

# SOCFINDO TASK FORCE FOR CLIMATE & FINANCIAL DISCLOSURE (TCFD) ASSESSMENT REPORT





Waste Water Quality Monitoring

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# INTRODUCTION

PT Socfin Indonesia (Socfindo) undertook in 2024 a full assessment of climate opportunities and risks in accordance with the Taskforce for Climate Disclosure (TCFD) guidelines<sup>1</sup> (TCFD Assessment). In addition to this TCFD Assessment, we have also undertaken a full Greenhouse Gas (GHG) Assessment including scopes 1, 2 and 3 of our operations in Indonesia. Together, these assessments will provide a reference and pillars which will inform our climate strategy. They are also in accordance with, and in satisfaction of the principle of double materiality as set out in the European Sustainability Reporting Standards (ESRS)<sup>2</sup>.

This report sets out the results of Socfindo's TCFD Assessment Report. This Report can be read together with Socfindo's GHG Assessment Report. This TCFD Assessment covers Socfindo's entire operations including both its Palm and Rubber operations. In accordance with the TCFD guidelines,<sup>3</sup> this report comprises four separate components which are:

- 1. Governance
- 2. Strategy;
- 3. Risk Management; and
- 4. Metrics.

In addition to the TCFD guidelines, in undertaking this TCFD Assessment, Socfindo has also had regard to the ESRS, in particular ESRS E1 Climate.<sup>4</sup> Our Report is set out in detail on the following pages.

<sup>1.</sup> https://assets.bbhub.io/company/sites/60/2021/07/2021-TCFD-Implementing\_Guidance.pdf.

<sup>2.</sup> Full set of draft standards available here https://www.efrag.org/lab6 .

<sup>3.</sup> https://assets.bbhub.io/company/sites/60/2021/07/2021-TCFD-Implementing\_Guidance.pdf. 1. https://assets.bbhub.io/company/sites/60/2021/07/2021-TCFD-Implementing\_Guidance.pdf.

 $<sup>4.</sup> See \ https://www.efrag.org/Assets/Download?assetUrl=\%2Fsites\%2Fwebpublishing\%2FSiteAssets\%2F08\%2520Draft\%2520ESRS\%2520E1\%2520Climate\%2520Change\%2520November\%2520222.pdf$ 

# ABOUT SOCFINDO

The Reporting entity, Socfindo is a world class oil palm and rubber plantation company with its operations in North Sumatra and Aceh Provinces and its headquarters in Medan, North Sumatra, Indonesia. Socfindo is a dedicated upstream rubber and palm plantation company that produces intermediate processed products, which are then sold to downstream processers who will use the products as raw materials and further refine and process to make a variety of products. The organizational boundary for this TCFD Assessment is Socfindo and covers all assets and operations owned and operated by them including both their Palm and Rubber operations.

## Palm

Socfindo has a total of 39,279 ha total planted ha in palm and is an upstream plantation company with its major products from its oil palm business being Crude Palm Oil (CPO) and Palm Kernel (PK). These products are sold to downstream companies which will further process and refine these ingredients into end products. Socfindo only processes its own Fresh Fruit Bunches (FFB) from its palm estates and is not involved in the downstream value chain. In addition to these core products, Socfindo also produces and sells oil palm seeds and provides agronomical consultancy services as well as analytical and laboratory services from its own laboratories to other plantation companies<sup>5</sup>.

## Rubber

Socfindo also operates its own rubber plantations having a total of 6,602 ha total planted ha in rubber. Socfindo produces dry crumb rubber from latex and rubber cups coming from its own rubber estates, producing natural rubber certified by the Indonesian National Standard for rubber (SNI) (SIR3CV 50, SIR3CV60, coming from latex and SIR 10). All Socfindo's natural rubber is sold as "dry rubber" to downstream companies who use natural rubber in their manufacturing process especially for tire making, glove making and adhesive tape making. producing natural rubber certified by SNI (SIR3CV 50, SIR3CV60, coming from latex and SIR 10). All Socfindo's natural rubber is sold as "dry rubber" to downstream companies especially for tire making, glove making and adhesive tape making.

<sup>5.</sup> For more information on Socfindo's palm business, please see its 2022 Sustainability Report, pages 6-9.

# GOVERNANCE

In accordance with the TCFD guidelines, Socfindo has internal governance procedures for addressing climate-change risks and opportunities. Our disclosures in this report describe both the board's oversight of, and management's role in assessing and managing climate-related risks and opportunities.

## Board Oversight of Climate-Related Risks and Opportunities

The Board has delegated executive responsibility for Socfindo's climate action to the Principal Director. In his role, the Principal Director takes the lead in setting policy on sustainability and managing Socfindo's climate strategy informed and supervised by the Board. This includes overall responsibility and oversight of Socfindo's climate-related risks and opportunities. Socfindo has a dedicated sustainability department, which along with the heads of departments support the Principal Director in identifying, assessing and addressing climate risks and opportunities that impact Socfindo's operations.

The Board maintains overall responsibility for climate-related risks and opportunities. Quarterly progress reports are provided to the Board to keep them abreast of progress and material issues. These may include climate related issues as necessary. In addition, there are biannual Board meetings in which any climate- related issues may be considered during strategic decision-making by the Board where appropriate. Annual Budgets are also approved by the Board and any climate-related decisions involving material capex will ultimately be signed off by the Board. Finally, there are informal communications between the Principal Director and the Board and any acute issues may be resolved through these pathways as necessary.

## Socfindo's Processes for Assessing and Managing Climate-Related Risks

The Sustainability Department assists the Principal Director and General Manager in identifying, assessing and addressing climate-related risks and opportunities impacting Socfindo's operations. Plantation Managers and Group Men within the plantations are primary responsible for identifying physical climate risks in conjunction with the Sustainability Department. Analysis and modelling of climate-related financial impacts are undertaken in the Head Office with support from technical departments as and when required. Within Socfindo there is a very close relationship between the plantations, Head Office and sustainability, which allows information to flow from the plantation to Head Office and vice versa. This is set out in detail in Socfindo's Sustainability Report. <sup>6</sup> The close connection and trust between those in Head Office and in the field is a key to Socfindo's continued success and is also crucial in the identification and assessment of climate-related risk within Socfindo.

<sup>6.</sup> For more information on Socfindo's palm business, please see its 2022 Sustainability Report, pages 6-9.



Dewatering Containers

While operational information usually related to physical climate-related risks is conveyed from plantations to Head Office and is compiled by the Sustainability Department, different departments within Socfindo may be responsible for identifying and assessing and different climate risks. For example, some specialized risks are identified and assessed by technical departments in Head Office. In addition, transitional risks such as legal and policy, evolving regulation and market are evaluated from Head Office by the relevant department heads.

Regardless of which department identifies and assesses a particular risk, all risks are compiled by the Sustainability Department which has overall responsibility for compiling and managing the climate-risk dashboard, which aggregates climate-related information including risk. The Sustainability Department will undertake a quarterly climate risk report and this is uploaded into the Climate Risk dashboard.

Any material climate-related risks or issues would be discussed in monthly management meetings between the heads of departments, sustainability team and the Principal Director as and when they arise. Socfindo's monthly management meetings are the key formal management forum for discussing, assessing and where decisions in relation to material climate risks and issues are made. The monthly management team led by the Principal Director will review information and assessments provided in the monthly management report in relation to any material climate-related risks as and when they arise, and may make decisions, or task further assessment and reporting back. In addition to the formal monthly meeting channel, any acute risks can be raised by direct channel from sustainability to General Manager, a head of department, plantation or the Principal Director depending on the issue and where is arises.

# STRATEGY

In accordance with the TCFD guidelines, Socfindo has internal governance procedures for addressing climate-change risks and opportunities. Our disclosures in this report describe both the board's oversight of, and management's role in assessing and managing climate-related risks and opportunities.

## **Climate Resilient Business**

As set out in its Sustainability Report<sup>7</sup>, Socfindo is first and foremost a plantation company and it focuses on making agronomic decisions and investment to allow its plantation to thrive for the long term. As one of the oldest palm and rubber plantation companies in Indonesia, proactively managing risk and making decisions for the long-term benefit of the organization has always been a core part of Socfindo's success. It remains a foundation of its sustainability strategy today. This is evidenced in its formal adoption of the precautionary principle as a general risk management principle.<sup>8</sup> Climate adaptation, resilience and managing and reducing its GHG emissions are already key parts of Socfindo's sustainability program.<sup>9</sup> This first TCFD Assessment represents Socfindo's continuing proactive evolution of its climate strategy to ensure its future climate resilience, adaptation and continued long-term success.

## **Climate Scenario Analysis**

In accordance with the recommendations of the TCFD,<sup>10</sup> this section sets out a disclosure of Socfindo's forward-looking assessments of climate-related risks and opportunities. Socfindo has conducted climate- related scenario analysis across its Palm and Rubber operations to support its assessment of climate- related risks and opportunities. This analysis has been undertaken qualitatively in December 2023 using the parameters set out below.

company/sites/60/2021/10/FINAL-2017-TCFD-Report.pdf .

<sup>7.</sup> See Socfindo Sustainability Report 2022 at pages 12-13.

<sup>8.</sup> See Socfindo Sustainability Report 2022 at pages 15.

<sup>9.</sup> See Socfindo Sustainability Report 2022 at pages 72.

<sup>10.</sup> Recommendations of the Task Force on Climate-related Financial Disclosures, June 2017, in line with section D, Pg 25, available https://assets.bbhub.io/

### **Scenarios**

Climate scenarios are future projections of climate, under differing warming pathways. In addition to the TCFD, Socfindo has also had regard to the ESRS Disclosure Requirements,<sup>11</sup> which require, for the identification of climate-related transition events, considering at least a climate scenario in line with limiting global warming to 1.5°C with no or limited overshoot; and for climate related physical risks, the identification of climate-related hazards, considering at least high emission climate scenarios.

Socfindo has used specific Shared Socioeconomic Pathways (SSP) pathway scenarios developed by the Intergovernmental Panel on Climate Change (IPCC) in their AR6 Report<sup>12</sup>, as set out in the table below<sup>13</sup>. Socfindo has also had reference to the International Energy Agency's World Energy Models ("WEM").<sup>14</sup>

#### TABLE SHOWING CLIMATE SCENARIOS USED BY SOCFINDO

Scenario	Details	Impacts
Low		
1.5°C with no or limited	Sustainability – Taking the Green Road (low challenges to mitigation and adaptation).	Transition risks may be higher in this scenario, however coordinated
overshoot (SSP1-1.9) (C1)	Global warming is limited to below 1.5C, the aspirational goal of the Paris Agreement.	response would allow for consistent regulatory environment.
	Governments cooperate and implement initiatives and businesses work to reduce	Severity of future physical climate impacts are the lowest.
	emissions, to meet the target of net zero by 2050.	
Intermediate		
limit warming to >3°C	Middle of the Road (medium challenges to mitigation and adaptation).	Mixed action by governments with various national and regional
(SSP2-4.5) (C6)	The intermediate GHG emissions scenario (SSP2-4.5) has CO2 emissions	responses may increase transition risks. Greater warming allowed
	remaining around current levels until the middle of the century. Climate action	resulting in more severe physical impacts.
	is not taken immediately, resulting in an unstructured response by Governments.	
High		
limit warming to >4°C	A Rocky Road (high challenges to mitigation and adaptation). Results in	The transition risks for businesses are more limited. However, the
(SSP3-7.0) (C7)	CO2 emissions that roughly double from current levels by 2050 and 2100, respectively. Governments and businesses take little / no action to reduce	physical risks are most severe under this scenario.
	their environmental impact, resulting in an increased rate of climate change	

<sup>11.</sup> Specifically ESRS E1 at 18(c)i and 18(b)i.

 IPCC, 2023: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change, see page 9-10 for summary of SSPs, and a useful explanation of the SSPs is available here https://www.carbonbrief.org/explainer-how-shared-socioeconomic-pathways-explore-future-climate-change/. Also see https://ourworldindata.org/explorers/ipcc-scenarios.
 IA Global Energy & Climate Model Documentation 2023 available at https://iea.blob.core.windows.net/assets/ff3a195d-762d-4284- 8bb5-bd062d260cc5/ GlobalEnergyandClimateModelDocumentation2023.pdf.

<sup>12.</sup> See https://www.ipcc.ch/report/sixth-assessment-report-cycle/ .

### **Time Frames**

Socfindo is a dedicated plantation company. Its core business is producing specific agricultural products (CPO & Dry Rubber) that rely on land, physical assets and labor to produce. Palm and rubber crops take considerable time and investment to develop, and the effects of decisions and efforts made often only manifest themselves years into the future. Socfindo's short, medium and long-term timeframes therefore reflect their business in particular oil palm cycles of planting and infrastructure. Once decisions are made to plant, putting in capital assets and infrastructure these assets are essentially "locked in" for a period of time. This means decisions made in relation to new initiatives or changes in these assets are done for the longer term. Even for "short term" timeframes, for anything to actually have an impact, it generally needs a three-year time horizon. This is because all work relates to physical work on land, which is seasonal and which requires a time horizon to plan, have budgets signed off and have logistics organized. With these considerations in mind, the following time frames for this assessment have been adopted.

#### TABLE SHOWING SOCFINDO DECISION MAKING TIMEFRAMES

Timeframe	Period	Years
Short term	1 to 3 years	(2024 up to 2027)
Medium	4 to 10 years	(2027 up to 2035)
Long-term	10 to 25 years	(2035 to 2049).



Harvesting Activity

## Risks

In line with the TCFD<sup>15</sup>, we have divided our assessment into two major categories of climate-related risks:

- 1. Risks related to the transition to a lower-carbon economy (Transition Risks); and
- 2. Risks related to the physical impacts of climate (Physical Risks).

In addition, climate-related opportunities have also been assessed.

## **Transition Risks**

Transition risks have potential to impact Socfindo's business and these risks are likely to increase as climate change continues. The severity of risk varies with each of the three scenario-warming pathways. Socfindo has reviewed a number of transition risks and their potential impact on Socfindo's operations. A detailed analysis is set out in the table below. Socfindo has currently identified the following transition risks as the highest potential impact.

- 1. Legal and Policy Changes. Medium risk: Especially in the below 1.5°C scenario resulting in increased costs to monitor policy and legal framework, compliance and reporting costs and increased risk of noncompliance.
- 2. Increased carbon tax domestically or imposed on products as adjustment mechanism. Medium to high risk: Especially in the intermediate below 3°C scenario where policy and regulation is inconsistent between nations, delayed and implementation sporadic and as a result carbon taxes are more widely adopted and imposed.
- 3. Technology risk. Medium risk: Especially in the below 1.5°C scenario, increased capex costs to implement low emission technology and potential risk of adoption of failing technology.
- 4. Market risk: Increased input cost of energy and raw materials such as fertilizer and diesel, and constrained supply in extreme cases. Medium Risk: This could occur in the low below 1.5°C scenario as a result of policy changes, or in the high 3°C scenario and above where supply chain disruptions increase due to climate impacted extreme weather.

To reduce the impact of these risks, Socfindo relies on a proactive approach to climate action, both in its efforts to manage, reduce and report on its emissions, as well in ensuring that is stays on top of evolving policies and regulation and takes action to ensure it remains ahead of future regulation.

<sup>15.</sup> Recommendations of the Task Force on Climate-related Financial Disclosures at page 5.



Monitoring Climate Related Risk

Risk	Timeline	Pathway	Impact	Evaluation	Explanation & Mitigation
Policy and Lo	egal				
Legal & Policy Changes	Short -Medium (2024- 2035)	Low & Intermediate (<1.5°C &<3°C)	<ul> <li>Increase in costs needed to monitor policy and legal framework.</li> <li>Increased compliance and reporting costs.</li> <li>Potentially multiple different reporting requirements</li> <li>Potential for</li> </ul>	Medium	As more regulations are put in place on GHG emissions and to transition to a decarbonised economy, more stringent and mandatory reporting requirements are likely to be required to be compliant both domestically, within Indonesia as well as through Parent and key market jurisdiction requirements (EU). Under an intermediate scenario these risks may be exacerbated where responses by Governments may be more fragmented leading to different standards, multiple reporting bodies with different reporting requirements (for example Indonesian domestic reporting under an evolving SRN, European Union reporting under the ESRS and other regional market or industry requirements). Non-compliance risk increases with regulatory complexity, a rising bar, and different standards. As a corollary, costs of compliance and reporting are likely to increase. Mitigation relies on a proactive approach. Increased internal resources and engagement with third-party experts required to understand and stay on top of current and evolving regulation and policy as we transition to a decarbonised economy. Proactive approach is also required to quantifying, managing and reporting of GHG emissions to stay ahead of future regulation (beyond compliance) and reduce the risk of being "caught out" by new regulations and requirements.
Litigation – Exposure to Civil Action	Short -Medium (2024- 2035)	Low & Intermediate (<1.5°C &<3°C)	<ul> <li>Increase potential exposure to climate litigation.</li> <li>Reputational risk.</li> </ul>	Low	As regulatory and reporting PT SOCFINDO is becoming stricter, climate litigation against laggards and for "green washing" are also becoming more common. This civil action law risk is an increasing risk. Mitigation relies on a proactive approach to climate action together with honest and transparent reporting. To ensure that it is not a "laggard" Socfindo is a proactive earlier adopter of the highest industry standards such as ISPO and RSPO and therefore is already compliant with the highest voluntary standards in the industry and will continue to do so as they evolve. In addition, in its reporting Socfindo is committed to honest and transparent disclosure, and in any target setting Socfindo needs to be sure it has an actual pathway and budget to implement the measures required to meet such targets therefore reducing risks of non-performance, or false claims.

#### TABLE SETTING OUT DETAILED ANALYSIS OF TRANSITION RISKS

Risk	Timeline	Pathway	Impact	Evaluation	Explanation & Mitigation
Policy and Le	egal				
Regulatory Restrictions	Short -Medium (2024- 2035)	Low & Intermediate (<1.5°C &<3°C)	<ul> <li>Constrain the ability of Socfindo to operate.</li> <li>Reduction in productive area.</li> </ul>	Low	As part of its response to climate change, Governments may introduce new regulations that restrict or impact the ability of Socfindo to operate, such as restrictions on replanting on peatland areas and requirements to have a greater proportion of conservation area etc which could potentially affect Socfindo's production base. Socfindo's land base profile is less exposed to this risk. Socfindo has limited plantation area on peatland, and due to the long establishment of its plantations the majority of Socfindo's estates are located closer to urban areas and or within actively developed agricultural areas.
					Mitigation: requires a proactive response with increased internal resources watching evolution of domestic regulation, and maintaining healthy relationships with regulatory bodies, including local government with regular communication with key Government stakeholders. Socfindo is also a proactive earlier adopter of the highest industry standards such as ISPO and RSPO and therefore is already compliant with the highest voluntary standards in the industry and will continue to do so as they evolve.
Increase carbon pricing/tax.	Short -Medium (2024- 2035)	Low & Intermediate (<1.5°C &<3°C)	<ul> <li>Increased carbon tax domestically or imposed on products as adjustment mechanism.</li> <li>Increased cost of business.</li> </ul>	Medium - High	Risk of carbon tax if global action is not sufficient to reduce emissions. Indonesia's updated NDC non-conditional target is to reduce GHG emissions by 31.89% by 2030. <sup>16</sup> To meet its NDC targets, Indonesia is currently introducing a Cap and Trade mechanism for Forestry and Mining but other Ministries (i.e. Agriculture and Industry) may establish similar activity to support NDC and Net Zero Emission goals. <sup>17</sup> It is likely there will be a domestic price on carbon, and the risk of price increases if action across sectors is not sufficient and the likelihood of Indonesia meeting its NDC targets rises. In addition if domestic action to reduce emissions is not sufficient, there is a risk key markets like the EU will impose a carbon tax or adjustment on products entering their markets. Mitigation: relies on a proactive approach to climate action within Socfindo. If Socfindo is able to voluntarily quantify, manage and reduce its emissions the impact of an externally imposed carbon tax reduces as it is able to proactively build these costs into its cost of business today.

#### TABLE SETTING OUT DETAILED ANALYSIS OF TRANSITION RISKS

See https://climatepromise.undp.org/what-we-do/where-we-work/indonesia. Also see https://unfccc.int/sites/default/files/NDC/2022-09/23.09.2022\_Enhanced%20NDC%20Indonesia.pdf.
 See Indonesian Presidential Regulation 98/2021.

Risk	Timeline	Pathway	Impact	Evaluation	Explanation & Mitigation
Market					
Market	Short -Medium (2024- 2035)	Low & Intermediate (<1.5°C &<3°C)	Reduced demand, and or reduced profitability through lower prices.	Low	Prices of fertiliser and other inputs needed to grow oil palm may increase from inflation and supply-chain disruptions. An unpredictable climate (for example severe weather and storms) may exacerbate the impact of existing supply-chain issues. We have already seen an increase in material costs, including fertiliser and pesticides although this is more linked to geopolitical issues such as the war in Ukraine. Energy costs may also increase as a result of policy such as taxes on fossil fuel, or as electricity demand grows through electrification of petrol based engines or supplies may become constricted in a warming climate.
					Mitigation: Socfindo remains exposed to fluctuations in costs of key inputs like fertilizer, pesticides and fuel. it is minimising this risk by recycling and composting of its own organic waste and utilising biochar as a soil ameliorant in its plantation soils. It is also actively experimenting and trialing new biological controls as part of its integrated pest management program. This minimises the requirement for outside inputs. In relation to energy use, Socfndo's stationary electricity is mostly produced from its own biomass and has the ability if it required to increase electricity production. It is more exposed to the cost of diesel as its mobile vehicles are currently mostly reliant on diesel. It will continue to actively look at options to reduce diesel use and dependence as proven technologies become available.
Increased cost of energy & raw materials	Short- Medium & Long (2024- 2035 and beyond)	Low, Intermediate & High (<1.5°C, <3°C & <4°C)	<ul> <li>Increased input costs.</li> <li>Constrained supply in extreme cases.</li> </ul>	Medium	Prices of fertiliser and other inputs needed to grow oil palm may increase from inflation and supply-chain disruptions. An unpredictable climate (for example severe weather and storms) may exacerbate the impact of existing supply-chain issues. We have already seen an increase in material costs, including fertiliser and pesticides although this is more linked to geopolitical issues such as the war in Ukraine. Energy costs may also increase as a result of policy such as taxes on fossil fuel, or as electricity demand grows through

electrification of petrol based engines or supplies may become constricted in a warming climate.

#### TABLE SETTING OUT DETAILED ANALYSIS OF TRANSITION RISKS

Risk	Timeline	Pathway	Impact	Evaluation	Explanation & Mitigation
					Mitigation: Socfindo remains exposed to fluctuations in costs of key inputs like fertilizer, pesticides and fuel. it is minimising this risk by recycling and composting of its own organic waste and utilising biochar as a soil ameliorant in its plantation soils. It is also actively experimenting and trialing new biological controls as part of its integrated pest management program. This minimises the requirement for outside inputs. In relation to energy use, Socfindo's stationary electricity is mostly produced from its own biomass and has the ability if it required to increase electricity production. It is more exposed to the cost of discel as its mobile
					vehicles are currently mostly reliant on diesel. It will continue to actively look at options to reduce diesel use and dependence as proven technologies become available.
Technology					
Technology	Short -Medium (2024- 2035)	Low & Intermediate (<1.5°C &<3°C)	<ul> <li>Increased Capex Costs</li> <li>Adoption of failing technology</li> </ul>	Medium	In order to reduce emissions, Socfindo may have to invest in lower emissions technologies across its operations. The technology needs to be able to work in implementation and be a fit for Socfindo's particular situation. POME emissions are an example of where the current reduction technology (biogas) is not a good fit for Socfindo's operations and where Socfindo needs to look at other options to make reductions. There will be increased capital costs to deploy new technologies and maybe increased process costs. Unproven technical solutions may not deliver the expected results in implementation and or unintended effects.
					Mitigation: requires careful evaluation of potential technical solutions to minimise implementation failure,

and to ensure full capital and ongoing costs are understood and balanced against the benefits realised.

#### TABLE SETTING OUT DETAILED ANALYSIS OF TRANSITION RISKS

Risk	Timeline	Pathway	Impact	Evaluation	Explanation & Mitigation
Reputation					
Reputation	Short -Medium (2024- 2035)	Low & Intermediate (<1.5°C &<3°C)	<ul> <li>Shifts in consumer preferences</li> <li>Increased stakeholder concern / pegative</li> </ul>	Low	The palm-oil industry already receives considerable scrutiny. There is a risk that bad actors within the sector can affect the reputation of the sector as a whole. In addition, there are active civil society groups which can name and shame individual actors highlighting actions causing reputational damage. Due to the intense scrutiny Palm oil has received for a number years, industry standards like the RSPO have been implemented and many Palm operators are actually considerably more advanced in their climate and sustainability compared to other agricultural industries.
			stakeholder feedback	N S C I C C	Mitigation: Socfindo has been an early adopter of RSPO and has adopted a proactive approach to climate, sustainability and transparency in reporting. Socfindo already has full traceability to plantation level and does not process outside fruit so is in a relatively better position in that it can control its own supply chain. In addition, it is fully RSPO certified and utilises third party certification to certify the sustainability standard of its operations. Socfindo will proactively continue to respond to climate, improve its sustainability and transparently communicate to its stakeholders.

#### TABLE SETTING OUT DETAILED ANALYSIS OF TRANSITION RISKS

## **Physical Risks**

In accordance with the TCFD requirements, in undertaking our analysis, we have analysed both acute and chronic physical climate-related risks.<sup>18</sup> Acute physical risks refer to those that are event-driven, including increased severity of extreme weather events, such as cyclones, hurricanes, or floods. Most relevant to Northern Sumatra and Aceh where Socfindo's plantations are located is the increased severity of storms, in particular torrential rains which cause flooding. Chronic physical risks refer to longer-term shifts in climate patterns for example higher temperatures, long-term sea-level rise and increased periods of drought or rain. In some cases there may be overlap between the effects of some risk categories and inter-relationship. For example, both a one-off severe weather event, and long duration of increased rainfall may lead to flooding and both may appear in a single season which exacerbates the effect. In addition, issues with pest and disease are magnified under conditions of both hydric stress from longer dry and hot periods as well as extended rainy periods and less sunshine. We have examined each risk separately but note there is often a degree of overlap and interaction between the various physical climate risks including potential compound effects.

<sup>18.</sup> Recommendations of the Task Force on Climate-related Financial Disclosures, 2017 at pg 6. Meijaard, E., V et al, available at https://portals.iucn.org/library/sites/library/files/documents/2024-010-En.pdf.

### Summary of Physical Climate-Related Risks

Physical climate-related risks are already impacting Socfindo's operations, and these risks are likely to increase as climate change continues. The severity of risk will increase in higher scenario-warming pathways (>3 degrees). Socfindo's business is agronomy which is reliant on stable weather and climate patterns. It is also dependent on infrastructure that can be affected by severe weather events. Socfindo has reviewed a number of Physical risks and their potential impact on Socfindo's operations. A detailed analysis is set out in the table below. Socfindo has currently identified the following Physical risks as having the highest potential impact.

#### Acute Physical Risks

1. Increased extreme severe climate events especially torrential rain causing flooding and infrastructure damage. Medium to high risk: Especially under higher scenariowarming pathways (>3 degrees) these increased severe weather events can lead to damage to internal infrastructure and increased costs, as well as reduced revenue due to interruptions in harvesting and processing.

#### Chronic Physical Risks

- 1. Increased temperature and changing weather patterns. Medium to high risk: Especially under higher scenario-warming pathways (>3 degrees), increased mean temperatures, drought as well as prolonged unseasonal rains can lead to reduced yields, impacting revenue.
- 2. Increased Pest and Disease. Medium risk: Especially under higher scenario-warming pathways (>3 degrees), related to prolonged dry or wet conditions creating imbalances in ecosystems and stressed conditions increase risk of pest and disease, which can reduce yield impacting revenue.
- 3. Increased temperature and changing weather patterns. Medium to high risk: Especially under higher scenario-warming pathways (>3 degrees), increased mean temperatures, drought as well as prolonged unseasonal rains can lead to reduced yields, impacting revenue.
- 4. Increased Pest and Disease. Medium risk: Especially under higher scenario-warming pathways (>3 degrees), related to prolonged dry or wet conditions creating imbalances in ecosystems and stressed conditions increase risk of pest and disease, which can reduce yield impacting revenue.

Socfindo is undertaking several initiatives to mitigate these impacts and adapt to the effects of climate change. These include, flood prevention infrastructure, water drainage maintenance, agronomic initiatives to reduce the impacts of severe weather, a proactive multi layered Integrated Pest Management (IPM) strategy to reduce the effects of pest and disease, and development of and adoption of climate resilient and disease resistant Planting Stock. Climate resiliency and preventing pest and disease are both key pillars in Socfindo's ongoing research and development program which is a core aspect of Socfindo's business.<sup>19</sup>

<sup>19.</sup> More details of Socfindo's R&D program are available in Socfindo's 2022 Sustainability report pages 52-61.

Risk	Timeline	Pathway	Impact	Evaluation	Explanation & Mitigation
Aute					
Increased extreme / severe climate events – Storms and Torrential Rain causing Flooding	Short -Medium &Long (2024- 2035 and beyond)	Intermediate & High (<3°C & <4°C))	<ul> <li>Damage to internal infrastructure from severe weather events – torrential rain/ flooding.</li> <li>Reduced revenue due to delays in harvesting and processing leading to potential quality impact.</li> <li>Increased costs due to internal infrastructure damage.</li> <li>Decreased revenue from lower production due to interruption from flooding.</li> </ul>	Medium - High	An effect of climate change is a likely increase in the frequency and duration of severe weather events. This is predicted to be exacerbated in higher temperature scenarios (>3 degrees). Socfindo's business is dependent on stable predictable weather patterns. In addition, Socfindo's business relies upon significant infrastructure both internal such as plantation roads, and external government infrastructure which are also vulnerable to damage from severe weather events. Acute extreme weather events such as storms and in particular torrential rain and flooding can cause damage to Government roads which can cause logistical issues. For example, landslides on roads connecting west and east coast of Sumatra, usually on the road between LB estate and Medan. In addition, Socfindo internal roads and infrastructure can also suffer from slips and erosion damage from torrential rain. Socfindo has experienced this in some of its estates where torrential rain damaged internal roads preventing FFB from being collected by trucks. This can lead to reduced collection of fruit and higher times from fruit collection to processing which affects quality and may effect CPO price. In addition, upstream deforestation outside of Socfindo's estates, has caused the deposition of silt in some blocks due to rivers flooding in extreme events (SG, SL), noperable during extreme flooding events. These acute effects can collectively impact on yield and lower production due to interruptions which can reduce profit as fixed costs remain the same. Operating costs and capital costs may also rise related to repairing internal infrastructure damage which further impact profitability.

Risk	Timeline	Pathway	Impact	Evaluation	Explanation & Mitigation
Aute					Flood prevention infrastructure: Socfindo proactively invests in its internal infrastructure to be more climate resilient. In flood prone areas Socfindo invests into water bunds in plantations around riparian areas (MP, NL, SG) designed to keep water out and reduce risks of flooding and inundation. In addition Socfindo has a series of water gates in some plantations (SL, SG, MP, NL) that can block water from entry or exit – depending on whether they want water to flow away (flood) or want to capture water (drought). Further investment may be required in the future.
					Water drainage maintenance: Socfndo are undertaking maintenance of drains more regularly to clean out, widen and deepen drainage infrastructure to increase drainage capacity. Also using soil to elevate low lying areas.
					Roading Infrastructure: Socfindo are investing in stones and different materials for internal roading to harden the road surface and make them more climate resilient.
Fire	Short - Medium & Long	Intermediate & High (<3°C & <4°C)	Potential costs direct and indirect from fire damage	Low	The risk of wildfire can increase with climate change as a result of rising mean temperatures as well as more severe prolonged periods of drought. This is predicted to be exacerbated in higher temperature scenarios (>3 degrees). Due to the location of Socfindo's plantations which are generally in more developed locations, Socfindo is at limited risk from fires.
					Mitigation: Despite the low risk of fire, Socfindo remains vigilant to the threat of fire, maintaining fire watch towers and teams of well-trained personnel across its plantations. It also maintains ongoing education of local communities to ensure local people living in and around the plantations do not use fire for clearing or disposal activities.

Risk	Timeline	Pathway	Impact	Evaluation	Explanation & Mitigation
Chronic					
Increased temperature / Changing weather	Short -Medium &Long (2024-	Intermediate & High (<3°C & <4°C))	Water stress     during     prolonged     periods without	Medium - High	An effect of climate change is changing weather patterns, resulting in rising mean temperatures as well as more severe and prolonged periods of drought and wet. This will be exacerbated in higher temperature scenarios (>3 degrees). Socfindo's business is dependent on the weather and stable predictable weather patterns, in particular crop yields are affected by changes in climate, particularly changes in rainfall patterns.
patterns Heat and drought / prolonged unseasonal rains	2035 and beyond)		<ul> <li>rain can impact yield and revenue.</li> <li>Prolonged rainy periods can also impact yield due to reduced pollination.</li> </ul>		Socfindo's palm and rubber crops are located in North Sumatra and Aceh which historically provide a stable climate suitable for Palm and Rubber, with stable and predictable rainfall patterns. As such, Socfindo's crops are not irrigated but rely on natural rainfall, therefore periods of extended drought can impact yield. Conversely, periods of prolonged rainfall, can also reduce pollination due to reliance on natural pollinators that are less active in rainy conditions. In recent years, Socfindo has experienced both seasons of unusual drought like conditions which have affected yields and longer rainy periods which have resulted in reduced pollination. Both these extremes can reduce yield and therefore profitability. Mitigation: Socfindo is proactively taking measures to reduce the impact of these effects and improve the

climate resiliency of its operations. Socfindo actively measures and tracks drought in each plantation. Agronomy: Socfindo utilises biochar produced from rice agricultural waste as a soil ameliorant focusing on its juvenile palms and more sandy soil estates that are more exposed to hydric stress (MP, SL). The biochar can improve the soil's water retention capability. Socfindo also uses cover crops to retain soil moisture and reduce hydric stress.

Water Storage: Socfindo has a series of water gates in some plantations (SL, SG, MP, NL) that can block water from entry or exit. These can be served to capture water during dry periods. It may be necessary in the future to invest in further water storage areas.

Climate Resilient Planting Stock: Socfindo is continuing to invest into the development of climate resilient planting stock and is also replanting its own plantations with this improved climate resilient genetic stock. An example of this is its super male which allows for greater pollination even in wetter seasons. In addition, Socfindo is developing more climate resilient stock adapted to marginal areas and climate conditions, in particular water deficit.

Risk	Timeline	Pathway	Impact	Evaluation	Explanation & Mitigation
Chronic					
Pest and disease	Short - Medium & Long (2024 -2035 and beyond)	Intermediate & High (<3°C & <4°C)	Reduced yield due to greater impacts from pest and disease impacts profitability.	Medium	Pest and disease can be exacerbated with unseasonal extremes in climate. Any change of weather patterns that becomes more extreme will affect the normal cycles and balance of the ecosystem. For example, Ganoderma, a disease which can cause large mortality in Palms, thrives in drier soils. These affect Socfindo's estates with sandier soil (MP & TG). In contrast, in the rubber estates due to unseasonably high rainfall, a new disease – pistelotiopsis has had a significant impact on production. Rubber yields affected by this disease can drop significantly due to the infected tree entering into a cycle of continual leaf fall.
Pest and disease	Short - Medium & Long (2024 -2035 and beyond)	Intermediate & High (<3°C & <4°C)	Reduced yield due to greater impacts from pest and disease impacts profitability.	Medium	Mitigation: Socfindo has a proactive multi layered Integrated Pest Management (IPM) strategy to reduce the effects of pest and disease <sup>20</sup> To mitigate against Ganoderma, Socfindo has developed Ganoderma resistant genetic stock which is planted in areas susceptible to the disease. Agronomic interventions such as biochar and cover crops also help to reduce hydric stress, reducing the conditions in which pest and disease thrive. A core aspect of Socfindo's business is R&D <sup>21</sup> and Socfindo has significant ongoing investment into R&D. Preventing pest and disease, as well as improving the climate resilience of it's crops are key foci of its research program. In relation to rubber pistelotiopsis disease, Socfindo is actively evolving its IPM strategy including spraying to combat the acute effects of this disease as well as ongoing research to prevention.
Inundation (Sea level rise)	Long (2035 and beyond)	Intermediate & High	Potential costs direct and indirect from fire damage	Low	An effect of climate change is rising sea levels which are predicted to be exacerbated in higher temperature scenarios (>3 degrees). This can cause inundation to low lying coastal areas and increased soil salinisation. Most of Socfindo's estates are relatively resilient to sea level rise risk with the exception of NL estate which is potentially more exposed through tidal waterways, which can carry water up the river which is brackish, and potentially increase salinisation of surrounding soils. So far there has not been little impact but this is a potential future risk. Mitigation: Flood Protection infrastructure: Socfindo has and is investing into water bunds in plantations
					around riparian areas (MP, NL, SG) designed to keep water out and reduce risks of flooding and inundation. Socfindo also has a series of water gates in some plantations (SL, SG, MP, NL) that can block water from entry or exit – depending on whether want water to flow away (flood) or to retain during periods of drought. Water drainage: Socfindo is widening and deepening drainage infrastructure to increase drainage capacity. Also using soil to elevate low lying areas

<sup>20.</sup> More details of Socfindo's IPM strategy are available in Socfindo's 2022 Sustainability report pages 66-69. 21. More details of Socfindo's R&D program are available in Socfindo's 2022 Sustainability report pages 52-61.

## **Climate Opportunities**

Efforts to mitigate and adapt to climate change may also produce opportunities for Socfindo. Socfindo has undertaken an analysis of the potential climate opportunities for its business and its analysis is set out in detail in the table below. In summary Socfindo identified three potential opportunities:

- 1. Improving profitability through greater resource efficiency, in particular reducing inorganic fertilizer and diesel fuel.
- 2. Increased revenue from exporting energy to the grid if favorable policies were implemented under a low temperature scenario.
- 3. Increased demand for disease resistant and climate resilient genetic stock under a medium and high temperature scenario, where climate effects are greater.

#### TABLE SETTING OUT DETAILED ANALYSIS OF PHYSICAL CLIMATE-RELATED RISKS

Climate Opportunity	Timeline	Pathway	Benefit	Explanation & Mitigation
Resource Efficiency	Short - Medium (2024-2035)	Low & Intermediate (<1.5°C &	Improved profitability by reducing operating costs.	One of the actions taken by Socfindo to reduce its GHG emissions is to find ways to reduce the amount of inputs required, particularly inputs like fertiliser and fuel which have a material impact on emissions. These inputs are also significant components of operating costs, therefore any initiative to improve efficiency and reduce resource use may also reduce operating costs. Socfindo has a number of agronomic initiatives to improve the uptake of inorganic fertiliser and reduce its use such as biochar, the recycling of organic waste into organic compost, cover crops etc. In addition, Socfindo is actively investigating ways to reduce the amount of diesel fuel required in operations and other key inputs. These initiatives in addition to reducing emissions by improving resource efficiency may also improve profitability by reducing operating costs.
Energy	Medium – long (2027 2049)	Low (<1.5°C)	Increased revenue from exporting excess energy to grid.	Under the low scenario, there is a higher probability that governments will implement policies that incentivise low carbon energy production such as higher feed in tariffs and guaranteed power purchase agreements. Socfindo's palm operations are mostly powered by their own captive bio-energy and have the capacity to produce excess power if there were the right incentives in place to do so. Under such a scenario potentially Socfindo could generate additional revenue through production and export of power excess to supply the grid.
Products & Services Climate resilient seed stock	Medium – long (2027- 2049)	Intermediate & High (<3°C &<4°C))	Increased demand for disease resistant and climate resilient genetic stock.	Socfindo has a long standing active agronomic research and development program and is actively developing disease resistant and climate resilient genetic stock. Socfindo also has an active oil palm seed business. As the effects of climate change increase, the demand for specific disease resistant and climate resilient seed stock may grow, and this may provide an opportunity for Socfindo to increase its seed business sales.

# RISK MANAGEMENT

# Identification

The first step in Socfindo's risk management process is its system of identifying potential risks. Socfindo has started to track some known climate impacts across time. For details on the metrics Socfindo tracks, please see section 6.2 below. This allows Socfindo to track and measure some known specific impacts across time. These parameters are tracked and displayed on a specific "climate dashboard" as Socfindo does with its other material sustainability matters. As with Socfindo's other sustainability dashboards, its Climate dashboard is fully integrated into its main database and updated with recent data making it readable and accessible for decision makers. Socfindo is also in the process of integrating these climate parameters into its Estate "up keep" field app.

Risks are categorised as transitional or physical in nature. Physical risks arise from climate related changes and manifest themselves as acute or chronic. Transition risks stem from the intended and unintended consequences of action to decarbonize, and transition from fossil-fuel reliance. Different positions within Socfindo are responsible for identifying transitional and physical risks, coordinating with the Sustainability Department which has overall responsibility for compiling and managing climate risk. The sustainability team is responsible for compiling and maintaining Socfindo's Climate Risk Assessment, which is undertaken on a quarterly basis and is also uploaded onto its internal Climate Dashboard, the central dashboard which aggregates all climate-related information including risks. More detail on this process of identification is set out in Section 3.2 above. Once risks are identified and aggregated, the next step is to assess and evaluate potential risks and impacts.

## Assesment

Socfindo, like any organisation has only a finite amount of time and resources, therefore assessing the materiality and relative impact of various climate risks is important in deciding how much attention and resources to focus on potential risks. As set out above, risks are first classified per "type"- for example either "transitional" in nature or "physical". Physical risks are further classified as "acute" or "chronic. Each particular risk is further assessed for its materiality, the probability of occurrence and severity of impact. Using climate-scenario analysis, Socfindo assessed each risk, considering different timescales (short, medium and long) and under different projected climate pathways

(low, intermediate and high) leading to risk classifications of low, medium or high, for both likelihood and impact. To determine impact, an assessment is done to estimate impact on profit margin through impact on crop yields and operational costs. This analysis and modelling of impacts of climate risk is undertaken at the Head Office level, led by the Financial Department with input as required from technical departments. From this Socfindo can assess and determine relative materiality of risk and priorities for action. This process also allows Socfindo to determine which climate risks could have a material financial impact on the organization and the relative significance of climate-related risks in relation to other risks. The results of this analysis are set out in the Strategy section 4 above.

## Management

Within Socfindo, the Board maintains overall responsibility for climate-related risks and opportunities while delegating executive responsibility to the Principal Director.

Sections 3.1 and 3.2 above set out Socfindo's process for managing climate related risks. Climate-related risks are managed and integrated with existing risk management processes. Specifically, they have been integrated into the key existing Governance and decision-making structures within Socfindo – Monthly Management Meetings, and Biannual Board Meetings. Material climate related risks and issues will be included in these forums as and when material issues arise.

Climate-related management and decision making of material climate related risks and issues within Socfindo happens at two key levels. The first is through Monthly Management meetings which are attended by the Principal Director, Heads of Departments and sustainability. Climate risks are aggregated by the sustainability team each quarter and put in summary form into the Climate Dashboard. Material climate-related issues will be included and discussed at the Monthly Management meetings as and when they arise. Decisions related to further analysis and assessment into a specific risk, purchasing decisions or changes in practices within existing budgets may be made at this level.

The second level involves reporting to the Board. Any material climate risk matters that may materially affect production or capex may be included and discussed in Quarterly Progress Reports to the Board as required. There are also biannual Board meetings in which material climate-related issues may also be considered during strategic decision-making by the Board where appropriate. Annual Budgets are also approved by the Board, and any climate decisions involving material capex will be approved by the Board.

# METRICS & TARGETS

# Socfindo's GHG Emissions

Managing and reducing its GHG emissions are key parts of Socfindo's sustainability program for both its palm and rubber operations. Socfindo has been proactively and voluntarily quantifying and reporting its GHG emissions for palm under the RSPO since 2018 and for its Rubber operations since 2020. Since then, Socfindo has estimated and reported its total Scope 1 and 2 emissions and its emissions intensity for its palm and rubber products. In addition, a core part of Socfindo's RSPO commitment is its strict No Deforestation, and No New Development on Peat policies. Socfindo ensures this through only sourcing palm and rubber from its own estates and implementing full RSPO traceability certification to the plantation level which allows it to verify that each batch of CPO from existing RSPO certified "conversion- free" plantations.

Socfindo has conducted a comprehensive GHG Assessment of its entire palm and rubber operations. The assessment was undertaken in accordance with the GHG Protocol and included scopes 1, 2 and 3, as well emissions intensity<sup>23</sup>. This assessment was the first time Socfindo had quantified its Scope 3 GHG emissions and undertaken a full independent assessment. It is intended that the results from this GHG Assessment will serve as a baseline for Socfindo on which its future targets will be set.

Socfindo will continue to track its GHG emissions, including Scope 1, 2 and 3, as well as per product (CPO and Dry Rubber) emissions intensity. Socfindo is in the process of setting time bound GHG reduction targets. For specific details on Socfindo's GHG Emissions please see Socfindo's GHG Assessment Report.<sup>24</sup>

<sup>23.</sup> For details, please see Socfindo GHG Assessment Report

<sup>24.</sup> Socfindo GHG Assessment Report

## **Climate Metrics**

In addition to measuring and tracking its own GHG emissions, Socfindo also tracks specific climate risk metrics that may have a material impact on its business. This provides a method to track and measure specific climate impacts and to understand trends across time. These parameters are tracked and displayed on a specific "climate dashboard" as Socfindo does with its other material sustainability matters. As with Socfindo's other sustainability dashboards, its Climate dashboard is fully integrated into its main database. In addition, Socfindo is in the process of integrating these climate parameters into its Estate "up keep" field app. The specific climate risk metrics Socfindo tracks are:

- 1. Meteorological data: Rainfall and temperature data in each of its estates.
- 2. Flooding: Days of flooding per estate, as well as lost work / production due to flooding.
- 3. Fire: Fire events are logged, extent of area and damage.
- 4. Infrastructure damage: Physical impact / damage on internal infrastructure due to severe weather events.
- 5. Drought: Hydric stress: How many months in year with water stress / hydric deficit. Measured in mm water deficit per month.

Socfindo will periodically review the climate risk metrics that it tracks and continue to update as required. In addition, financial impact from damage due to severe weather events (such as internal infrastructure damage) will be evaluated by the Finance Department as and when required.

## **Climate Resilience**

## **Agronomy Climate Resilience Initiatives**

Socfindo is undertaking several initiatives to improve its climate resilience and to adapt to climate change. In addition, Socfindo has started to track some climate adaptation metrics to enable to quantify its climate resilience. A snapshot of these are set out below.

With a changing climate, Socfindo needs to be able to continue to farm in an environment which is subject to more extreme weather, such as longer periods of dry, higher mean temperatures as well as periods of more rainfall and severe weather events. A detailed analysis of Physical climate risks is provided in Strategy section 4. Some specific agronomic climate resilience initiatives are set out in the table below, their potential impact on Socfindo's operations. A detailed analysis is set out in the table on following pages.

#### TABLE OF AGRONOMIC CLIMATE RESILIENCE INITIATIVES

Initiative	Details	Metrics
Biochar	Socfindo works with the local community to take rice agricultural waste from surrounding paddy fields, convert to biochar and apply in plantations with sandier soil and on young palms. Biochar can assist with water retention and nutrient uptake.	Biochar added to the field (tons/annum).
Recycling of biomass	Socfindo recycles 100% of its solid field and mill biomass residues back to the soil improving the soil organic carbon. At its Bangun Bandar Mill it has a co-composting project which creates organic compost from the mill EFB and the liquid palm oil mill effluent (POME) which is then recycled back and applied in the field as an organic fertiliser.	<ul> <li>Recycled waste biomass to plantation (tons / year).</li> <li>Organic compost produced and applied to field (tons/year).</li> </ul>
Cover crop planting	Socfindo undertakes establishment of cover crops to ensure there is no exposed soil. Cover crops help in covering the soil, limiting erosion and improving moisture retention and reduce hydric stress especially in immature plantings.	100 pc of new plantings are planted with cover crop. Socfindo tracks the % of hectares in its replanting program covered with cover crops.
Climate resilient genetic stock	Socfindo invests significant resources into R&D and is continuing to invest into the development of climate resilient planting stock. Socfindo is also replanting with this improved climate resilient genetic stock. An example of this is its super male which allows for greater pollination even in wetter seasons. To mitigate against Ganoderma, a disease which is exacerbated in dry soils, Socfindo has also developed Ganoderma resistant genetic stock which is planted in areas susceptible to the disease.	Percentage of plantations planted with climate resilient genetic strains 100pc of new plantings.
Integrated Pest Management	Socfindo has a proactive multi layered Integrated Pest Management (IPM) strategy to reduce the effects of pest and disease. <sup>25</sup> A core aspect of Socfindo's business is R&D <sup>26</sup> and Socfindo has significant ongoing investment into R&D. Preventing pest and disease, as well as improving the climate resilience of it's crops are key foci of its research program.	<ul> <li>Natural predators introduced (species and number).</li> <li>Beneficial Plants planted (species and number).</li> <li>Biological Controls (species and number).</li> </ul>

<sup>25.</sup> More details of Socfindo's IPM strategy are available in Socfindo's 2022 Sustainability report pages 66-69. 26. More details of Socfindo's R&D program are available in Socfindo's 2022 Sustainability report pages 52-61.

### Infrastructure and Severe Weather Event Resilience Initiatives

Socfindo has a number of initiatives to make its plantations and internal infrastructure more resilient to the effects of extreme weather. These include:

Upgrading Infrastructure: Socfindo is upgrading and improving drainage infrastructure and also investing in improving its internal roading infrastructure by adding harder stones and more materials to make the road surface harder and more resilient to storm damage.

Flood Protection and water management: Socfindo is building up low lying areas that might be flood prone and tracks the number of stands (ha) built on these elevated areas. Socfindo is also investing into water bunds in plantations around riparian areas to prevent flooding as well as utilizing water gates to either carry water away or to store water during times of drought. Socfindo uses water trenches that act as water reservoirs during the dry spells but also allow the excess water to overflow during the rainy seasons.

Socfindo will continue to periodically review its climate resilience initiatives and to adjust as appropriate to ensure it proactively responds to the impacts of climate change and improves its climate resilience.



Fire Monitoring

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