcao-no-incra-levou-a-expulsao-de-um-pequeno-agricultor-de-sua-terra/>, viewed in June 2020.
- 140 See e.g. Carta Capital (n.d.), “Os políticos e a própria população incumbem-se de incentivar uma série de desmandos”, online: <https://www.cartacapital.com.br/opiniao/policia-militar-se-tornou-a-forca-mais-corrupta-e-mais-letal-do-brasil/>, viewed in June 2020.
- 141 London, M. and B. Kelly (2007) *The Last Forest. The Amazon in the age of globalisation*, New York: Random House, p. 151.

- 142 M. London and B. Kelly (2007) *The Last Forest. The Amazon in the age of globalisation*, New York: Random.
- 143 Azevedo-Ramos, C. Et al (2020) , *Lawless land in no man's land: The undesignated public forests in the Brazilian Amazon*, *Land Use Policy* 99, 104863, online: <https://www.sciencedirect.com/science/article/pii/S0264837720302180>, viewed in July 2020.
- 144 See also AIDSESEP and Forest Peoples Program (2015), "Revealing the hidden: indigenous perspectives on deforestation in the Peruvian Amazon", online: <http://www.forestpeoples.org/sites/fpp/files/publication/2015/02/fppperureportenglishinternetfinalaug32015.pdf>
- 145 CAR is Brazil's National Environment Registry
- 146 Brazilian government (2016), *PERGUNTAS E RESPOSTAS SOBRE O CADASTRO AMBIENTAL RURAL (CAR) E SUA INTERFACE COM TERRAS INDÍGENAS (TIs)*", online: <http://www.funai.gov.br/arquivos/conteudo/ascom/2016/doc/perguntaserespostas.pdf>, viewed June 2020.
- 147 Instituto Socio Ambiental, (2017, July 17), "Tentativa de regularizar terras com CAR causa polêmica ". Online: <https://www.socioambiental.org/pt-br/noticias-socioambientais/tentativa-de-regularizar-terras-com-car-causa-polemica>, viewed June 2020.
- 148 Ministério Público federal (2020, June 9), "MPF identifica quase 10 mil registros de proprietários privados no Cadastro Ambiental Rural em áreas destinadas a povos indígenas", online: <http://www.mpf.mp.br/pgr/noticias-pgr/mpf-identifica-quase-10-mil-propriedades-rurais-em-areas-destinadas-a-povos-indigenas>, viewed June 2020.
- 149 Azevedo-Ramos, C. et al (2020, December), *Lawless land in no man's land: The undesignated public forests in the Brazilian Amazon*, *Land Use Policy* 99, 104863, online: <https://www.sciencedirect.com/science/article/pii/S0264837720302180>, Viewed in July 2020.
- 150 This is widely known among legal and land experts in Pará state. It was confirmed in an interview with public prosecutor Ione Nakamura (May 2020). According to Gilson Rego, CPT's coordinator in Santarém, an emerging area of conflict is in Amapá state, also in the Amazon, where soy farmers have recently arrived: "There are many conflicts there. Houses of people of traditional communities are being burned." Rego observes that the same phenomenon is happening in Amapá, as was happening in West-Pará after the construction of the soy export port by Cargill: soy farmers arrive from outside the Amazon, buy land and acquire land documents. Then they get into conflict with traditional communities that live in forested areas, but generally without having official land titles, even though they are entitled to have them. (Source: interview via Whatsapp, May 10th, 2020).
- 151 Instituto Socio Ambiental, (2017, July 17), "Tentativa de regularizar terras com CAR causa polêmica ". Online: <https://www.socioambiental.org/pt-br/noticias-socioambientais/tentativa-de-regularizar-terras-com-car-causa-polemica>, viewed June 2020.
- 152 See Sistema FAEP (2019), "Cartilha de relação entre crédito rural e car", online: http://www.emater.pr.gov.br/arquivos/File/CAR/CartilhaCreditoRural_CAR.pdf, viewed June 2020.
- Sistema FAEP (2017), "Inscrição no CAR e adesão ao pra", online: <https://sistemafaep.org.br/wp-content/uploads/2017/09/Cartilha-CAR-2017.pdf>, viewed June 2020.
- Walendorff, R. (2019, August 2), "Recibo de inscrição no CAR será suficiente para acessar crédito rural", *Canal Rural*, online: <https://www.canalrural.com.br/noticias/recibo-inscricao-car-credito-rural/>, viewed June 2020.
- 153 Interview public prosecutor Ione Nakamura, May 2020.
- 154 Philips, T. (2019, August 28), "Worst of wildfires still to come' despite Brazil claiming crisis is under control", *The Guardian*, online: <https://www.theguardian.com/world/2019/aug/28/brazil-amazon-wildfires-worst-to-come>, viewed June 2020.

- 155 Philips, D. (2020, May 28), "Studies add to alarm over deforestation in Brazil under Bolsonaro", The Guardian, online: <https://www.theguardian.com/environment/2020/may/28/studies-add-to-alarm-over-deforestation-in-brazil-under-bolsonaro-covid-19>, viewed June 2020.
- 156 Global Witness (2018), *At What Cost? Irresponsible business and the murder of land environmental defenders in 2017*. London: Global Witness, p. 10.
- 157 Brooks, B. (2011, May 28), Like many before, Amazon activists silenced by gun, The Boston Globe. http://articles.boston.com/2011-05-28/news/29601132_1_rain-forest-amazon-activists-amazon-state.
- 158 Greenpeace International (2003), *State of Conflict. An investigation into the landgrabbers, loggers and lawless frontiers in Pará State, Amazon*, Amsterdam: Greenpeace International
- 159 Grandin, G. (2010) *Fordlandia. The rise and fall of Henry Ford's forgotten jungle city*, London: Icon Books, p. 364.
- 160 Phillips, T. (2008, December 22), 'Hundreds of Brazil's eco-warriors at risk of assassination', The Guardian <http://www.guardian.co.uk/world/2008/dec/22/brazil-activists-mendes>
- 161 He said this in an earlier interview with Tim Boekhout van Solinge which was also recorded (filmed).
- 162 European Soy monitor 2020, p.20. Soy for livestock feed is predominantly used in the form of soy meal. In addition, (toasted) soy beans and soy oil are also used. Most soy from Brazil is imported by the EU+ (=EU28 + Norway and Switzerland) in the form of soy meal (about 70%). The remaining import of soy beans is largely crushed in the EU. Crushing soy beans produces soy meal (78,5%) and soy oil (18,5%). The latter is used for human consumption, biofuel and livestock feed.
- 163 Hoste, R. (2014), *Sojaverbruik in de Nederlandse diervoederindustrie, 2011-2013*, LEI Wageningen UR, p.11
- 164 Hoste, R. (2014), *Sojaverbruik in de Nederlandse diervoederindustrie, 2011-2013*, LEI Wageningen UR, p.14.
- 165 See for example: RSPCA (2020), *Eat. Suffer. Repeat. The life of a typical meat chicken*, p.11, 17-18.
- 166 RSPCA (2020), *Eat. Suffer. Repeat. The life of a typical meat chicken*.
- 167 RSPCA (2020), *Eat. Suffer. Repeat. The life of a typical meat chicken*, p.27-28.
- 168 Avined (2019), *Antibioticumgebruik pluimveesector in 2018*, Netherlands, AVINED, p.7, online: https://www.avined.nl/sites/www.avined.nl/files/antibioticagebruik_-_sectorrapportage_2018.pdf, Viewed in July 2020.
- 169 EFSA (2009), 'Scientific Opinion on the overall effects of farming systems on dairy cow welfare and disease', The EFSA Journal (2009) 1143, 1-38: <http://www.efsa.europa.eu/en/efsajournal/pub/1143.htm>
- 170 Broom, D., A. Fraser, *Domestic Animal Behaviour*, p. 87
- 171 To quote animal welfare scientist Donald Broom, CIWF, EFSA dairy report – a summary of key findings and recommendations, online: <https://www.ciwf.org.uk/media/3818638/efsa-dairy-report-summary.pdf>, viewed June 2020.
- 172 Duurzame Zuivelketen (2019), "Factsheet verantwoorde soja", online: https://www.duurzamezuivelketen.nl/resources/uploads/2017/12/NZO_Factsheet_soja_NL_2019.pdf, viewed June 2020.
- 173 Hoste, R. (2014), *Sojaverbruik in de Nederlandse diervoederindustrie, 2011-2013*, LEI Wageningen UR, p.14, online: <https://edepot.wur.nl/316027>, viewed June 2020.
- 171 'Dubbeldoelkoeien', vlees.nl, online: <https://www.vlees.nl/vlees/rundvlees/dubbeldoelkoeien>, viewed June 2020. See also: Winter, M.A. de, T.A. Vogelenzang, J. van Schaick (2010, March), 'De blaarkop: ouderwets goed', LEI Wageningen UR. Online: <https://edepot.wur.nl/137662>, viewed June 2020.
- 175 De Boer, I., M. van Ittersum (2018), *Circularity in agricultural production*, Wageningen University and

Research, p.29-30. https://www.wur.nl/upload_mm/7/5/5/14119893-7258-45e6-b4d0-e514a8b6316a_Circularity-in-agricultural-production-20122018.pdf

- 176 Rockström, WW., J Loken et al (2019), Food in the Anthropocene: the EAT–Lancet Commission on healthy diets from sustainable food systems, online: [http://dx.doi.org/10.1016/S0140-6736\(18\)31788-4](http://dx.doi.org/10.1016/S0140-6736(18)31788-4), viewed June 2020.
- 177 See for opportunities and risks: Raad voor Dieraangelegenheden (2020), “Dierenwelzijn in de kringlooplandbouw”, online: <https://www.rda.nl/nieuws/nieuws/2020/5/06/zienswijze-dierenwelzijn-in-de-kringlooplandbouw>, viewed June 2020.
- 178 Most soy used for human consumption is produced in Europe. In total, 4,8% of soy used in the EU is for food, 90% for animal feed and the rest for biodiesel and other uses. See: European Soy Monitor 2019, p.4-5, online: <https://www.idhsustainabletrade.com/uploaded/2019/04/European-Soy-Monitor.pdf>, viewed June 2020.
- 179 Quotes from: Vakblad Voedingsindustrie (2019), “Reaction Nevedi: Facts about soy in animal feed”, online: <https://vakbladvoedingsindustrie.nl/en/article/reaction-nevedi-facts-about-soy-in-animal-feed>, viewed June 2020.
- 180 Vakblad Voedingsindustrie (2019), “Reaction Nevedi: Facts about soy in animal feed”, online: <https://vakbladvoedingsindustrie.nl/en/article/reaction-nevedi-facts-about-soy-in-animal-feed>, viewed June 2020.
- 181 IDH and IUCN NL (2019) European Soy Monitor, Researched by B. Kuepper and M. Riemersma of Profundo, p. 62, online: <https://www.idhsustainabletrade.com/uploaded/2020/05/IDH-European-Soy-Monitor-v2.pdf>, viewed June 2020.
- 182 Ministerie van Buitenlandse Zaken (2019, November 25), 2019Z16398, Antwoorden van de minister voor Buitenlandse Handel en Ontwikkelingssamenwerking, mede namens de minister van Landbouw, Natuur en Voedselkwaliteit, op vragen van het lid Diks (GroenLinks) over de Nederlandse soja-import uit Zuid-Amerika”, online: <https://www.rijksoverheid.nl/binaries/rijksoverheid/documenten/kamerstukken/2019/11/25/kamerbrief-inzake-beantwoording-vragen-over-de-nederlandse-soja-import-uit-zuid-amerika/kamerbrief-inzake-beantwoording-vragen-over-de-nederlandse-soja-import-uit-zuid-amerika.pdf>, viewed June 2020.
- 183 Tim Boekhout van Solinge did a quick survey with 17 Dutch companies in the following sectors: cattle, cheese, dairy, pork and retail. They were very open to provide information about their soy import. Two key findings: companies don’t know where their soy originates from, but they are very willing to help prevent deforestation.
- 181 Rajão, R. et al (2020, July 17), ‘The rotten apples of Brazil’s agribusiness’, Science, Vol. 369, Issue 6501, pp. 246-248, see p.247, online: <https://science.sciencemag.org/content/369/6501/246/tab-pdf>, p.10, viewed July 2020.
- 185 Soy Moratorium (2018-2019), “Soy Moratorium: monitoring soy crops in the Amazon biome using satellite images”, online: <https://abiove.org.br/wp-content/uploads/2019/01/Soy-Moratorium-Report-2018.pdf>, viewed June 2020.
- 186 See WWF’s Plowprint reports, WWF (2018), “The Plowprint report 2018”, online: https://c402277.ssl.cf1.rackcdn.com/publications/1171/files/original/PlowprintReport_2018_FINAL_082318LowRes.pdf?1535470091, viewed June 2020.
- Update 2019:
WWF (2019), “Plowprint Report 2019 update”, online: https://c402277.ssl.cf1.rackcdn.com/publications/1300/files/original/Plowprint_Report_2019.pdf?1581520920, viewed June 2020.
- 187 EU + refers to the 28 EU member states countries plus Norway and Switzerland.

- 188 Vakblad Voedingsindustrie (2019), "Reaction Nevedi: Facts about soy in animal feed", online: <https://vakbladvoedingsindustrie.nl/en/article/reaction-nevedi-facts-about-soy-in-animal-feed>, viewed June 2020.
- 189 FEAC only excludes illegal deforestation, which is the bare minimum one would expect.
- 190 Furthermore, The Netherlands is a big exporter of its imported soy. Most of this soy is not certified either. See: European Soy Monitor 2020, p. 67.
- 191 European Soy Monitor 2019, p.
- 192 Screenshot (28 May 2020) from <http://www.responsiblesoy.org/?lang=en>
- 193 Hoste, R. and Judge, L. (2018), Impact assessment of the Dutch transition towards certified soy, Wageningen, Netherlands: Wageningen Economic Research, p.19, online: https://www.wur.nl/upload_mm/0/7/8/87f9e94b-4b15-4577-93c1-5c193e4ace9b_2018-003%20Hoste_def2.pdf.
- 194 Trase is a partnership between the Stockholm Environment Institute and Global Canopy, source: Trase (2020), "Illegal deforestation and Brazilian soy exports: the case of Mato grosso", online: http://resources.trase.earth/documents/issuebriefs/TraseIssueBrief4_EN.pdf, viewed June 2020.
- 195 In 2018, Jopke and Schoneveld published an evaluation of zero deforestation commitments (ZDCs) made by multinational companies. The authors found that "most ZDC adopters formulated strong ZDCs", but they also diplomatically noted that "there is significant room for further refining implementation mechanisms". They further mentioned in their summary: "We find that weak commitment to full transparency, notably disclosure of sourcing locations and suppliers, and to independent verification, undermine ZDCs' transformative potential and ability to hold companies accountable for their failure to comply with their ZDCs." See: Jopke, P. and G. Schoneveld (2018) 'Corporate commitments to zero deforestation. An evaluation of externality problems and implementation gaps', Center for International Forestry Research, online: https://www.cifor.org/publications/pdf_files/OccPapers/OP-181.pdf, viewed June 2020.
- 196 Round Table on Responsible Soy (2018), Management report 2018, online: <http://www.responsiblesoy.org/wp-content/uploads/2019/06/IG-2018-ENG-low.pdf>, p.17
- 197 Round Table on Responsible Soy (2018), Management report 2018, online: <http://www.responsiblesoy.org/wp-content/uploads/2019/06/IG-2018-ENG-low.pdf>, p.13
- 198 European Soy Monitor (2019), European Soy Monitor: insights on the European supply chain and the use of responsible and deforestation free soy in 2017, IDH and IUCN, p.41.
- 199 RTRS Management Report (2018), p.16. Total soy production Brazil in 2018: 116 MMT.
- 199 Elgart, L. (2016 March), 'More soy on fewer farms in Paraguay: challenging neoliberal's agriculture's claim to sustainability', *The Journal of Peasants Studies*, Vol. 43, issue 2, pp. 537-561.
- 200 A May 2020 study, published in *Global Environmental Change*, found that soy destined for Europe has a much larger carbon footprint than soy for China, the reason being that soy for Europe often originates from Northern (Amazon) and Central Brazil (Cerrado) and is more associated with deforestation. Soy from China originates relatively more from Southern Brazil and is this less associated with deforestation. Also, this study gives further arguments for questioning the sustainability (claims) of soy from Brazil that is transported to Europe. See: Escobar, N. et al (2020), Spatially-explicit footprints of agricultural commodities: Mapping carbon emissions embodied in Brazil's soy exports, *Global Environmental Change*, 62 May 2020, 102067, online: <https://www.sciencedirect.com/science/article/pii/S0959378019308623?via%3Dihub>. See also <https://therising.co/2020/06/24/soy-brazilian-deforestation-climate-change/>, viewed June 2020.

- 201 Rajão, R. et al (2020, July 17), 'The rotten apples of Brazil's agribusiness', *Science*, Vol. 369, Issue 6501, pp. 246-248, online: <https://science.sciencemag.org/content/369/6501/246/tab-pdf>, viewed July 2020. Although statistics are from 2017-2018, it can safely be assumed that company commitments to zero deforestation by 2020 in the 'Amsterdam Declaration countries' (The Netherlands, Denmark, Germany, UK, France) will not be met. See also: Trase (2019, June) 'Eliminating deforestation from supply chains by 2020: a review of the Amsterdam Declaration countries', online: <http://resources.trase.earth/documents/issuebriefs/TraseIssueBrief1EN.pdf>, viewed July 2020.
- 203 Solidaridad summarised it well: "For buyers, one issue is that with buying RTRS certificates they still cannot claim to have zero deforestation supply chains, as the vast majority of certified RTRS is through credits and certainly not traceable, segregated chains. There are attempts to ensure that credits are closer to the supply of companies, through mass balance, area mass balance or regional credits. But basically the way it works will be the same. And although there is a lot of progress in traceability and transparency, it is not likely that buyers will be able to say their soy supply is deforestation free, unless they are willing to pay a much higher premium to compensate for logistical costs." See: <https://www.solidaridadnetwork.org/news/responsible-soy-10-years-on>, viewed June 2020.
- 204 Hoste, R., L. Judge (2018), Impact assessment of the Dutch transition towards certified soy, Wageningen Economic Research, Report 2018-003, p. 8, online: https://www.wur.nl/upload_mm/0/7/8/87f9e94b-4b15-4577-93c1-5c193e4ace9b_2018-003%20Hoste_def2.pdf, viewed June 2020.
- 205 Note that FEFAC's Soy Sourcing Guidelines only require that "no soy is produced on land that is illegally deforested after a certain cut-off date", which is 2008 in Brazil. With this FEFAC provision, large areas of forests can still be legally deforested for certified soy (but under different certification schemes than RTRS).
- 206 Chivot, E. et al (2015) What the official websites say on soy and palm oil, The Hague: The Hague Centre for Strategic Studies, online: https://hcss.nl/sites/default/files/files/reports/What_the_Official_Websites_Say_on_Soy_and_Palm_Oil.pdf, p. 51, viewed June 2020.
- 206 Moreover, 'in order to increase the number of producers included in the certification scheme', RTRS uses a step-by-step certification. This means that producers enter at a lower entrance level and are expected to gradually comply with all criteria. In the first year of certification, producers only have to comply to 62% of the indicators, in the second and third year to 86% and only after three years to a 100% of indicators. This feature helps indeed to increase the number of producers included in the certification scheme, but it also ensures full compliance at RTRS system level will remain out of reach.
- 208 Ministry of Agriculture, Nature and Food Quality (2018, November 19), Agriculture, nature and food: valuable and connected, online: <https://www.government.nl/ministries/ministry-of-agriculture-nature-and-food-quality/documents/policy-notes/2018/11/19/vision-ministry-of-agriculture-nature-and-food-quality--english>, p.5, viewed June 2020..
- 209 Ministry of Agriculture, Nature and Food Quality (2018, November 19), Agriculture, nature and food: valuable and connected, online: <https://www.government.nl/ministries/ministry-of-agriculture-nature-and-food-quality/documents/policy-notes/2018/11/19/vision-ministry-of-agriculture-nature-and-food-quality--english>, p.13, viewed June 2020.
- 210 De Boer I, and M. van Ittersum (2018), Circularity in agricultural production, Wageningen, Netherlands: Wageningen University and Research, p.29-30, online: https://www.wur.nl/upload_mm/7/5/5/14119893-7258-45e6-b4d0-e514a8b6316a_Circularity-in-agricultural-production-20122018.pdf, viewed June 2020.
- 211 Plume, K. (2018, October 25), "ABCD quartet of grain traders partner to digitize global trades", Reuters, online: <https://www.reuters.com/article/us-global-grains-traders/abcd-quartet-of-grain-traders-partner-to-digitize-global-trades-idUSKCN1MZ2E8>, viewed June 2020.

- 211 Wesz Jr, V.J. (2016 March), 'Strategies and hybrid dynamics of transnational companies in the Southern Cone', *The Journal of Peasant Studies*, Vol. 43, issue 2, pp.286-312.
- 213 Wikipedia, "Cargill", online: <https://en.wikipedia.org/wiki/Cargill>, viewed June 2020.
- Dutch Journalists Mitchell van der Klundert and Frank Mulder mentioned the following trade figures of the ABCD companies over 2017: ADM (60 billion USD), Bunge (38 billion USD), Cargill (106 billion USD), and Dreyfus (50 billion USD). See: Klundert, M. van der, and F. Mulder (2017, January 4), "Onzichtbare voedselreuzen", *De Groene Amsterdammer*, online: <https://www.groene.nl/artikel/onzichtbare-voedselreuzen>, viewed June 2020.
- 214 Trase is a partnership between the Stockholm Environment Institute and Global Canopy, source: Trase (2020), "Illegal deforestation and Brazilian soy exports: the case of Mato grosso", online: http://resources.trase.earth/documents/issuebriefs/TraseIssueBrief4_EN.pdf, viewed June 2020.
- 214 Rajão, R. et al (2020, July 17), 'The rotten apples of Brazil's agribusiness', *Science*, Vol. 369, Issue 6501, pp. 246-248, online: <https://science.sciencemag.org/content/369/6501/246/tab-pdf>, viewed July 2020.
- 216 Somers, M. (2014) Klem in the voedselketen. *NRC Handelsblad*, 21 February 2014.
- 217 van de Klundert, M. and F. Mulder (2017, January 4), "Onzichtbare voedselreuzen", *De Groene Amsterdammer*, online: <https://www.groene.nl/artikel/onzichtbare-voedselreuzen>, viewed June 2020.
- 218 Animal Rebellion, Extinction Rebellion, and Climate Save Movement
- 219 Smit, P. (2020, April 8), "Activisten willen dat Ahold breekt met agroreus Cargill", *Nieuwe oogst*, online: <https://www.nieuweoogst.nl/nieuws/2020/04/08/activisten-willen-dat-ahold-breekt-met-agroreus-cargill>, viewed June 2020.
- 220 Waxman, H. (no date), "Cargill: the worst company in the world", *Mighty Earth*, online: <https://stories.mightyearth.org/cargill-worst-company-in-the-world/>, viewed June 2020.
- Mighty Earth (no date), "The ultimate mystery meat: exposing the secrets behind Burger King and Global Meat Production", online: <https://www.mightyearth.org/mysterymeat/>, viewed June 2020.
- 221 Waxman, H. (no date), "Cargill: the worst company in the world", *Mighty Earth*, online: <https://stories.mightyearth.org/cargill-worst-company-in-the-world/>, viewed June 2020.
- 221 R. Samora (2019), 'Brazil farmers push traders to end Amazon soy moratorium', *Reuters*, online: <https://www.reuters.com/article/us-brazil-soybeans-moratorium/brazil-farmers-push-traders-to-end-amazon-soy-moratorium-idUSKBN1XF2J6>, viewed July 2020.
- 223 USDA Foreign Agriculture Service (2020), "Production, supply & distribution – custom query", online: <https://apps.fas.usda.gov/psdonline/app/index.html#/app/advQuery>, viewed in June 2020.
- 224 Kastens, J.H., Brown, J.C., Camargo Coutinho, A., Bishop, C.R. and J.C.D.M. Esquerdo (2017, April 28), "Soy moratorium impacts on soybean and deforestation dynamics in Mato Grosso, Brazil", *PLoS ONE*, Vol.12(4): e01768168.
- 225 Williams, R. (2018, April 13), "MATOPIBA: Brazil's soy frontier", *Medium*, online: <https://medium.com/trase/matopiba-brazils-soy-frontier-9ad4cc6fe2d9>, viewed in June 2020.
- 226 Lahsen, M., Bustamente, M.M.C. and E.L. Dalla-Nora (2016), November 9), "Undervaluing and overexploiting the Brazilian Cerrado at our peril", *Environment: Science and Policy for Sustainable Development*, Vol.58(6): 4-15.
- 227 ABIEC (2020), *Beef Report 2020*, p. 16.
- 228 Kaye, L. (2016, October 11), "Indirect suppliers, deforestation and Brazil's beef industry", *TriplePundit*, online: <https://www.triplepundit.com/story/2016/indirect-suppliers-deforestation-and-brazils-beef-industry/22211>, viewed in June 2020;
- Campos, A. and C.J. Barros (2020, June 8), "O 'boi pirata' criado em terra indígena e a conexão com os frigoríficos Marfrig, Frigol e Mercúrio", *Repórter Brasil*, online: <https://reporterbrasil.org.br/2020/06/boi-pirata-criado-em-terra-indigena-e-a-conexao-com-frigorificos-marfrig-frigol-mercurio/>, viewed in July

2020.

- 229 Arsenault, C. and K. Mendes (2017, July 4), "Shade slaughterhouses, 'cow laundering' drive spike in Amazon deforestation", Reuters, online: <https://www.reuters.com/article/us-brazil-environment-deforestation-idUSKBN19P1MS>, viewed in June 2020.
- 230 Butler, R. a. (2020, June 12), "14 straight months of rising Amazon deforestation in Brazil", Mongabay, online: <https://news.mongabay.com/2020/06/14-straight-months-of-rising-amazon-deforestation-in-brazil/>, viewed in June 2020.
- 231 O'Kane, C. (2020, July 2), "Amazon rainforest fires sharply increased in June – raising concerns about a repeat of last year's devastation", CBSNews, online: <https://www.cbsnews.com/news/amazon-rainforest-fire-rise-brazil-dry-season/>, viewed n July 2020; Spring, J., M.C. Marcello (2020, August 12), "Brazil's Bolsonaro calls surging Amazon fires a 'lie'", Reuters, online: <https://www.reuters.com/article/us-brazil-environment-fires/brazils-bolsonaro-calls-surging-amazon-fires-a-lie-idUSKCN2572WB>, viewed August 2020
- 232 USDA Foreign Agriculture Service (2020), "Production, supply and distribution – Custom query", online: <https://apps.fas.usda.gov/psdonline/>, viewed in June 2020.
- 233 All About Feed (2019, January 7), "2019: The year of recovery for Brazilian feed", online: <https://www.allaboutfeed.net/Compound-Feed/Articles/2019/1/2019-The-recovering-year-for-Brazilian-feed-378271E/>, viewed in June 2020.
- 234 FAOStat (2020), "Trade – crops and livestock products", online: <http://www.fao.org/faostat/en/#data/TP>, viewed in July 2020.
- 235 ITC Trade Map (2020), "Exports – Yearly time series", online: <https://www.trademap.org/>, viewed in July 2020.
- 236 Mano, A. (2019, December 12), "Brazil's 2020 pork, chicken exports seen growing as China swine fever disruption persists", Reuters, online: <https://www.reuters.com/article/us-brazil-meat/brazils-2020-pork-chicken-exports-seen-growing-as-china-swine-fever-disruption-persists-idUSKBN1YG1P8>, viewed in June 2020.
- 237 Gu, Hallie (2020, March 5), "Chinese soy crushers set to add to ballooning soyoil inventories", Reuters, online: <https://www.reuters.com/article/us-health-coronavirus-china-soyoil/chinese-soy-crushers-set-to-add-to-ballooning-soyoil-inventories-idUSKBN20S0U4>, viewed in July 2020.
- 238 ITC Trade Map (2020), "Exports – Yearly time series", online: <https://www.trademap.org/>, viewed in July 2020.
- 239 Sharma, S. and S. Schlesinger (2017, November), The Rise of Big Meat – Brazil's Extractive Industry, Fase, IATP, Heinrich Böll Stiftung Brasil, pp. 9-10.
- 240 Barros, B. (2017, June 6), "Greenpeace deixa pacto firmado com frigoríficos", Valor, online: <https://valor.globo.com/agronegocios/noticia/2017/06/06/greenpeace-deixa-pacto-firmado-com-frigorificos.ghtml>, viewed in June 2020.
- 241 Trase (2019, October), Mapping the Deforestation Risk of Brazilian Beef Exports, Infobrief 8, p. 8.
- 242 ABIEC (2020), Beef Report 2020, p. 16.
- 243 USDA Foreign Agriculture Service (2019, July 3), Brazil Retail Foods 2019, GAIN Report BR19029, p. 3.
- 244 ABIEC (2020), Beef Report 2020, p. 16.
- 245 Van Gelder, J.W. and L. van Loenen (2020, February), *Fair Finance Guide International Methodology 2020*, Amsterdam, The Netherlands: Profundo, online: <https://fairfinanceguide.org/media/495656/ffg-international-2020-methodology.pdf>
- 246 FAIRR (n.d.), *Cerrado Manifesto Statement of Support - Investor signatories*, online: <https://cerradostatement.fairr.org/signatories/>

- 247 PRI (2019, September 18), *Investor statement on deforestation and forest fires in the Amazon*, online: https://www.unpri.org/Uploads/c/k/h/investorstatementondeforestationandforestfiresintheamazon_502487.pdf
- 248 FAIRR (n.d.), *Cerrado Manifesto Statement of Support - Investor signatories*, online: <https://cerradostatement.fairr.org/signatories/>
- 249 Ceres (2018, September 14), *Investor expectations on deforestation in cattle supply chains*, online: <https://www.ceres.org/sites/default/files/Fact%20Sheets%20or%20misc%20files/Investor%20expectations%20statement%20on%20deforestation%20in%20cattle%20supply%20chains.pdf>
- 250 Ceres (2019, March 7), *Investor expectations on deforestation in soybean supply chains*, online: https://www.ceres.org/sites/default/files/Letters/Investor_Expectations_SoyLetter_0319.pdf
- 251 PRI (2019, September 18), *Investor statement on deforestation and forest fires in the Amazon*, online: https://www.unpri.org/Uploads/c/k/h/investorstatementondeforestationandforestfiresintheamazon_502487.pdf
- 252 Storebrand (2020, June 23), *Open letter from financial institutions to halt deforestation in Brazil*, online: <https://pedlowski.files.wordpress.com/2020/06/letter-to-the-brazilian-embassadors.pdf>
- 253 FAIRR (n.d.), *Cerrado Manifesto Statement of Support - Investor signatories*, online: <https://cerradostatement.fairr.org/signatories/>
- 254 Ceres (2018, September 14), *Investor expectations on deforestation in cattle supply chains*, online: <https://www.ceres.org/sites/default/files/Fact%20Sheets%20or%20misc%20files/Investor%20expectations%20statement%20on%20deforestation%20in%20cattle%20supply%20chains.pdf>
- 255 Ceres (2019, March 7), *Investor expectations on deforestation in soybean supply chains*, online: https://www.ceres.org/sites/default/files/Letters/Investor_Expectations_SoyLetter_0319.pdf
- 256 PRI (2019, September 18), *Investor statement on deforestation and forest fires in the Amazon*, online: https://www.unpri.org/Uploads/c/k/h/investorstatementondeforestationandforestfiresintheamazon_502487.pdf
- 257 In particular the following themes: Animal Welfare; Climate Change; Health; Human rights; Labour Rights; Nature; and Transparency and Accountability. The Fair Finance Guide Methodology 2020 clearly describes the relevant issues, as well as the principles and criteria which can be derived from all relevant international agreements and standards: Van Gelder, J.W. and L. van Loenen (2020, February), *Fair Finance Guide International Methodology 2020*, Amsterdam, The Netherlands: Profundo, online: <https://fairfinanceguide.org/media/495656/ffg-international-2020-methodology.pdf>. Responsible minimum standards on farm animal welfare are available on: www.farms-initiative.com.
- 258 For example: Mondelez, 15 May 2019; Restaurant Brands International, 11 June 2019; Tyson Foods, 7 February 2019; Tyson Foods, 2 June 2020; Yum! Brands, 16 May 2019; and Yum! Brands, 14 May 2020.
- 259 Some initiatives into this direction are the “Statement of Support for the Cerrado Manifesto”, published in October 2017; the statement on “Investor expectations on deforestation in cattle supply chains”, published in September 2018; the statement on “Investor expectations on deforestation in soybean supply chains”, published in March 2019; the “Investor statement on deforestation and forest fires in the Amazon”, published in September 2019; and the “Open letter from financial institutions to halt deforestation in Brazil”, sent in June 2020.
- 260 According to this advice, protein intake in the Netherlands should be 60% plant-based and 40% animal-based in 2030. Rli, *Duurzaam en gezond. Samen naar een houdbaar voedselsysteem* (2018, March), online: https://www.rli.nl/sites/default/files/duurzaam_en_gezond_samen_naar_een_houdbaar_voedselstysteem.pdf, viewed August 2020.

- 261 RDA (2020), Dierenwelzijn in de kringlooplandbouw, online:
<https://www.rda.nl/nieuws/nieuws/2020/5/06/zienswijze-dierenwelzijn-in-de-kringlooplandbouw>,
viewed August 2020.
- 262 In line with the Parliamentary motion 21501-20-1517,
<https://www.tweedekamer.nl/kamerstukken/stemmingsuitslagen/detail?id=2020P08249>, viewed
August 2020.

Appendix 1 Selection of companies

Table 22 provides an overview of the selection of 59 companies involved in the soy and beef sectors active in Brazil and in the international soy supply chains in Europe and China.

Table 22 Selection of 59 companies active in the beef and soy sectors

	Company type	Company	Country	Production / exports / sales / capacity	Indicator (per year, unless indicated otherwise)	Note
1	Soy producer Brazil	Grupo Amaggi	Brazil	275,000	hectare	1
2	Soy producer Brazil	Grupo Bom Futuro	Brazil	270,000	hectare	2
3	Soy producer Brazil	SLC Agricola	Brazil	243,149	hectare	3
4	Soy producer Brazil	Bom Jesus	Brazil	133,500	hectare	4
5	Soy producer Brazil	Terra Santa	Brazil	91,063	hectare	5
6	Soy trader Brazil	ADM	United States	6.46	million metric tons	6
7	Soy trader Brazil	Bunge	United States	6.42	million metric tons	7
8	Soy trader Brazil	Cargill	United States	6.08	million metric tons	8
1	Soy trader Brazil	Grupo Amaggi	Brazil	3.63	million metric tons	9
9	Soy trader Brazil	Louis Dreyfus Company	Netherlands	3.42	million metric tons	10
10	Animal feed producer Brazil	BRF	Brazil	10,506	1,000 metric tons	11
11	Animal feed producer Brazil	JBS	Brazil	3,000	1,000 metric tons	12
12	Animal feed producer Brazil	Aurora Alimentos	Brazil	1,440	1,000 metric tons	13
13	Animal feed producer Brazil	Marfrig Global Foods	Brazil	1,087	1,000 metric tons	14
14	Animal feed producer Brazil	GT Foods Group	Brazil	1,000	1,000 metric tons	15
11	Beef slaughterhouse Brazil	JBS	Brazil	35,000	heads / day	16
13	Beef slaughterhouse Brazil	Marfrig Global Foods	Brazil	13,200	heads / day	17
15	Beef slaughterhouse Brazil	Minerva	Brazil	10,980	heads / day	18
16	Beef slaughterhouse Brazil	Vale Grande/Frialto	Brazil	4,050	heads / day	19
17	Beef slaughterhouse Brazil	Frigol	Brazil	2,600	heads / day	20
18	Beef retailer Brazil	Carrefour Group	France	53,343	R\$ million	21
19	Beef retailer Brazil	Casino	France	53,616	R\$ million	22
20	Beef retailer Brazil	Advent International	United States	n.d.	R\$ million	23
21	Beef retailer Brazil	Cencosud	Chile	8,513	R\$ million	24
22	Beef retailer Brazil	Grupo Muffato	Brazil	6,917	R\$ million	25
11	Poultry slaughterhouse Brazil	JBS	Brazil	3,500	million heads	26
10	Poultry slaughterhouse Brazil	BRF	Brazil	1,628	million heads	27
12	Poultry slaughterhouse Brazil	Aurora Alimentos	Brazil	264	million heads	28
23	Poultry slaughterhouse Brazil	Copacol	Brazil	250	million heads	29
24	Poultry slaughterhouse Brazil	Lar Cooperativa Agroindustrial	Brazil	185	million heads	30
11	Pork slaughterhouse Brazil	JBS	Brazil	28,000	1,000 heads	31

	Company type	Company	Country	Production / exports / sales / capacity	Indicator (per year, unless indicated otherwise)	Note
10	Pork slaughterhouse Brazil	BRF	Brazil	9,600	1,000 heads	32
12	Pork slaughterhouse Brazil	Aurora Alimentos	Brazil	4,900	1,000 heads	33
25	Pork slaughterhouse Brazil	Frimesa	Brazil	n.d.	1,000 heads	34
26	Pork slaughterhouse Brazil	Alibem	Brazil	1,600	1,000 heads	35
27	Animal feed producer China	New Hope Group	China	20,000	1,000 metric tons	36
28	Animal feed producer China	Wen's Food Group	China	12,000	1,000 metric tons	37
29	Animal feed producer China	Muyuan Foodstuff	China	11,000	1,000 metric tons	38
30	Animal feed producer China	East Hope Group	China	7,600	1,000 metric tons	39
31	Animal feed producer China	Shuangbaotai Group (Twins Group)	China	6,600	1,000 metric tons	40
27	Poultry slaughterhouse China	New Hope Group	China	1,300	million heads	41
28	Poultry slaughterhouse China	Wen's Food Group	China	807	million heads	42
32	Poultry slaughterhouse China	Henan Dayong Group	China	380	million heads	43
33	Poultry slaughterhouse China	Fujian Sunner Development	China	380	million heads	44
34	Poultry slaughterhouse China	Dachan Great Wall	Taiwan	240	million heads	45
35	Dairy producer China	Inner Mongolia Yili Industrial	China	11.95	USD billion	46
36	Dairy producer China	China Mengniu Dairy	China	10.43	USD billion	47
37	Dairy producer China	Bright Food Group	China	3.16	USD billion	48
38	Dairy producer China	Want Want Holdings	Taiwan	3.09	USD billion	49
39	Dairy producer China	Sanyuan Group	China	1.2	USD billion	50
40	Animal feed producer Europe	ForFarmers	Netherlands	10,021	1,000 metric tons	51
41	Animal feed producer Europe	Nutreco	Netherlands	9,000	1,000 metric tons	52
42	Animal feed producer Europe	De Heus	Netherlands	8,000	1,000 metric tons	53
43	Animal feed producer Europe	Royal Agrifirm Group	Netherlands	6,066	1,000 metric tons	54
44	Animal feed producer Europe	Agravis Raiffeisen	Germany	4,060	1,000 metric tons	55
45	Pork slaughterhouse Europe	Danish Crown	Denmark	25,000	1,000 heads	56
46	Pork slaughterhouse Europe	Tönnies	Germany	18,000	1,000 heads	57
47	Pork slaughterhouse Europe	Coren	Spain	10,000	1,000 heads	58
48	Pork slaughterhouse Europe	Grupo Batallé	Spain	10,000	1,000 heads	59
49	Pork slaughterhouse Europe	Vion Food Group	Netherlands	10,000	1,000 heads	60
50	Poultry slaughterhouse Europe	Groupe LDC	France	541	million heads	61
51	Poultry slaughterhouse Europe	Plukon Food Group	Netherlands	426	million heads	62
52	Poultry slaughterhouse Europe	Grupo Veronesi	Italy	350	million heads	63
53	Poultry slaughterhouse Europe	PHW Group	Germany	350	million heads	64
54	Poultry slaughterhouse Europe	BoParán Holdings	United Kingdom	323	million heads	65
55	Dairy producer Europe	BSA International	Belgium	19.6	million tons	66
56	Dairy producer Europe	Arla Foods	Sweden/Denmark	13.9	million tons	67

	Company type	Company	Country	Production / exports / sales / capacity	Indicator (per year, unless indicated otherwise)	Note
57	Dairy producer Europe	FrieslandCampina	Netherlands	13.6	million tons	68
58	Dairy producer Europe	Danone	France	8.6	million tons	69
59	Dairy producer Europe	DMK	Germany/ Netherlands	8.1	million tons	70

Notes to Table 22

- 1 Amaggi Commodities e Amaggi Agro (2018), Relatório Annual de Progresso para Os Membros - 2018, Report to the RTRS.
- 2 Revista Globo Rural (2018, February 2), "Grupo Bom Futuro vê mercado favorável para soja e algodão", online: <https://revistagloborural.globo.com/Noticias/Agricultura/Soja/noticia/2018/02/grupo-bom-futuro-ve-mercado-favoravel-para-soja-e-algodao.html>, viewed in March 2020; Bom Futuro (n.d.), "Agrícola", online: <https://www.bomfuturo.com.br/pt-br/areas-de-atuacao/agricola>, viewed in March 2020.
- 3 SLC Agrícola (n.d.), "Soybeans", online: <https://www.slcagricola.com.br/en/produtos/soja/>, viewed in March 2020.
- 4 Bom Jesus (n.d.), "Produtos", online: <http://sementesbomjesus.com.br/produtos/>, viewed in March 2020.
- 5 Terra Santa (2019), Notes to the Financial Statements.
- 6 Trase (n.d.), "Brazil - Soy 2017", online: https://trase.earth/flows?selectedNodesIds%5B%5D=13423&selectedNodesIds%5B%5D=13422&selectedColumnsIds=0_1-1_6-2_7-3_8&selectedResizeBy=31&mapView=-10.06%2C-57.74%2C3&toolLayout=1&sources=13423%2C13422&countries=27&commodities=1&detailedView=true, viewed in March 2020.
- 7 Trase (n.d.), "Brazil - Soy 2017", online: https://trase.earth/flows?selectedNodesIds%5B%5D=13423&selectedNodesIds%5B%5D=13422&selectedColumnsIds=0_1-1_6-2_7-3_8&selectedResizeBy=31&mapView=-10.06%2C-57.74%2C3&toolLayout=1&sources=13423%2C13422&countries=27&commodities=1&detailedView=true, viewed in March 2020.
- 8 Trase (n.d.), "Brazil - Soy 2017", online: https://trase.earth/flows?selectedNodesIds%5B%5D=13423&selectedNodesIds%5B%5D=13422&selectedColumnsIds=0_1-1_6-2_7-3_8&selectedResizeBy=31&mapView=-10.06%2C-57.74%2C3&toolLayout=1&sources=13423%2C13422&countries=27&commodities=1&detailedView=true, viewed in March 2020.
- 9 Trase (n.d.), "Brazil - Soy 2017", online: https://trase.earth/flows?selectedNodesIds%5B%5D=13423&selectedNodesIds%5B%5D=13422&selectedColumnsIds=0_1-1_6-2_7-3_8&selectedResizeBy=31&mapView=-10.06%2C-57.74%2C3&toolLayout=1&sources=13423%2C13422&countries=27&commodities=1&detailedView=true, viewed in March 2020.
- 10 Trase (n.d.), "Brazil - Soy 2017", online: https://trase.earth/flows?selectedNodesIds%5B%5D=13423&selectedNodesIds%5B%5D=13422&selectedColumnsIds=0_1-1_6-2_7-3_8&selectedResizeBy=31&mapView=-10.06%2C-57.74%2C3&toolLayout=1&sources=13423%2C13422&countries=27&commodities=1&detailedView=true, viewed in March 2020.

- 11 WATTAgNet, 2019; Feed Strategy, 2019; company publications.
- 12 WATTAgNet, 2019; Feed Strategy, 2019; company publications.
- 13 WATTAgNet, 2019; Feed Strategy, 2019; company publications.
- 14 WATTAgNet, 2019; Feed Strategy, 2019; company publications.
- 15 WATTAgNet, 2019; Feed Strategy, 2019; company publications.
- 16 JBS (2019), Institutional Presentation 3Q19.
- 17 Marfrig Global Foods (2019), Demonstracao Financeira.
- 18 Minerva Foods (n.d.), "History and corporate profile", online:
http://ir.minervafoods.com/minerva2012/web/conteudo_en.asp?idioma=1&conta=44&tipo=40422,
viewed in March 2020.
- 19 Frialto (n.d.), "Frialto", online: <http://www.frialto.com.br/aempresa>, viewed in March 2020.
- 20 Laud, E. (2018, January 13), "Faturamento da Frigol pode superar R\$ 3 bilhões em 2019", O Eco, online:
<http://www.jornaloeco.com.br/materia/3178/faturamento-da-frigol-pode-superar-rs-3-bilhoes-em-2019>,
viewed in March 2020.
- 21 Abras (2019, May), "Ranking 2019", SuperHiper, p. 36.
- 22 Abras (2019, May), "Ranking 2019", SuperHiper, p. 36.
- 23 Abras (2019, May), "Ranking 2019", SuperHiper, p. 36.
- 24 Abras (2019, May), "Ranking 2019", SuperHiper, p. 36.
- 25 Abras (2019, May), "Ranking 2019", SuperHiper, p. 36.
- 26 Poultry International (2019, October) "South America broiler producers", p. 40.
- 27 Poultry International (2019, October) "South America broiler producers", p. 40.
- 28 Poultry International (2019, October) "South America broiler producers", p. 40.
- 29 Poultry International (2019, October) "South America broiler producers", p. 40.
- 30 Poultry International (2019, October) "South America broiler producers", p. 40.
- 31 WattAgNet (n.d.), "The world's leading pig producers and processors", online:
https://www.wattagnet.com/directories/79-the-world-s-leading-pig-producers-and-processors/top_companies_table, viewed in March 2020; Coser, F. (2018), "Comercializacao de Carne - Estratégia Brasileiro de aumento do consumo interno de carne suína", Porkaméricas, p. 4.
- 32 WattAgNet (n.d.), "The world's leading pig producers and processors", online:
https://www.wattagnet.com/directories/79-the-world-s-leading-pig-producers-and-processors/top_companies_table, viewed in March 2020; Coser, F. (2018), "Comercializacao de Carne - Estratégia Brasileiro de aumento do consumo interno de carne suína", Porkaméricas, p. 4.
- 33 WattAgNet (n.d.), "The world's leading pig producers and processors", online:
https://www.wattagnet.com/directories/79-the-world-s-leading-pig-producers-and-processors/top_companies_table, viewed in March 2020; Coser, F. (2018), "Comercializacao de Carne - Estratégia Brasileiro de aumento do consumo interno de carne suína", Porkaméricas, p. 4.
- 34 WattAgNet (n.d.), "The world's leading pig producers and processors", online:
https://www.wattagnet.com/directories/79-the-world-s-leading-pig-producers-and-processors/top_companies_table, viewed in March 2020; Coser, F. (2018), "Comercializacao de Carne - Estratégia Brasileiro de aumento do consumo interno de carne suína", Porkaméricas, p. 4.

- 35 WattAgNet (n.d.), "The world's leading pig producers and processors", online: https://www.wattagnet.com/directories/79-the-world-s-leading-pig-producers-and-processors/top_companies_table, viewed in March 2020; Coser, F. (2018), "Comercializacao de Carne - Estratégia Brasileiro de aumento do consumo interno de carne suína", Porkaméricas, p. 4.
- 36 WattAgNet (n.d.), "The world's leading feed producers", online: <https://www.wattagnet.com/directories/81-the-world-s-leading-feed-producers/W>, viewed in March 2020.
- 37 WattAgNet (n.d.), "The world's leading feed producers", online: <https://www.wattagnet.com/directories/81-the-world-s-leading-feed-producers/W>, viewed in March 2020.
- 38 WattAgNet (n.d.), "The world's leading feed producers", online: <https://www.wattagnet.com/directories/81-the-world-s-leading-feed-producers/W>, viewed in March 2020.
- 39 WattAgNet (n.d.), "The world's leading feed producers", online: <https://www.wattagnet.com/directories/81-the-world-s-leading-feed-producers/W>, viewed in March 2020.
- 40 WattAgNet (n.d.), "The world's leading feed producers", online: <https://www.wattagnet.com/directories/81-the-world-s-leading-feed-producers/W>, viewed in March 2020.
- 41 Poultry International (2019, October), "Top world broiler, egg rankings for 2019", pp. 6-7.
- 42 Poultry International (2019, October), "Top world broiler, egg rankings for 2019", pp. 6-7.
- 43 Poultry International (2019, October), "Top world broiler, egg rankings for 2019", pp. 6-7.
- 44 Poultry International (2019, October), "Top world broiler, egg rankings for 2019", pp. 6-7.
- 45 Poultry International (2019, October), "Top world broiler, egg rankings for 2019", pp. 6-7.
- 46 Rabobank (2019, August), Global Dairy Top 20; BMI (2019, July 23), "Competitive landscape - Agribusiness report China - Q4 2019"; CMB International (2019, November), China Dairy Sector.
- 47 Rabobank (2019, August), Global Dairy Top 20; BMI (2019, July 23), "Competitive landscape - Agribusiness report China - Q4 2019"; CMB International (2019, November), China Dairy Sector.
- 48 BMI (2019, July 23), "Competitive landscape - Agribusiness report China - Q4 2019"; CMB International (2019, November), China Dairy Sector.
- 49 BMI (2019, July 23), "Competitive landscape - Agribusiness report China - Q4 2019"; CMB International (2019, November), China Dairy Sector.
- 50 BMI (2019, July 23), "Competitive landscape - Agribusiness report China - Q4 2019"; CMB International (2019, November), China Dairy Sector.
- 51 WattAgNet (n.d.), "The world's leading feed producers", online: <https://www.wattagnet.com/directories/81-the-world-s-leading-feed-producers/W>, viewed in March 2020.
- 52 WattAgNet (n.d.), "The world's leading feed producers", online: <https://www.wattagnet.com/directories/81-the-world-s-leading-feed-producers/W>, viewed in March 2020.
- 53 WattAgNet (n.d.), "The world's leading feed producers", online: <https://www.wattagnet.com/directories/81-the-world-s-leading-feed-producers/W>, viewed in March 2020.

- 54 WattAgNet (n.d.), "The world's leading feed producers", online: <https://www.wattagnet.com/directories/81-the-world-s-leading-feed-producers/W>, viewed in March 2020.
- 55 WattAgNet (n.d.), "The world's leading feed producers", online: <https://www.wattagnet.com/directories/81-the-world-s-leading-feed-producers/W>, viewed in March 2020.
- 56 Pig International (2017), "World's top 40 pork processors", p. 36.
- 57 Pig International (2017), "World's top 40 pork processors", p. 36.
- 58 Pig International (2017), "World's top 40 pork processors", p. 36.
- 59 Pig International (2017), "World's top 40 pork processors", p. 36.
- 60 Pig International (2017), "World's top 40 pork processors", p. 36.
- 61 Poultry International (2019, October), "Top world broiler, egg rankings for 2019", pp. 6-7.
- 62 Poultry International (2019, October), "Top world broiler, egg rankings for 2019", pp. 6-7.
- 63 Poultry International (2019, October), "Top world broiler, egg rankings for 2019", pp. 6-7.
- 64 Poultry International (2019, October), "Top world broiler, egg rankings for 2019", pp. 6-7.
- 65 Poultry International (2019, October), "Top world broiler, egg rankings for 2019", pp. 6-7.
- 66 IFCN (2019, September), Top 20 Milk Processors List 2018.
- 67 IFCN (2019, September), Top 20 Milk Processors List 2018.
- 68 IFCN (2019, September), Top 20 Milk Processors List 2018.
- 69 IFCN (2019, September), Top 20 Milk Processors List 2018.
- 70 IFCN (2019, September), Top 20 Milk Processors List 2018.

Appendix 2 Policy assessment framework

The policy assessment framework is derived mostly from the Fair Finance Guide Methodology 2020. The policy criteria included in the FFG Methodology which are relevant for this case study are grouped in four pillars, adding a few additional criteria relevant for the land rights' situation in Brazil. All publicly available policy documents of the financial institutions were researched to assess which of these criteria are included in their policies. Based on the number of criteria included in their policies, scores on a scale of 1 to 10 were assigned to the financial institutions for each of the four pillars. The overall *Policy score* for each financial institution is the average of the scores it has received for the four pillars.

Grouped per pillar, the following criteria were used in the assessment framework:

Forests and Biodiversity Protection

1. The financial institution states its commitment to promote sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation.
2. The financial institution states its commitment and set a target to support the effort to keep the global temperature rise well below 2°C, and preferably below 1.5 °C, in 2100
3. Company are not allowed to produce or buy production from farm in Amazon that is established after 2006
4. Company are not allowed to produce soy and beef on land that has been deforested and are not allowed to deforest land for expansion)
5. Prohibition of no deforestation explicitly states no reliance on the local legislation
6. Companies prevent negative impacts on High Conservation Value (HCV) areas within their business operations and the forests they manage.
7. Companies prevent negative impacts on High Carbon Stock (HCS) areas within their business operations and the forests they manage.
8. Companies prevent negative impacts on protected areas that fall under the categories I-IV of the International Union for Conservation of Nature (IUCN) within their business operations and the areas they manage.
9. Conversion of peatland and high-carbon stocks for agricultural development is unacceptable.
10. Companies prevent negative impacts on UNESCO World Heritage sites within their business operations and the areas they manage.
11. Companies prevent negative impacts on protected areas that fall under the Ramsar Convention on Wetlands within their business operations and the areas they manage.
12. Companies prevent negative impacts for the populations or the number of animal species that are on the IUCN Red List of Threatened Species.
13. Trade in endangered plant and animal species complies with the CITES conditions.
14. Trade in endangered plant and animal species that are on the CITES lists is unacceptable.
15. Activities in the field of genetic materials and genetic engineering only take place if they meet the permission and processing requirements as described in the UN Convention on Biological Diversity and the related Bonn Guidelines or Nagoya Protocol.
16. Production of, or trade in, living genetically modified organisms can only take place if permission has been obtained from the importing country and all requirements of the Cartagena Protocol have been met.
17. The production of soy is certified according to credible certification schemes, which are: BFA, CRS, Donau Soja, Europe Soy, ISCC Plus, ProTerra, RTRS and SFAP Non Conversion.³³³
18. Companies respect international agreements on the production and the use of hazardous or toxic substances as described in the Stockholm Convention (on POPs), the Basel convention, the Rotterdam convention and the Montreal Protocol.
19. Companies prevent the introduction of invasive alien species in ecosystems.

20. Companies conduct water scarcity impact assessments in water scarce regions.
21. Companies have comprehensive mitigation measures in place to address community and ecosystem water requirements in areas where environmental impact assessments identify that significant impacts to water resources are likely.
22. Companies make an environmental impact assessment on the total consequences of a large scale project on biodiversity, at least according to GRI 304: Biodiversity 2016 or other relevant standards (mentioned in section 2.8.2).
23. Companies integrate criteria on nature into their procurement and operational policies.
24. Companies in industries with a large impact on forests report their forest related information to the Forest Disclosure Project (FDP) Project.
25. Companies include clauses on the compliance with criteria on nature in their contracts with subcontractors and suppliers.
26. Companies integrate environmental, social and governance criteria in their procurement and operational policies.

Human Rights

27. Companies respect all human rights as described in the United Nations Guiding Principles on Business and Human Rights.
28. Companies have a policy commitment to meet their responsibility to respect human rights.
29. Companies have a human rights due diligence process to identify, prevent, mitigate and account for how they address their impact on human rights.
30. Companies have processes to enable the remediation of any adverse human rights impact which they cause or to which they contribute.
31. Companies establish or participate in effective operational-level grievance mechanisms for individuals and communities who may be adversely impacted.
32. Companies prevent conflicts over land rights and acquire natural resources only by engaging in meaningful consultation with local communities and obtaining free, prior and informed consent (FPIC) when it concerns indigenous peoples.
33. Companies prevent conflict over land rights and acquire natural resources only with free, prior and informed consent (FPIC) of peoples with customary tenure rights.
34. Companies have special attention for respecting the rights of children.
35. Companies integrate human rights criteria into their procurement and operational policies.
36. Companies include clauses on compliance with human rights criteria in their contracts with subcontractors and suppliers.
37. The financial institution integrates at least the labour standards of the ILO Declaration on Fundamental Principles and Rights at Work in its procurement policies.
38. Companies uphold the freedom of association and the effective recognition of the right to collective bargaining.
39. All forms of forced and compulsory labour are unacceptable.
40. Child labour is unacceptable.
41. Discrimination in respect of employment and occupation is unacceptable.
42. Companies are committed to fair recruitment practices.
43. Companies pay a living wage to their employees.
44. Companies apply a maximum of working hours.
45. Companies have a comprehensive health and safety policy.
46. Companies ensure equal treatment and working conditions for migrant workers.
47. Companies have a clear management system to monitor and, if needed, correct compliance with norms on labour law.
48. Companies establish procedures on how to deal and process employee complaints and to solve violations and conflicts, preferably in consultation with the relevant trade union.
49. Companies integrate labour rights in their procurement policies.

50. Companies include clauses on the compliance with criteria on labour rights in their contracts with subcontractors and suppliers.
51. Companies respect that legislation with regard to land use and land tenure in the areas where they operate. This also applies to their subcontractors and suppliers.
52. Companies have a proof of the legality of their land use issued by the authorities or legal authorities. This also applies to their subcontractors and suppliers.

Animal Welfare

53. Companies respect the Five Freedoms of animals.
54. Extremely restricted housing methods including calves in crates, hens in battery cages and sows in feeding cubicles are unacceptable.
55. Companies shift from intensive livestock farming to animal friendly production.
56. Livestock farming companies are certified according to the criteria of certification schemes that include animal welfare requirements
57. Companies reduce the time limit of animal transport to a maximum of 8 hours.
58. Companies apply a prudent use of antimicrobial medicines (antibiotics) in food-producing animals in order to minimize antimicrobial resistance.
59. Companies integrate animal welfare criteria into their procurement and operational policies.
60. Companies include clauses on the compliance with criteria on animal welfare in their contracts with subcontractors and suppliers.

Transparency & Accountability

61. The financial institution describes its finance and investment framework regarding environmental and social issues and provides insight into how the financial institution ensures that investments meet the conditions set in its policies.
62. The financial institution's finance and investment performance regarding environmental and social issues is audited vis-à-vis its relevant policies by a third party and the results are published.
63. The financial institution publishes the names of governments in which it invests.
64. The financial institution publishes the names of companies in which it invests.
65. The financial institution mentions and describes (on its website) to which it grants new credit.
66. The financial institution mentions and describes all companies (on its website) to which it has granted credit.
67. The financial institution discloses the names of all outstanding project finance transactions and project-related corporate loans, including the information required by the Equator Principles III.
68. The financial institution publishes a breakdown of its portfolio by region, size and industry (in line with GRIs FSSD FS6).
69. The financial institution publishes a sufficiently detailed breakdown of its portfolio, for example based on the first two digits of NACE and ISIC.
70. The financial institution publishes the number of companies with which there has been interaction on social and environment topics (in line with GRIs G4 FSSD FS10).
71. The financial institution publishes the names of companies with which there has been interaction on social and environmental topics.
72. The financial institution publishes the results of engagement, including the topics, goals and deadlines.
73. The financial institution publishes the names of companies that are excluded from investment due to sustainability issues, including the reasons for this exclusion.
74. The financial institution publishes its voting record.
75. The financial institution publishes a sustainability report that may contain (a number of) disclosures from the GRI Standards.

76. The financial institution publishes a sustainability report that is set up in accordance with the (Core or Comprehensive option of) GRI Standards.
77. The financial institution's sustainability report has been verified externally.
78. The financial institution reports on the consultation with civil society organisations and other stakeholders.
79. The financial institution has complaint mechanisms for clients and non-clients.
80. The financial institution establishes or participates in effective operational-level grievance mechanisms for individuals and communities which may be adversely impacted by activities that it is connected to.
81. The financial institution reports on the grievance mechanism process, including its progress and performance.
82. The financial institution commits to respecting and cooperating in good faith with State-based non-judicial and judicial grievance mechanisms when cases that it is connected with are brought to such a mechanism.

Appendix 3 Engagement survey

The questions in this survey are grouped by activity: screening, voting, engagement, etc. These groups are numbered. Some activities are only relevant for investors (insurance companies, pension funds as well as asset managers belonging to banking groups), others are only relevant for banking groups and others are relevant for all financial institutions. For each group we have indicated which financial institutions active on the Dutch market are requested to answer the questions in this group. This applies to all questions in the group.

For your convenience we summarise which questions are expected to be answered by which type of financial institutions:

- Banking groups: questions 1, 2, 3, 4, 5, 6, 7, 8, 11, 12, 13, 15 and 16.
- Asset managers belonging to banking groups: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15 and 16.
- insurance companies: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 14, 15 and 16.
- Pension funds: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 14, 15 and 16.

You can write your answers to the questions (which are relevant for you) in this document, below each question. We appreciate short and concise answers, but feel free to add as many relevant details as you deem necessary. When the question refers to a type of company you have no financial relationship with, you can fill in "Non applicable for us."

Where we ask for evidence, we appreciate it if you can be as concrete as possible on the names of companies, specific topics, etc. Where possible, send us concrete documents which substantiate your assertions.

In principle, your answers can be quoted in our report. But if you indicate that certain pieces of information, such as the names of companies, are only mentioned by you to enhance the credibility and concreteness of your answers and should be kept confidential, then we will respect this and we will not include those in our report. Also, when requested we will treat documents that you send us as confidential. We will then not publish the contents of these documents and we will not share them with the Fair Finance Guide Netherlands nor with anyone else.

If needed, we are prepared to sign a confidentiality agreement to formalize this code of conduct. Please let us know if you would like this or if you would like to discuss other issues.

When you have filled in the survey, please send it back to us together with the supporting documents. The email address is: janwillem@profundo.nl and the deadline is 25 May 2020. Thank you in advance.

The survey questions start below.

Screening

To be answered by all types of financial institutions. For banking groups which own an asset manager, please clarify if your answers refer to your lending business, to your asset management activities, or to both.

1. Before you are providing a loan or making an investment, are you systematically screening Brazilian soy and cattle farmers on their direct involvement in:
 - Deforestation;
 - Human rights issues;
 - Animal welfare issues

Could you provide evidence of these screening activities?

2. Before you are providing a loan or making an investment, are you systematically screening companies on their indirect involvement (through their supply chains) in:

- Deforestation;
- Human rights issues;
- Animal welfare issues.

Are you systematically screening the following types of companies for the issues mentioned:

- Supermarket chains selling beef in Brazil;
- Soy traders exporting from the Amazon and Cerrado regions;
- Animal feed producers in Brazil, China and Europe;
- Livestock slaughterhouses and meat packers in Brazil, China and Europe;
- Dairy companies in China and Europe.

Could you provide evidence of these screening activities?

3. Which information sources are you using for the screening activities discussed in the first two questions above?
4. Have your screening activities (as discussed in the first two questions above) ever led to the conclusion not to invest in, or provide a loan to, a company? Could you provide evidence of such a decision?

Engagement

To be answered by all types of financial institutions. For banking groups which own an asset manager, please clarify if your answers refer to your lending business, to your asset management activities, or to both.

5. How are you monitoring if your investee companies in the beef and soy sectors (including the companies in the international supply chains sourcing from the Amazon and Cerrado regions) are not getting directly or indirectly involved in:
 - Deforestation;
 - Human rights issues;
 - Animal welfare issues

Could you provide evidence of your monitoring activities?

6. Have you had discussions with companies in the beef and soy sectors (including the companies in the international supply chains sourcing from the Amazon and Cerrado regions) on their direct or indirect involvement in:
 - Deforestation;
 - Human rights issues;
 - Animal welfare issues

These discussions could be initiated on your initiative, in collaboration with a CSO and/or through a platform such as PRI. Could you provide evidence of these discussions?

7. Have the discussions as described in your answer to question 6 resulted in a concrete agreement with a company? Could you provide evidence of such an agreement?
8. Which steps do you take when the agreements mentioned in your answer to question 6 are not respected by the companies?

Voting

To be answered by pension funds, insurance companies and banking groups which own an asset manager.

9. Are you supporting shareholder resolutions asking companies in the beef and soy sectors (including the companies in the international supply chains sourcing from the Amazon and Cerrado regions) to introduce ambitious policies regarding their direct or indirect involvement in:

- Deforestation;
- Human rights issues;
- Animal welfare issues

Could you provide evidence of your voting behaviour regarding such shareholder resolutions?

10. Are you taking initiatives to submit shareholder resolutions asking companies in the beef and soy sectors (including the companies in the international supply chains sourcing from the Amazon and Cerrado regions) to introduce ambitious policies regarding their direct or indirect involvement in:

- Deforestation;
- Human rights issues;
- Animal welfare issues

Could you provide evidence of your initiatives to submit such shareholder resolutions?

Clauses in contracts

To be answered by banking groups only.

11. Have you included clauses in loan or underwriting contracts with companies in the beef and soy sectors (including the companies in the international supply chains sourcing from the Amazon and Cerrado regions) with concrete agreements regarding their direct or indirect involvement in:

- Deforestation;
- Human rights issues;
- Animal welfare issues

Could you provide evidence of such clauses?

12. How are you monitoring the results of the clauses mentioned in your answer to question 11?

13. When a company is defaulting on a clause as mentioned in your answer to question 11, will you ask for repayment of the loan? Could you provide evidence on the steps you take to enforce loan repayment?

Divestment

To be answered by pension funds, insurance companies and banking groups which own an asset manager.

14. Are you divesting from investee companies in the beef and soy sectors (including the companies in the international supply chains sourcing from the Amazon and Cerrado regions) when they are getting directly or indirectly involved in:

- Deforestation;
- Human rights issues;
- Animal welfare issues

Could you provide evidence of such divestments?

Lobbying

To be answered by all types of financial institutions.

15. Are you supporting initiatives to call upon governments to ensure that companies in the beef and soy sectors (including the companies in the international supply chains sourcing from the Amazon and Cerrado regions) are not getting directly or indirectly involved in:

- Deforestation;
- Human rights issues;
- Animal welfare issues

Could you provide evidence of such initiatives?

16. Are you organizing initiatives to call upon governments to ensure that companies in the beef and soy sectors (including the companies in the international supply chains sourcing from the Amazon and Cerrado regions) are not getting directly or indirectly involved in:

- Deforestation;
- Human rights issues;
- Animal welfare issues

Could you provide evidence of your role in organizing such initiatives?

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