



United Nations
Convention to Combat
Desertification



Business
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Corporate Sustainability Disclosure and Land Degradation Neutrality

How GRI Standards Support Information Generation
for Sustainable Land Management, Drought Resilience
and Land Degradation Neutrality



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Table of Contents

Acknowledgements	5
Executive Summary	6
Key Messages	6
1. Introduction and Purpose.	7
2. Methodology and Analytical Approach	8
3. Understanding the GRI Standards	9
4. How GRI Standards provide information relevant to the LDN Principles	10
5. Limitations in the alignment between GRI Disclosures and LDN Principles	11
6. Comparative Insights from the Case Studies	12
6.1 Common Themes.	12
6.2 Distinctive Insights from Each Case	12
7. Lessons Learned	13
8. Conclusion.	14
CASE STUDY - Rio Tinto: Sustainability Disclosure, Water Stewardship and Mine Rehabilitation in an Arid Landscape	16
Acronyms.	17
Executive summary	18
Company profile	20
Company and sector context	20
Interfaces with land, soil and water	20
Lessons learned	21
Use of sustainability reporting and disclosures	22
Evolution in reporting architecture	22
Evolution in material topic coverage	23
Role of the GRI Standards	24
Public disclosure versus internal data	24
Management approach	25
Governance and due diligence for land	25
Land disturbance, rehabilitation and closure.	25
Water stewardship and drought relevance	26
Biodiversity	26
Waste, tailings and air quality	27
Community engagement and grievance	28

Metrics and evidence of environmental, social and business outcomes	29
Use of disclosures by stakeholders	29
Investors, lenders, customers and civil society organizations	30
Relevance for governments and policymakers.	31
Link to UNCCD objectives and monitoring	31
Bibliography	32
Appendix 1. Mapping GRI Disclosures to Land Degradation Neutrality (LDN) Objectives	34
CASE STUDY - Olam Agri: Sustainability Disclosure to Support Land, Soil and Water Stewardship	36
Acronyms	37
Executive summary	38
Company profile	39
Company and sector context	39
Interfaces with land, soil, and water.	39
Lessons learned	41
Use of sustainability reporting and disclosures	42
Reporting architecture and evolution	42
Role of the GRI Standards	43
Public disclosure versus internal data	44
Management approach	44
Governance and due diligence.	44
Regenerative agriculture and soil health	45
Congo Basin forest management	45
Deforestation- and conversion-free supply chains.	46
Targets and performance tracking	47
Metrics and evidence of environmental, social and business outcomes	48
Use of disclosures by stakeholders	51
Investors, lenders, customers and civil society	51
Relevance for governments and policymakers.	51
Link to UNCCD objectives and monitoring	53
Bibliography	54
Appendix 1. Mapping GRI Disclosures to Land Degradation Neutrality (LDN) Objectives	56

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made the preparation of this report possible. The report forms part of the collaboration between the Global Mechanism and GRI to develop deliverables showcasing how corporate sustainability disclosures can support sustainable land management, drought resilience and preparations for UNCCD COP17.

Executive Summary

Land degradation, biodiversity loss, water scarcity, and drought pose growing risks to ecosystems, economies, and societies worldwide. Addressing these challenges requires coordinated action across governments, businesses, investors and civil society. While the United Nations Convention to Combat Desertification (UNCCD) establishes global objectives for sustainable land management and Land Degradation Neutrality (LDN), achieving these objectives depends on the availability of credible information to guide decision-making and accountability.

Corporate sustainability disclosure is increasingly recognized as an important source of such information. By helping companies identify, assess, manage, and communicate environmental and social impacts, sustainability reporting can strengthen both corporate stewardship and public understanding of land-related impacts and management responses.

This report accompanies two case studies developed through the collaboration between the UNCCD and the Global Reporting Initiative (GRI):

- **Olam Agri**, representing agricultural value chains through examples of regenerative agriculture, Congo Basin forest management, and deforestation- and conversion-free supply chains and;
- **Rio Tinto**, representing the mining sector, through Group-level reporting complemented by site-level examples from the Oyu Tolgoi operation in Mongolia, illustrating mine rehabilitation, water stewardship, and community engagement.

The case studies examine how sustainability disclosures can support understanding of land-, soil-, water-, and biodiversity-related issues in two different sectors. The case studies also show that public disclosure represents a structured governance and transparency layer above more detailed operational data systems. Sustainability reports provide decision-useful information for external stakeholders, while more detailed site- or operational-level information supports day-to-day management and may, where appropriate, be shared under agreed arrangements for specific purposes such as collaboration, monitoring or policy dialogue.

The analysis finds that the value of sustainability disclosure extends beyond reporting sustainability performance. The GRI Standards provide an information architecture that supports governance, stakeholder engagement, monitoring, accountability and the identification, management and disclosure of land-related impacts. The reporting process also strengthens internal decision-making, improves data quality and organizational learning, and enhances transparency, thereby supporting business resilience, investor confidence, access to sustainable finance, and long-term financial performance. These functions are highly relevant to many of the principles that underpin LDN.

Key Messages

Sustainability disclosures can contribute information relevant to a broad range of LDN principles, including governance, participation, restoration, and monitoring.

The GRI Standards provide a practical infrastructure for identifying and reporting land-related impacts across sectors.

Corporate disclosures can strengthen governance, risk management, and business resilience while informing investors, governments, and other stakeholders.

Sustainable land management requires the integration of environmental, social, and governance considerations rather than reliance on environmental metrics alone.

Greater alignment between disclosure standards and frameworks, and land governance objectives can strengthen collective action toward sustainable land management and drought resilience.

1. Introduction and Purpose

Healthy land systems underpin food production, water security, biodiversity conservation, climate resilience, and human well-being. Yet land degradation continues to affect large areas of the world's terrestrial ecosystems, reducing productivity, threatening livelihoods, and increasing vulnerability to climate-related risks, including drought.

Recognizing these challenges, the UNCCD has advanced LDN as a framework for maintaining and improving the quantity and quality of land resources needed to support ecosystem functions and services. LDN aims to balance unavoidable land degradation with measures that avoid, reduce, and reverse degradation while safeguarding the ecological, social, and economic functions of land.

The UNCCD defines LDN as an approach that seeks to maintain or enhance the natural capital and ecosystem services on which societies and economies depend through a set of key principles. These principles emphasize integrated land-use planning, stakeholder participation, respect for rights and livelihoods, effective monitoring, and adaptive management across landscapes.

At the same time, corporate sustainability reporting practices have evolved rapidly. Increasing numbers of companies now assess and communicate environmental, economic, and social impacts, as well as sustainability-related risks, opportunities, and dependencies. Different reporting standards serve complementary purposes, where the GRI Standards focus on an organization's impacts on the economy, environment, and people, while the International Sustainability Standards Board (ISSB) Standards focus on sustainability-related risks and opportunities that could reasonably be expected to affect enterprise value. These disclosures are becoming an important source of information for investors, regulators, communities, and policymakers.

The purpose of this report is to explore how corporate sustainability reporting can support sustainable land management and contribute information relevant to LDN implementation. It does so through two corporate case studies that examine how companies use sustainability reporting standards and frameworks, in particular the GRI Standards, to identify, manage and report land-, soil-, water-, and biodiversity-related impacts. Focusing on the impact-based approach of the GRI Standards, the report provides information that is particularly relevant to sustainable land management and LDN objectives.

The two case studies examine sustainability disclosure in contrasting sectors through a series of practical examples. The Olam Agri case focuses on regenerative agriculture, Congo Basin forest management, and deforestation- and conversion-free supply chains, while the Rio Tinto case draws primarily on Rio Tinto's corporate reporting together with examples from the Oyu Tolgoi operation, including rehabilitation, water stewardship, and participatory monitoring.

The report is intended for UNCCD Parties, policymakers, companies participating in the Business4Land (B4L) initiative, investors, development partners, and other stakeholders interested in strengthening the links between corporate sustainability reporting and land governance.

The report forms part of a broader collaboration between the UNCCD and GRI to explore how sustainability disclosure can support:

- corporate action on land, soil, and water stewardship;
- improved transparency and accountability;
- better-informed policy and investment decisions;
- stronger alignment between corporate reporting and public sustainability objectives.

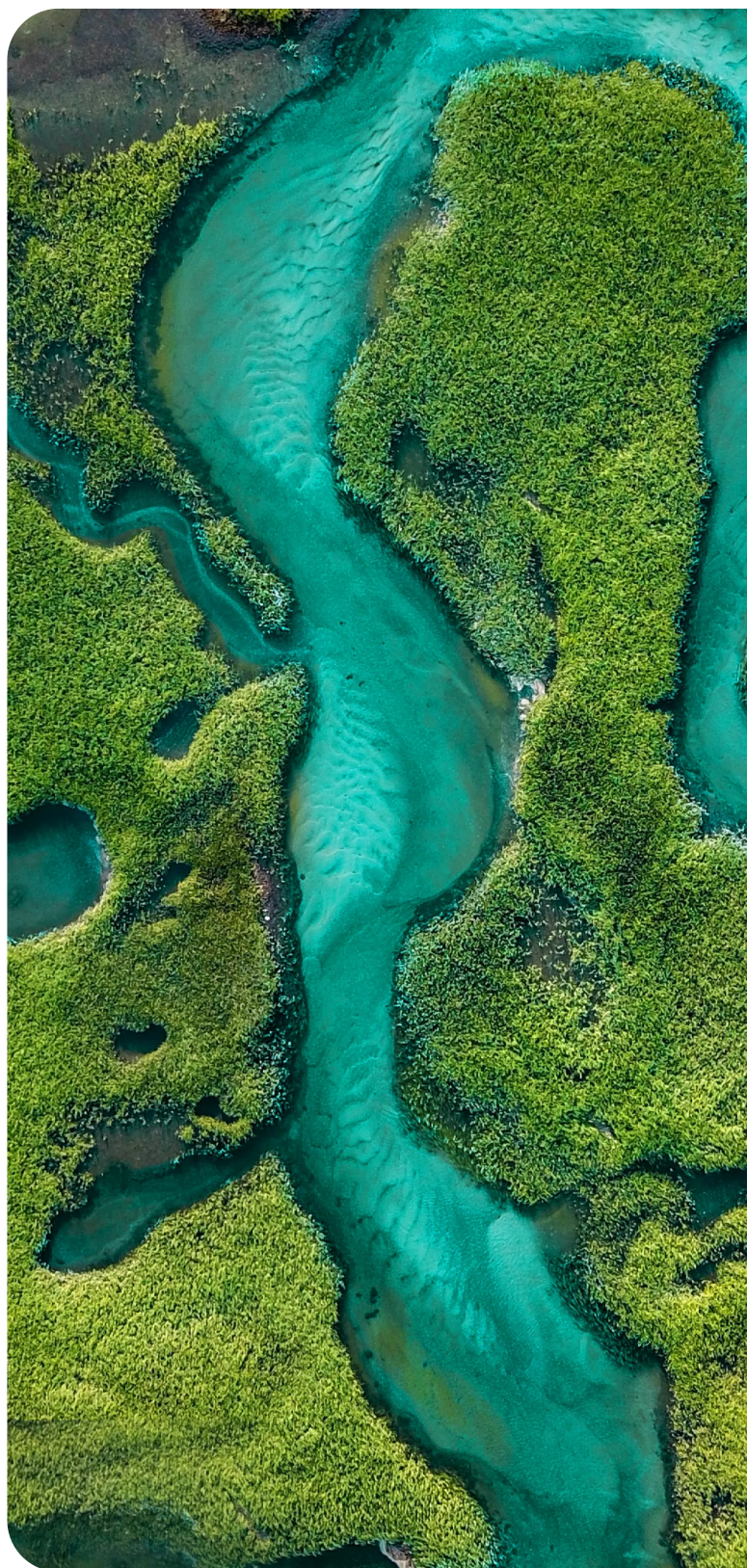
2. Methodology and Analytical Approach

This report synthesizes findings from two corporate case studies selected to illustrate different relationships between business activity and land.

Olam Agri was selected because agricultural production and sourcing depend fundamentally on healthy soils, water resources, and ecosystem services, while also influencing land-use change across extensive value chains.

Rio Tinto was selected because mining activities directly alter land through exploration, extraction, processing, waste management, and closure. While the case study analyses Rio Tinto's corporate sustainability reporting, it also draws on interviews and site-level examples from the Oyu Tolgoi operation in Mongolia to illustrate how Group-level commitments and disclosures are implemented in practice.

The case studies draw on published annual reports, sustainability reporting, publicly available company policies and supporting materials, and interviews conducted for the case studies. The analysis focused on the companies' materiality assessments, governance and accountability arrangements, targets and commitments, land-, soil-, water-, and biodiversity-related disclosures, management approaches, stakeholder engagement, reporting quality and evolution, and relevance to LDN principles and concepts. The case studies assess disclosure practices and reported management approaches. They do not independently verify environmental outcomes or company performance claims.



3. Understanding the GRI Standards

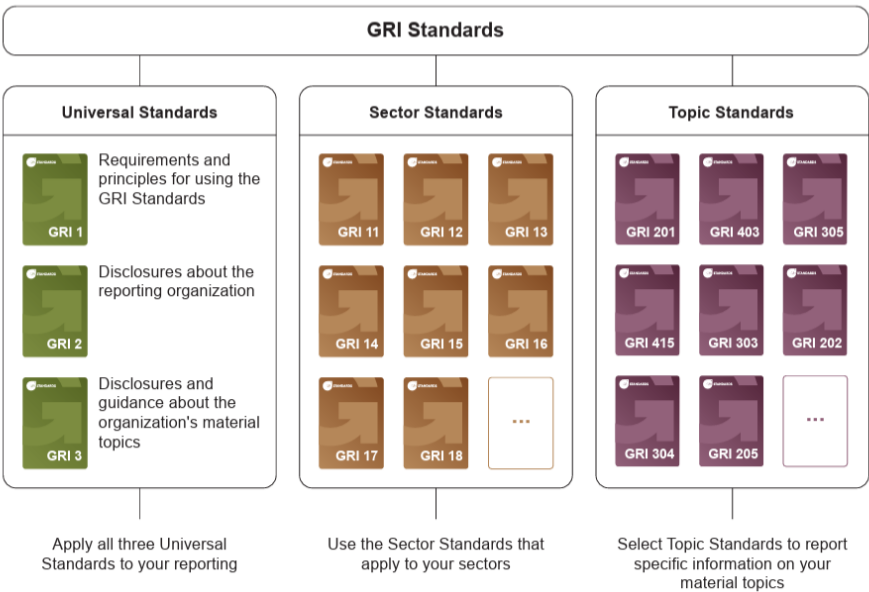
The GRI Standards are designed to help organizations publicly report the impacts of their activities in a structured way that is transparent to stakeholders and other interested parties. The Standards consist of a modular system of interconnected standards with three interconnected components (see Figure 1):

- **The Universal Standards** establish the foundation of reporting through disclosures on governance, strategy, stakeholder engagement, and material impacts.
- **The Sector Standards** identify topics likely to be material for particular industries, and indicate relevant disclosures to report on these topics. For the purposes of these case studies, the most relevant are *GRI 13: Agriculture, Aquaculture and Fishing Sectors 2022* and *GRI 14: Mining Sector 2024*.
- **The Topic Standards** provide detailed reporting requirements on specific sustainability issues such as biodiversity, water, waste, emissions, Indigenous Peoples and local communities.

Together, these Standards provide a structured process through which organizations identify their impacts, assess their significance, determine material topics, collect relevant information in accordance with GRI disclosure requirements, and publicly communicate how those impacts are managed and how performance is tracked over time.

For land-related issues, the GRI Standards bring together multiple dimensions of environmental and social performance. Land degradation rarely occurs in isolation. It is connected to water availability, biodiversity, pollution, community livelihoods, land rights and governance systems. The GRI system allows these interconnected issues to be disclosed within a coherent structure.

Figure 1. GRI Standards: Universal, Sector and Topic Standards



4. How GRI Standards provide information relevant to the LDN Principles

GRI and LDN serve different purposes. GRI develops sustainability reporting standards designed to improve transparency and accountability. LDN is a policy objective focused on maintaining and improving land

resources. Nevertheless, substantial complementarities exist between the information generated through GRI reporting and the information needs associated with LDN implementation as shown in Table 1.

Table 1. Complementarities between LDN Principles and information supported by the GRI Standards.

Theme	Relevant LDN Principles	Information supported by the GRI Standards	Illustration from the case studies
Maintaining and enhancing natural capital	1, 10	Information on biodiversity such as ecosystem condition and ecosystem services, water use, affected ecosystems, and stakeholders.	Olam Agri: soil health, ecosystem stewardship, and regenerative agriculture. Rio Tinto: biodiversity management and water stewardship.
Avoiding and managing degradation	1, 3, 4, 10	Information on material impacts, due diligence, measures to avoid or reduce land-related impacts.	Olam Agri: traceability and deforestation- and conversion-free supply chains. Rio Tinto: environmental assessment, operational controls, and water management.
Restoration and rehabilitation	3, 4, 9, 10	Information on rehabilitation and restoration activities, mine closure, sustainable agriculture practices and ecosystem recovery initiatives.	Olam Agri: regenerative agriculture and restoration-oriented practices. Rio Tinto: progressive rehabilitation and mine closure.
Participation, rights and accountability	6, 7, 8, 10	Information on human rights due diligence including governance, stakeholder engagement, relationships with Indigenous Peoples and local communities, and grievance mechanisms.	Olam Agri: farmer engagement, sourcing programs and landscape collaboration. Rio Tinto: participatory monitoring, community engagement, and grievance mechanisms.
Monitoring and adaptive management	4, 15, 17, 18	Information on indicators, targets, performance trends, management responses, and continual improvement.	Olam Agri & Rio Tinto: Both case studies show how reporting systems strengthen internal monitoring, accountability and adaptive management.

GRI disclosures help organizations identify, manage and communicate land-, soil-, water-, and biodiversity-related impacts, while supporting many of the governance, management and transparency functions that underpins LDN implementation. Taken together, these case studies show that the GRI Standards provide a structured information architecture for reporting information relevant to many aspects of LDN implementation. The reporting process can also strengthen internal data systems, governance and due diligence by helping companies identify data gaps, refine policies, and improve the quality and consistency of sustainability information over time.

5. Limitations in the alignment between GRI Disclosures and LDN Principles

The GRI Standards provide substantial disclosure entry points for issues that are relevant to LDN, particularly governance, stakeholder engagement, biodiversity, water stewardship, ecosystem services, land and resource rights, rehabilitation, and sector-specific impacts in agriculture and mining. However, areas of misalignment remain, which primarily arise because GRI is a corporate disclosure framework, while LDN is a policy and monitoring framework designed to guide implementation at national and sub-national levels.

LDN Principle 15, for example, calls for the use of three land-based indicators and associated metrics: land cover, assessed as land cover change; land productivity, assessed as Net Primary Production; and carbon stocks, assessed as Soil Organic Carbon. These indicators are central to the UNCCD approach to understanding and monitoring land degradation. UNCCD guidance on SDG Indicator 15.3.1 similarly identifies land cover, land productivity, and soil organic carbon (SOC) stocks as the three major variables used to measure the proportion of land that is degraded (UNCCD). The GRI Standards can provide useful supporting information for the three land-based indicators under LDN Principle 15, but they do not require companies to report using the specific indicator definitions, spatial units, baselines, or aggregation methods applied in LDN monitoring. Specifically, GRI disclosures can support reporting on natural ecosystem conversion, affected ecosystem extent, land-use change, ecosystem type, soil-health management practices, and threats to soil condition. However, they do not require reporting on Net Primary Production, vegetation productivity trends, Soil Organic Carbon stocks, soil depth, sampling methodology or spatially explicit SOC baselines. In some cases, companies may monitor more detailed quantitative land-condition metrics internally, such as SOC, but not disclose them publicly because they may not be meaningful when aggregated at entity level, may be commercially or operationally sensitive, or may lack a commonly used methodology for consistent corporate reporting. As a result, corporate disclosures can provide relevant qualitative and contextual information,

but they do not directly meet the metric requirements associated with LDN Principle 15.

Another limitation concerns LDN Principle 16, which requires the integration of the three global indicators using a “one-out, all-out” approach. Under this approach, a significant negative change in any one of the three indicators is considered a loss. GRI disclosures do not require companies to integrate land cover, land productivity and carbon stock data into a single land degradation assessment, nor do they require companies to classify land as degraded or not degraded according to SDG Indicator 15.3.1 methods (UNCCD). This reflects the different purposes of the two initiatives: GRI is designed to support corporate transparency and accountability, whereas the LDN framework supports national land monitoring and policy implementation. Looking ahead, greater alignment between corporate disclosure standards and the information needs of LDN monitoring could strengthen the contribution of corporate reporting to national land management objectives, while maintaining the distinct roles of corporate disclosure and public monitoring systems.

Other LDN Principles concern national target-setting, integrated land-use planning, counterbalancing losses and gains in land-based natural capital, and the use of additional national and sub-national indicators. GRI disclosures can provide information relevant to these areas, especially where companies report on management responses, stakeholder engagement, and restoration activities and progress against no net loss or net gain targets. However, they do not require companies to align with national LDN targets, apply national LDN baselines, participate in public land-use planning processes, or report against official national monitoring systems.

6. Comparative Insights from the Case Studies

6.1 Common Themes

Despite significant differences between the agricultural and mining sectors, the Olam Agri and Rio Tinto case studies reveal several common themes. In both cases, sustainability reporting serves not only as an external communication tool, but also contributes as a governance process that strengthens internal data systems, improves management processes, and creates greater discipline around land-related information.

Both companies credibly demonstrate that land issues cannot be understood in isolation. Land stewardship is closely connected to water availability, biodiversity, ecosystem condition, and community relationships. For Olam Agri, the connections emerge through reporting on soil health, regenerative agriculture, deforestation- and conversion-free sourcing, and ecosystem stewardship across agricultural landscapes. For Rio Tinto, they are visible through disclosures on land disturbance, rehabilitation, water stewardship, and biodiversity management.

The cases also demonstrate that the reporting process itself can strengthen governance. Preparing sustainability disclosures requires companies to identify material land-related impacts, engage stakeholders, review governance arrangements, strengthen data systems, and document due diligence processes, including grievance mechanisms. Rather than simply communicating performance, reporting can help embed accountability, improve internal decision-making, and support more systematic management of land-related issues.

Finally, both cases show that sustainability reporting evolves over time. Olam Agri and Rio Tinto have progressively expanded and refined their reporting architectures, including through the incorporation of newer nature-related frameworks such as the Taskforce on Nature-related Financial Disclosures (TNFD). This evolution suggests that disclosure can support continuous improvement by helping companies identify gaps, strengthen data systems and respond to emerging stakeholder expectations.

6.2 Distinctive Insights from Each Case

The Olam Agri case highlights the management of land-related impacts and systemic risks across extensive agricultural value chains. The case draws on three illustrative examples - regenerative agriculture, sustainable forest management in the Congo Basin, and deforestation- and conversion-free supply chains - to show how sustainability disclosure can address soil health, ecosystem stewardship, traceability, landscape approaches, and farmer resilience. These issues reflect the distributed nature of agricultural impacts, where the cumulative effects of many individual sourcing decisions and production practices can become material at landscape and regional scales. The case demonstrates how sustainability reporting can help companies identify and manage these interconnected issues across complex supply chains, rather than focusing solely on impacts within their own operations.

The Rio Tinto case highlights the challenges associated with direct land disturbance and long-term stewardship in the mining sector. Drawing on Rio Tinto's corporate sustainability reporting together with site-level examples from the Oyu Tolgoi operation in Mongolia, the case illustrates how sustainability disclosures can address rehabilitation, mine closure, water stewardship in arid environments, biodiversity management, and community engagement around operational impacts. These issues are closely tied to the mining life cycle, where land transformation can be significant, site-specific and long-lasting. The case also demonstrates how Group-level reporting can be complemented by site-level information, with Oyu Tolgoi providing practical examples of how corporate commitments are implemented through rehabilitation activities, participatory monitoring and stakeholder engagement. Together, these disclosures provide location-specific information on land-related impacts, management responses, and progress over time.

7. Lessons Learned

The case studies point to several lessons about the role of sustainability disclosure in supporting land, drought resilience, and LDN objectives.

First, corporate disclosures can help identify, organize, and communicate information relevant to multiple LDN principles. Land-related reporting can provide insight into governance, stakeholder engagement, land and resource rights, water stewardship, biodiversity and ecosystem services, rehabilitation, soil management, and sector-specific impacts. For investors and financial institutions, land-related disclosures can provide insight into environmental impacts and dependencies, operational resilience, and long-term sustainability performance.

Second, effective land stewardship requires the integration of environmental, social, and governance considerations. Land degradation, water stress, and biodiversity loss are closely connected to community relationships, livelihoods, land access, the rights of Indigenous Peoples and local communities, and local accountability mechanisms. The case studies show that disclosures on stakeholder engagement, grievance processes, participatory monitoring, and human rights can be as relevant to land stewardship as environmental performance indicators.

Third, reporting can strengthen governance, internal management, and data quality. Sustainability disclosure helps organizations organize information, identify gaps, improve consistency across business units or sites, strengthen due diligence processes, and create greater accountability for commitments and actions. In this sense, disclosure functions as an information infrastructure that supports internal decision-making, performance monitoring, and external accountability.

Fourth, sector-specific disclosures are critical because land-related impacts differ significantly between industries. In mining, land impacts are often concentrated around operational assets and are closely linked to disturbance, rehabilitation, closure, water management, and community impacts. In agriculture, land-related impacts and dependencies are often distributed across sourcing regions, suppliers and landscapes, requiring attention to soil health, ecosystem services, traceability, and farmer engagement.

Finally, disclosure can support policy dialogue and accountability. Corporate reporting can complement public data and help identify relevant impacts, practices, and potential partners, but LDN monitoring requires spatially explicit indicators, baselines and methodologies that go beyond what corporate disclosure usually requires. Disclosure should therefore be viewed not simply as a reporting requirement but as an information architecture that supports governance, accountability, management, stakeholder dialogue, and evidence-based decision-making.

8. Conclusion

The Olam Agri and Rio Tinto case studies show that corporate sustainability disclosure helps identify, organize, and communicate information relevant to a broad range of LDN principles. The GRI Standards are not designed as an LDN framework, nor do they replace national monitoring and reporting systems. However, they provide a structured disclosure architecture that can help organizations report on many issues relevant to sustainable land, soil and water management, including land-related impacts, governance, stakeholder engagement, biodiversity, water stewardship, restoration and rehabilitation, and supply chain practices.

The two cases illustrate distinct sector contexts. Olam Agri demonstrates how disclosure can address agricultural landscapes, soil health, regenerative practices, and supply chain stewardship. Rio Tinto demonstrates how disclosure can address direct land disturbance, rehabilitation, closure, and water stewardship in the mining sector. Together, they show that land-related disclosure is relevant across different business models and can support both internal management and external accountability.

At the same time, the analysis clarifies the limits of corporate disclosure. Some information needed to assess land condition and change, particularly spatially explicit data and indicators such as land cover change, land productivity, and SOC, may not appear in public sustainability reporting. In some cases, companies may collect such information internally, but it may not be reported because it is not meaningful when aggregated at entity level, is commercially or operationally sensitive, or lacks commonly used methods for consistent corporate disclosure.

The cases therefore suggest that corporate sustainability reporting can provide a useful information base for understanding how companies identify, manage, and communicate land-related issues. However, public corporate disclosures should be interpreted alongside other sources of evidence, including national monitoring systems, public policy processes, site-level data, community perspectives, and independent assessment where available, for greater insights, and impact.





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CASE STUDY

Rio Tinto: Sustainability Disclosure, Water Stewardship and Mine Rehabilitation in an Arid Landscape

RioTinto

Acronyms

Acronym	Definition
CAO	Compliance Advisor Ombudsman
ESG	Environmental, Social and Governance
GISTM	Global Industry Standard on Tailings Management
GL	Gigalitre
GRI	Global Reporting Initiative
ICMM	International Council on Mining and Metals
IESC	Independent Environmental and Social Consultant
IUCN	International Union for Conservation of Nature
KPI	Key Performance Indicator
LDN	Land Degradation Neutrality
SASB	Sustainability Accounting Standards Board
SDG	Sustainable Development Goal
TCFD	Task Force on Climate-related Financial Disclosures
TNFD	Taskforce on Nature-related Financial Disclosures
UNCCD	United Nations Convention to Combat Desertification
WRI	World Resources Institute

Executive summary

This case study examines how Rio Tinto uses sustainability reporting to disclose and manage land-, soil-, water-, and biodiversity-related issues. It also explores how corporate disclosures can contribute to the United Nations Convention to Combat Desertification (UNCCD) Land Degradation Neutrality (LDN) objectives by supporting governance, transparency and decision-making. It focuses on Rio Tinto Group reporting, with Oyu Tolgoi in Mongolia's South Gobi region used as a site-level example. The case is relevant because mining has direct, measurable and long-term interfaces with land through exploration, mine development, extraction, waste rock and tailings management, water withdrawal and discharge, progressive rehabilitation, closure and post-mining land use.

Rio Tinto's reporting architecture has evolved into an integrated Group-level disclosure system centered on the Annual Report and supported by the Sustainability Fact Book, Global Reporting Initiative (GRI) Content Index and other framework references. The company has used the GRI Standards for more than a decade and described GRI as a base for sustainability reporting. The case shows that GRI-based reporting can serve both an external transparency function and an internal data-discipline function: it helps structure public disclosure, identify gaps, align indicators over time, and support more consistent internal data collection.

The case finds that corporate disclosure can support LDN-relevant understanding by making land disturbance, rehabilitation activity, water stress, biodiversity management, tailings, waste and community engagement more visible. Rio Tinto's disclosures provide evidence on management systems, operational pressures and key performance indicators, including remaining disturbance footprint, annual rehabilitation, water withdrawals and consumption in water-stressed areas, water discharges and water recycling. At Oyu Tolgoi, site-level reporting and independent environmental and social audits add further context on water

stewardship, participatory monitoring, biodiversity management, tailings seepage monitoring, air quality, waste and closure planning.

The case also highlights two important limitations. First, disclosure does not by itself demonstrate land degradation neutrality or long-term ecological recovery. Assessing rehabilitation outcomes, including land condition, soil function, native species recovery, erosion control, stakeholder acceptance or long-term ecological performance requires additional site-level evidence, such as monitoring results, land-condition data, completion criteria and independent or stakeholder validation. Second, public disclosure is a structured Group-level layer above more granular operational data. Its value is to provide material, credible and decision-useful information for external users, while recognizing that more detailed operational information may remain within internal systems or site-level reporting channels.

For governments and policymakers, Rio Tinto's disclosures can support identification of relevant assets, risk areas, data systems, management practices and potential entry points for dialogue on rehabilitation, catchment management, drought resilience, mine closure and post-mining land use. They can also help identify where corporate data could complement public land, soil, water and biodiversity monitoring, provided appropriate data-sharing, verification and governance arrangements are in place.

The case therefore shows that sustainability disclosure serves several functions beyond reporting performance. It can signal management maturity, strengthen internal data systems, support transparency for investors and lenders, provide a basis for dialogue with communities and governments, and highlight where enabling policy conditions are needed for better sustainable land management. Table 1 summarizes these functions.

Table 1. How Corporate Sustainability Disclosures can support Land Degradation Neutrality (LDN)

Function of Corporate Disclosure	How it can support LDN
Signaling	Demonstrates governance, commitments, management systems and disclosure maturity, helping users identify companies and assets relevant to land, soil, water, and biodiversity priorities.
Management Improvement	Helps companies to identify indicator, data and reporting gaps, supporting progressive alignment with GRI disclosures and more consistent internal monitoring of land-related issues.
Assurance and Accountability Mechanisms	When connected to independent audits, lender review, participatory monitoring, grievance processes, certification and tailings governance standards, corporate disclosure practices can act as important assurance and accountability mechanisms.
Transparency and Stakeholder Trust	Makes land, water, biodiversity, tailings and community engagement practices more visible to stakeholders, supporting dialogue and the ongoing maintenance of trust, especially where land, water, pasture and livelihood concerns have been publicly raised.
Partnerships and Dialogue	Creates a basis for engagement, data sharing and collaboration among companies, governments, lenders, communities, investors, and civil society.
Policy Feedback	Highlights practical implementation issues, site-level constraints and enabling conditions relevant to rehabilitation, restoration, drought resilience, LDN and broader UNCCD objectives.

Company profile

Company and sector context

Rio Tinto is a publicly listed global mining and metals group headquartered in London, with a corporate office in Melbourne. It is listed on the London Stock Exchange and the Australian Securities Exchange, with American Depositary Receipts listed on the New York Stock Exchange (Rio Tinto, 2026a). The Group produces materials including iron ore, aluminum, copper, lithium, borates, titanium dioxide, salt and other minerals. Its interaction with land is closely tied to the mining life cycle, including exploration, mine development, open-pit and underground mining, ore processing, waste rock and tailings management, transport infrastructure, water withdrawal and discharge, progressive rehabilitation and closure (Rio Tinto, 2025b). Many land-related impacts are concentrated around operational sites and associated infrastructure, but they can be large, long-lived, and ecologically or culturally significant.

This case study focuses on Rio Tinto Group reporting, with Oyu Tolgoi used as a site-level example. Oyu Tolgoi is located in Mongolia's South Gobi region. Rio Tinto describes it as one of the world's largest known copper and gold deposits. First ore from the open pit was mined in April 2012, the concentrator began processing ore in 2013, and sustainable underground production began in March 2023 (Oyu Tolgoi LLC, n.d.; Rio Tinto, n.d.-a). Rio Tinto manages the operation, with the Government of Mongolia owning 34% and Rio Tinto owning 66%. Oyu Tolgoi operations combine mining-related land disturbance, water use in an arid landscape, biodiversity management, herder livelihoods, participatory environmental monitoring, grievance history, mine expansion, and future copper demand.

Rio Tinto's corporate sustainability reporting is produced at Group level, with data and information from individual assets, including Oyu Tolgoi operations, feeding into Group-level disclosures. Individual assets do not generally produce standalone sustainability reports equivalent to the Group Annual Report or Sustainability Fact Book, although some assets publish site-specific information, monitoring reports or community materials. The company indicated that land, water and biodiversity disclosures generally relate to managed

operations. Joint ventures not managed by Rio Tinto are generally excluded from those Environmental, Social and Governance (ESG) parameters unless the relevant report or fact book explicitly states otherwise. Climate data is treated differently, with majority reporting presented on an equity basis.

Interfaces with land, soil and water

Rio Tinto's land, soil, and water interfaces extend beyond the immediate extraction area. They include physical land disturbance and long-term land transformation from pits, underground workings, waste rock, tailings, processing facilities, roads, rail, ports, pipelines, energy infrastructure, closure landscapes, and post-mining land use. They also include water withdrawal, discharge, consumption, recycling, and reuse, particularly where operations are located in water-stressed areas.

These land, soil and water impacts are connected to biodiversity and social impacts. Mining can affect habitat connectivity, ecosystem condition, sensitive species, protected areas, land access, pasture availability, cultural heritage, and water availability. Management responses may include avoidance and minimization measures, offsets, grievance processes, and community agreements. Drought-related disclosure in Rio Tinto's reporting is reflected primarily through disclosures on water availability, groundwater resources, catchment water stress, and physical climate risk, together with management responses such as water stewardship and operational resilience (Rio Tinto, 2025b, 2025d).

Oyu Tolgoi illustrates these connections. Rio Tinto states that average annual rainfall is around 100 mm and that local herders rely on shallow groundwater from springs and wells (Ergo Strategy Group, 2026). The mine uses deeper groundwater from the Gunii Hooloi aquifer, which Rio Tinto describes as non-drinkable saline water. This context highlights the relevance of Rio Tinto's water disclosures for understanding drought-related risks, water stewardship, rangeland livelihoods, and community resilience in an arid landscape.

Lessons learned

The Rio Tinto case shows that corporate sustainability disclosure can support company-level management of land-, soil-, water-, and biodiversity related issues, while also indicating that disclosure may need to be complemented by other information sources, such as site-level monitoring, land-condition data, community perspectives, or independent auditing, to provide comprehensive evidence of LDN outcomes.

Rio Tinto reports indicators and management information relevant to the mining life cycle, including project design, impact assessment, operations, progressive rehabilitation, closure and post-closure stewardship. Its disclosures on disturbance footprint, rehabilitation activities, water withdrawals, discharges, recycling and water-stress exposure help users assess the scale of operational pressure and the company's management performance. Assessing restored land condition, soil function, native species recovery, erosion control, stakeholder acceptance or long-term ecological performance requires additional site-level evidence, such as monitoring results, land-condition data, completion criteria and, where appropriate, independent or stakeholder validation.

The case also shows the value of reporting standards for internal data discipline. The company indicated that GRI gap analysis is used to identify missing indicators and improve data systems, suggesting that GRI-based reporting can support more consistent internal data collection as well as external transparency. The company continues to progressively align its indicators with GRI disclosures over time, while internal systems support the collection and monitoring of more granular, site-level information. Public disclosure therefore provides a structured Group-level account of material impacts and management responses, while internal systems retain more detailed operational data.

Location-specific information is particularly important for land degradation and drought analysis because mining impacts and dependencies vary significantly by site. Rio Tinto's disclosures on water and biodiversity at asset level show how corporate reporting can make land, water and biodiversity issues more visible and comparable, providing additional context for interpreting impacts and management actions.

The case also demonstrates that disclosure is more credible when connected to other accountability mechanisms. At Oyu Tolgoi, relevant mechanisms include grievance history, participatory monitoring, lender review, independent environmental and social audits, certification processes and tailings governance standards (Oyu Tolgoi LLC, 2025b; Rio Tinto, 2021c). This connection between disclosure standards and additional assurance mechanisms show that reporting can provide transparency and structure, while independent review can help test, verify and contextualize the information reported.

Oyu Tolgoi is not only a water-efficiency example; it is a site where land, water, pasture, ecosystem services, and livelihood concerns have been publicly raised, highlighting the interconnection between environmental and social dimensions of sustainable land management in mining. In this context, transparency and stakeholder trust become central to credible disclosure. Reporting can support this function by making company practices, impacts, risks, corrective actions and monitoring processes more visible to communities, lenders, investors, civil society, and governments.

For UNCCD and LDN purposes, Rio Tinto's reporting can contribute to LDN-relevant understanding by showing land disturbance, rehabilitation activity, water stress, biodiversity management, and stakeholder engagement. The case shows how disclosure can support the conditions for better sustainable land management: clearer identification of impacts, more disciplined data collection, more transparent management responses and better entry points for policy dialogue.

Use of sustainability reporting and disclosures

Evolution in reporting architecture

Rio Tinto explained that it had used GRI for more than a decade. The company previously published standalone sustainability reports, before transitioning to an integrated *Annual Report*, while continuing using GRI while as the foundation of its sustainability reporting and incorporating additional frameworks as they emerged, including the Task Force on Climate-related Financial Disclosures (TCFD), Sustainability Accounting Standards Board (SASB) Standards and the Task Force on Nature-related Financial Disclosures (TNFD) recommendations (Rio Tinto, 2025b, 2025c, 2025a). Rio Tinto also explained that many internal data-collection platforms are designed with public, GRI-aligned disclosure in mind.

By 2020, sustainability reporting had been fully integrated into the *Annual Report*, which included a dedicated sustainability section covering safety, communities, human rights, climate change, water,

biodiversity, mine closure and other environmental and social topics (Rio Tinto, 2020a). This was complemented by the *Sustainability Fact Book*, which contains current and historical sustainability data on health and safety, environment, climate, communities, human rights, responsible sourcing and transparency. The *Sustainability Fact Book* also included reference indexes for GRI, Sustainable Development Goals (SDGs), TCFD, Climate Action 100+, International Council on Mining and Metals (ICMM) Position Statements and SASB, together with environmental data on land footprint, rehabilitation, water performance by asset, biodiversity areas and species by asset, waste, air emissions and tailings (Rio Tinto, 2020b).

By 2025, Rio Tinto's reporting had evolved into a modular reporting architecture, combining the *Annual Report* as the principal sustainability narrative with the *Sustainability Fact Book* as the primary repository for detailed data and framework indexes (Rio Tinto, 2020a, 2020b, 2021a, 2021b, 2022a, 2022b, 2023a, 2023b, 2024a, 2024b, 2025b, 2025c).



Evolution in material topic coverage

Rio Tinto's reporting demonstrates continuity in the land-, water-, and biodiversity-related issues covered over the reporting period. These topics were already visible in the 2020 reporting architecture through disclosures on water, biodiversity and ecosystems, closure, rehabilitation, tailings, communities and human rights. Across subsequent reports, the same broad themes continue to appear as material or otherwise significant to Rio Tinto's sustainability reporting, including biodiversity and ecosystems, local community relations, tailings and mineral waste management, water stewardship, closure, post-mining and land rehabilitation, industrial environmental impacts, human rights and cultural heritage management (see Figure 1).

The consistency of Rio Tinto's topic coverage supports trend analysis and comparison of sustainability performance over time, while some areas of disclosure have become more detailed and decision-useful. The company described using GRI gap analysis to compare current disclosure with GRI Standards and

share identified gaps with subject-matter experts. Water was cited as an example: earlier reporting focused mainly on withdrawals and discharges, while more recent reporting includes a wider set of Key Performance Indicators (KPIs) covering quantity, quality, sources, discharge information, asset-level water-risk profile, and catchment water stress. Rio Tinto's water disclosure also includes asset-level water-risk information and additional structured tables, including water metrics by commodity and region, World Resources Institute (WRI) 2030 catchment water-stress ratings by asset, and ICMM-format water-balance data. Biodiversity was also cited as an area where asset-level disclosure has expanded, including information on key biodiversity areas, biodiversity values and threatened species in or near asset areas. Waste and tailings provide further examples, with more structured disclosures on waste type, disposal pathways, recycling streams and storage practices, and tailings management aligned with the Global Industry Standard on Tailings Management (GISTM). These developments are mainly reflected in the Sustainability Fact Book and related structured data tools, complementing the Annual Report.

Figure 1. Rio Tinto's material topics. Source: Rio Tinto Annual Report 2025

Social			Environment			Governance
	    			  		
People	Communities	Indigenous Peoples	Nature	Decarbonisation	Transparency, partnerships and ethical business	
Respecting human rights	Community relations	Cultural heritage management	Water management	Climate change	Business integrity and governance	
Safety, health and wellbeing	Impact of technology		Biodiversity and ecosystems	End-to-end materials management	Sustainability transparency and disclosure	
Respect and inclusion			Industrial environment impacts	Future-proof assets	Business performance	
Employment and talent retention			Tailings and mineral waste management		Risk management and cyber security	
Pandemic response and public health			Closure, post-mining and land rehabilitation		Responsible tax and royalty payments	
					Supply chain transparency	

Each topic above appears under either the environment, or the social or governance theme to which it primarily relates. However, there is crossover among sustainability themes, meaning some topics can be relevant to 2 or even all 3 themes. Accordingly, we work with themes and topics holistically, not in silos.

Role of the GRI Standards

GRI Standards play both an external reporting and internal data-discipline role in Rio Tinto's disclosure system. The company explained that sustainability KPIs are collected from around 80 assets, including mines, smelters, refineries and other managed operations or facilities, with GRI-aligned public disclosure in mind. GRI gap analysis also appears to create a feedback loop: disclosure gaps are identified, shared with subject matter experts and, where data availability allows, used to strengthen reporting over time.

For this case study, the most relevant GRI Standards are those that support disclosure on material topics, biodiversity, climate, emissions, Indigenous Peoples, land rights, local communities, rehabilitation and closure, waste, water. *GRI 14: Mining Sector 2024* is especially relevant because it introduces a sector-specific lens for mining impacts, including tailings, water, waste, biodiversity, Indigenous Peoples and local communities, land and resource rights, closure and rehabilitation (Global Sustainability Standards Board, 2024). Appendix 1 provides a more detailed overview of Rio Tinto's GRI-linked disclosures and their relevance to UNCCD and LDN objectives.

Public disclosure versus internal data

Rio Tinto's case illustrates the role of public disclosure as a structured governance and transparency layer above more detailed operational and site-level data.

Group-level reporting is designed to present material, comparable, and decision-useful information across a global portfolio, while site-level systems can hold more granular information needed to manage local environmental impacts and assess outcomes. Public disclosures provide information on the scale of disturbance, rehabilitation activities and other management responses, whereas assessing land condition, ecological recovery, and long-term resilience requires more granular site-level monitoring and technical evidence.

Rehabilitation provides an example of the distinction between operational management and public disclosure. Rio Tinto explained that rehabilitation is supported by detailed internal monitoring systems that

distinguish between first-time rehabilitation, repeated rehabilitation, rehabilitation affected by natural causes, and areas requiring additional rehabilitation because completion criteria have not yet been achieved. At Oyu Tolgoi, the company also tracks different stages of the rehabilitation process, including land rehabilitated, land monitored against completion criteria, and land formally relinquished to local authorities and stakeholders. This level of operational detail supports day-to-day land management and decision-making but is not reported comprehensively in Group-level sustainability disclosures. Instead, public reporting presents aggregated indicators that provide a consistent and comparable picture of rehabilitation progress across Rio Tinto's global portfolio.

The company also explained that some information is collected and managed internally at a greater level of detail before it is ready to be reflected in public reporting. For example, Rio Tinto reports selected asset-level biodiversity information, including proximity to key biodiversity areas, biodiversity values, and threatened species in or near asset areas. Some information is disclosed in selected forms, including through the Sustainability Fact Book, while other information remains part of internal systems and may be included in public reporting in the future.

Public disclosure is therefore a structured but filtered layer above operational systems. It provides a consistent, auditable, and stakeholder-facing account of material impacts and management responses. For governments and policymakers, these disclosures are a useful entry point to identify companies operating in priority landscapes, understand the maturity of their management systems, and identify opportunities for dialogue. Assessing ecological recovery, land degradation neutrality or drought resilience, however, would require additional evidence, including from site-level monitoring results, independent review and alignment with national data systems.

Oyu Tolgoi further illustrates how site-level reporting can complement Group-level disclosure. The operation supports transparency through public reporting, independent assessments, and stakeholder engagement. Environmental, social, and governance performance is regularly reviewed by independent experts on behalf of international lenders, with findings, corrective actions, and progress made publicly available. Site-level materials, including environmental and social impact assessments, management plans, monitoring reports, and sustainability information, are also published on the company's website (Oyu Tolgoi LLC, 2026). Additional

reporting covers workforce, community development and environmental management, including biodiversity, water management, waste and tailings management, rehabilitation and mine closure. They also include disclosures aligned with international initiatives and standards, including the Copper Mark and the Global Industry Standard on Tailings Management (GISTM). These complement Rio Tinto's Group-level reporting

by providing stakeholders with more detailed site-level information and independent oversight.

The following sections examine how these internal data systems are translated into governance arrangements, management approaches and public disclosures across key land-related topics.

Management approach

Governance and due diligence for land

Rio Tinto describes its land-, soil-, water-, and biodiversity-related governance as a combination of Group-level policies and standards, product-group input, and asset-level implementation. Oversight is provided through a board-level Sustainability Committee, a management committee including senior executives, and designated leads for environmental and social topics such as biodiversity, land and water. These topic leads work with management structures to develop policies and standards, which are then approved at Group level and implemented across relevant assets.

Product groups such as aluminum, copper and iron ore provide input on the applicability and feasibility of standards. Once adopted, standards are implemented at asset level (individual mines, smelters, refineries, processing facilities or other managed operations) by general managers and asset-level environmental subject matter experts. Local legal requirements and jurisdiction-specific practices are incorporated alongside Group standards. This creates a top-down and asset-informed model where Group expectations set the baseline, while asset teams adapt implementation to local conditions.

At Oyu Tolgoi, the management approach is shaped by the South Gobi environment, the long life of the mine, national rehabilitation rules, Rio Tinto standards, lender expectations and community engagement.

Land disturbance, rehabilitation and closure

Land disturbance, rehabilitation and closure are core land-management themes for Rio Tinto. The company reports both its remaining unrehabilitated disturbance footprint and annual rehabilitation activity. In 2025, Rio Tinto reported a remaining unrehabilitated disturbance footprint of 1,818 km², an increase of 56 km² from 2024, and 26 km² rehabilitated during the year (Rio Tinto, 2025b, 2025c). These activity and footprint metrics help understand the scale of land transformation associated with mining and the rate at which disturbed land is progressing through rehabilitation toward agreed post-mining land uses.

At Oyu Tolgoi, the company described its staged rehabilitation approach, monitoring against completion criteria and relinquishment to local authorities or stakeholders once criteria are met. To date, the operation has completed technically rehabilitation of over 1,900 hectares of disturbed land through contouring, reshaping, and scarifying. More than 700 hectares have subsequently undergone biological rehabilitation through the planting of native species, of which around 200 hectares have been relinquished.

Oyu Tolgoi also maintains a multidisciplinary mine closure planning process that is regularly reviewed to align with regulatory requirements and Rio Tinto closure standards. Closure planning focuses on long-term physical stability, environmental safety, and land uses agreed with stakeholders. While a revised closure plan has been prepared to reflect updated regulatory and corporate requirements and is pending formal approval, progressive closure activities are being implemented, including rehabilitation of the tailings storage facility and revegetation trials.

Water stewardship and drought relevance

Water is another of Rio Tinto's principal land-related disclosure themes. Group-level reporting provides quantitative information on water withdrawals, discharges, consumption, recycling and reuse, together with the proportion of operations located in water-stressed areas. These disclosures align with relevant GRI and ICMM requirements, and the company uses the WRI Aqueduct Water Risk Atlas to assess catchment water stress. In 2025, Rio Tinto reported total operational withdrawals of 1,147 Gigalitres (GL), including 386 GL of freshwater withdrawals, total discharges of 626 GL, and total water recycled or reused of 374 GL. The company also identified 17 sites, representing 25% of its portfolio, located in catchments exposed to elevated water stress under WRI's 2030 scenario (Rio Tinto, 2025b, 2025c).

Rio Tinto complements these metrics with a water-risk management framework covering water resource availability, water quality and quantity, dewatering, and long-term water obligations. The framework considers risks associated with meeting environmental, community and operational water needs, managing discharge and water quality, minimizing aquifer impacts from dewatering, and addressing long-term post-mining water obligations, including pit lakes or seepage from waste rock and tailings facilities. These disclosures show how Rio Tinto integrates water management with catchment conditions, business resilience, mine closure and stakeholder concerns.

Oyu Tolgoi provides a site-level example of this approach. The company reports that the operation uses 0.42 m³ of water per ton of ore processed, compared with a cited global average of 1.2 m³ for comparable copper businesses, and that more than 87% of water used at the operation is recycled (Rio Tinto, 2026b). This performance is supported by operational water management measures, including thickened tailings, extensive water return systems, and performance monitoring linked to water-use targets. Recycling rates and water intensity can fluctuate with operating conditions, particularly during winter when some water is immobilized as ice, but overall water demand remains stable and below regulatory limits. The company also reports a zero direct discharge policy. These disclosures are important because Oyu Tolgoi operates in Mongolia's arid South Gobi, where average annual rainfall of around 100 mm and local herders depend on shallow groundwater from springs and wells. Rio Tinto reports that the mine sources

water from the deeper Gunii Hooloi aquifer, a saline non-drinkable water resource, while monitoring water levels and quality in herders' hand-dug wells. Herders also maintain their own records for comparison (Strength GEC LLC, 2024, 2025).

The site's water management practices are also subject to independent review by lenders and external experts, strengthening transparency and accountability. Monitoring also includes an independent participatory program led by the local NGO Munkh Nagoon Galba, providing additional oversight of water conditions and supporting the assessment of potential impacts on local communities and water resources (Rio Tinto, 2026b; Strength GEC LLC, 2024).

Biodiversity

Rio Tinto's biodiversity reporting includes Group- and asset-level information. The company has progressively expanded its asset-level disclosure to indicate whether operations are located near Key Biodiversity Areas, whether biodiversity values are present, and whether IUCN-listed species occur in or near asset areas (Rio Tinto, 2025c, 2025b). This information helps contextualize the ecological sensitivity of Rio Tinto's operations and provides a more location-specific understanding of any biodiversity impacts and management responses. They also describe the company's application of the mitigation hierarchy, including measures to avoid, minimize, restore and, where appropriate, offset biodiversity impacts.

The Oyu Tolgoi operation is located in the ecologically sensitive South Gobi, which supports species of conservation significance such as the Asiatic wild ass (khulan) and black-tailed gazelle (Oyu Tolgoi LLC, 2025b; Strength GEC LLC, 2025). Rio Tinto reports that biodiversity management is guided by the mitigation hierarchy, with a stated objective of achieving net gain or no net loss of biodiversity. Reported management measures include habitat restoration, anti-poaching initiatives, priority plant propagation, wildlife monitoring, and efforts to improve habitat connectivity and refine biodiversity offset approaches in a sensitive desert ecosystem. In addition, Oyu Tolgoi participates in Mongolia's national tree-planting program through a voluntary commitment to plant 100 million trees by 2030, separate from its operational biodiversity mitigation requirements (Oyu Tolgoi LLC, 2025a).

Together, these disclosures provide stakeholders with information on the ecological context of the operation, the biodiversity values that may be affected, and the management measures implemented to avoid, minimize and address biodiversity impacts. As with other land-related topics, public reporting presents a structured overview of biodiversity management rather than the full range of ecological monitoring and technical information used to support site-level decision-making.

Waste, tailings and air quality

Waste rock, tailings, air emissions, and non-mineral waste can affect soil, water quality, vegetation, ecosystem health, and community well-being beyond the immediate mine footprint. In its 2025 Group-level reporting, Rio Tinto reported operational environment data on mineral and non-mineral waste, air emissions, tailings facilities, land disturbance, and rehabilitation activities (Rio Tinto, n.d.-b, 2025b, 2025c). These disclosures illustrate that land-related reporting in the mining sector extends beyond land disturbance and rehabilitation to include broader environmental management issues that influence land condition, water quality, ecosystem health, and long-term mine closure.

Oyu Tolgoi provides a site-level example of this broader disclosure. Its public reporting and independent environmental and social audit reports cover tailings, air quality, greenhouse gas emissions, mineral and non-mineral waste, and hazardous waste management, all of which are relevant to land condition, water quality, community exposure, closure planning, and long-term environmental risk (Oyu Tolgoi LLC, 2025a, 2026; Strength GEC LLC, 2024, 2025).

For tailings, Oyu Tolgoi discloses information on tailings storage management, seepage monitoring, corrective actions, and stakeholder engagement. The October 2025 Independent Environmental and Social Consultant report states that a tailings-related seepage issue was formally identified in 2021 and that Oyu Tolgoi has since implemented a remedial action plan. By October 2025, most required mitigation actions had been completed, and monitoring indicated no tailings seepage in shallow monitoring bores beyond the Oyu Tolgoi Mine Licence Area. The company also involves local community representatives in tailings management through opportunities to observe facility operations, supporting transparency, stakeholder participation, and continuous improvement.

Oyu Tolgoi monitors air quality across the mine site and surrounding communities against Project Standards that incorporate Mongolian regulatory



requirements and relevant international guidelines. The 2025 Independent Environmental and Social Consultant (IESC) report states that ambient air quality generally met the Project Standard for 98–99% of the continuous monitoring period, with seven non-compliances events primarily associated with seasonal dust storms. Dust management at the coarse ore storage facility remains an operational focus, supported by engineering controls, dust suppression, road maintenance, and ongoing worker-exposure monitoring.

Rio Tinto also reports greenhouse gas emissions as part of its broader environmental performance. At Oyu Tolgoi, emissions are primarily associated with purchased electricity, with diesel use and coal used at the central heating plant contributing for most remaining Scope 1 emissions. The 2025 IESC report notes that reported emissions have declined from historical levels of more than 1 million tCO₂e per year to approximately 0.6 million tCO₂e since 2023 due the use of renewable energy certificates. At Group level, Rio Tinto aims to reduce emissions by 50% from its 2018 baseline by 2030 and achieve net zero by 2050.

For non-mineral waste, Oyu Tolgoi applies the waste hierarchy prioritizing waste reduction, reuse, and recycling. The 2025 IESC report states that in 2024, around 75% of non-hazardous general waste was recycled or otherwise used, while the rate for 2025 to mid-September was around 67%. Recovered materials include scrap metal, used oil, plastics, cables, and electronic waste, and reusable materials are made available to local communities through partnerships with local organizations.

Oyu Tolgoi transfers hazardous waste to licensed service providers where treatment, recycling or disposal facilities are available, and stores it on site where suitable options are limited. The 2025 IESC report notes progress in categorizing hazardous waste and identifying disposal options. However, it also notes that hazardous waste stored on site has increased over time and recommends continued efforts to reduce on-site inventories.

Together, these disclosures illustrate how site-level reporting and independent monitoring complement Rio Tinto's Group-level sustainability reporting. They provide stakeholders with detailed information on environmental management, operational risks and corrective actions that would not normally be included in corporate-level disclosures. Their value for this case study lies not in demonstrating overall environmental performance, but in showing how corporate and site-level reporting can strengthen transparency, accountability and continuous improvement in the management of land-related impacts.

Community engagement and grievance

Oyu Tolgoi has a documented grievance history relevant to land, water, pasture and herder livelihoods. Rio Tinto's own reporting provides broader information on human rights due diligence, community engagement, water stewardship, and site-level grievance mechanisms. Its 2018 Sustainable Development Report explicitly refers to stakeholder concerns about Oyu Tolgoi and Rio Tinto's commitment to implement agreements reached with herders (Rio Tinto, 2018). The detailed account of the herder complaints, the Compliance Advisor Ombudsman (CAO) mediation process and the content of the resolution agreements is found mainly in external CAO materials, including the 2020 dispute-resolution conclusion report (Compliance Advisor Ombudsman, 2020a, 2020b, 2020c).

Metrics and evidence of environmental, social and business outcomes

Rio Tinto’s reporting provides useful evidence of land-relevant activities, management systems and selected performance metrics (see Table 1). The evidence is strongest on the scale of land disturbance, annual rehabilitation activity, water withdrawals and recycling, operations located in water-stressed areas, and biodiversity-related information, including biodiversity values, sensitive locations, and management responses. Reporting is more limited on land condition outcomes, such as soil function, native species recovery, erosion control, and long-term ecological recovery. The reported metrics are therefore most useful for assessing management coverage, operational pressures and rehabilitation activity—areas where the company has direct responsibility and performance can be measured and reported more consistently. Assessing long-term rehabilitation outcomes and ecological recovery requires additional evidence.

Land disturbance and rehabilitation are the most direct land-related metrics in Rio Tinto’s reporting. These indicators provide information on the scale of land transformation associated with mining and the progress of rehabilitation activities, making them relevant to the “reverse” component of the LDN response hierarchy. Group-level disclosures on water withdrawals, freshwater withdrawals, discharges, recycled and reused water,

consumption and operations located in water-stress areas gives information on water impacts and dependencies. Biodiversity disclosures provide information on asset-level biodiversity values, ecologically sensitive locations and management responses. Social and human rights complement environmental information by showing how governance, stakeholder engagement, grievance mechanisms and community relationships support the management of land-, soil-, water-, and biodiversity-related impacts over the life of a mining operation.

The principal business benefits relate to risk management, business resilience, and maintaining a social license to operate. Rio Tinto’s land-, soil-, water-, and biodiversity- disclosures indicate that it has systems to identify and manage material environmental and social impacts, dependencies, and associated business risks. For example, water efficiency and recycling can reduce operational demand for freshwater in water-stressed regions, while progressive rehabilitation and closure planning can reduce long-term liabilities.

The value of these disclosures depends not only on the information they contain but also on how different stakeholders use them. The following section examines these different uses.

Table 1. Example of metrics disclosed by Rio Tinto. Source: Annual Report 2025

Evidence Type	Examples in the Rio Tinto 2025 Reporting Evidence Base
Land Disturbance and Rehabilitation Metrics	Remaining unrehabilitated disturbance footprint of 1,818 km² at end-2025; 56 km² increase from 2024. 26 km² rehabilitated in 2025; Group-level reporting on rehabilitation activity.
Water Metrics	1,147 GL total Group withdrawals, including 386 GL freshwater withdrawals; 626 GL discharges; 374 GL recycled or reused in 2025. 17 sites, or 25% of portfolio, in catchments exposed to elevated water stress under the WRI 2030 scenario; 322 GL withdrawals from sites exposed to elevated water stress.
Biodiversity Metrics	Asset-level biodiversity information, including proximity to key biodiversity areas, biodiversity values, and IUCN-listed species.
Waste, Tailings and Pollution Evidence	Tailings facility information; waste and air emission reporting; non-mineral waste recycling trends; disclosure on implementation of the Global Industry Standard on Tailings Management.
Social and Rights-Related Evidence	Human rights due diligence, community engagement, site-level grievance mechanisms, participatory water monitoring.

Investors, lenders, customers and civil society organizations

Rio Tinto's sustainability disclosures support external benchmarking, due diligence, monitoring, engagement, and accountability. Investors, investor initiatives and ESG benchmark providers use publicly available information to assess governance, risk management, climate strategy, human rights due diligence, tailings management, biodiversity and nature-related performance. For example, Rio Tinto is assessed by the World Benchmarking Alliance (World Benchmarking Alliance, 2026), and by Climate Action 100+ (Climate Action 100+, 2025) against its climate-related governance, targets and transition planning. ESG data providers such as S&P Global also use company disclosures, public information, and stakeholder analysis to support external ESG assessment and comparison (S&P Global, 2026).

Rio Tinto also states that its public tailings disclosures are based on the Investor Mining and Tailings Safety Initiative request and the GISTM requirements (Church of England Pensions Board, 2019; Global Tailings Review, 2020). This illustrates how **investor** expectations have influenced the scope and quality of sustainability disclosures in the mining sector, including information relevant to tailings safety, land, water, and long-term environmental impacts.

For **lenders**, Oyu Tolgoi illustrates the type of environmental and social information that financiers require to monitor project risks and commitments. EBRD states that its environmental and social specialists have monitored Oyu Tolgoi since construction, and that an Independent Environmental and Social Consultant performs regular audits, with reports disclosed on the Oyu Tolgoi website (European Bank for Reconstruction and Development, 2019). These lender-monitoring processes use detailed site-level evidence on issues such as water stewardship, biodiversity, community engagement, grievance management, health and safety, and implementation of environmental and social management plans. This goes beyond corporate sustainability reporting alone,

but it shows why structured sustainability-related disclosure can support accountability and confidence in project-level risk management.

Civil society organizations and **affected communities** also use disclosures to scrutinize impacts, request further information and challenge company performance. Following Juukan Gorge, Rio Tinto's Communities and Social Performance commitments disclosures became a focus of broader public scrutiny of cultural heritage management, Traditional Owner engagement, and governance reforms. Investor groups and civil society organizations have also used Rio Tinto disclosures and public information to assess climate strategy, human rights due diligence and environmental risks (Business & Human Rights Resource Centre, 2022; Local Authority Pension Fund Forum, 2021).

Customers and **responsible-sourcing initiatives** also rely on sustainability disclosures and site-level evidence. Oyu Tolgoi has been assessed under The Copper Mark, whose assessment process uses document and records review, interviews, and site observations to evaluate responsible production criteria (The Copper Mark, 2024).

Together, these examples demonstrate that the value of sustainability reporting extends well beyond corporate communication. Public disclosures provide a structured foundation for benchmarking, due diligence, lender monitoring, certification, stakeholder engagement, and accountability. They help make Rio Tinto's land-, soil-, water-, biodiversity-, and community-related management practices visible to external stakeholders. They also support more informed dialogue with investors, lenders, customers, civil society organizations, and governments. Public reporting is not intended to answer every stakeholder question, and many users complement disclosures with independent assessments, site-level information and stakeholder perspectives. Nevertheless, sustainability disclosures provide a credible and consistent starting point for external scrutiny and informed decision-making.

Relevance for governments and policymakers

For governments and policymakers, Rio Tinto's disclosures can help identify assets, locations, and issues where mining intersects with their land, soil, water, and biodiversity priorities. They provide comparable information on land disturbance, rehabilitation activities, mine closure and water use, while also indicating where companies may hold more detailed operational information that could support policy development or environmental monitoring through appropriate data-sharing arrangements.

Publicly available site-level information at Oyu Tolgoi further illustrates the value of more detailed operational disclosures. Although not part of the Group annual sustainability reporting, Oyu Tolgoi's publicly available information include water-use efficiency, community-based water monitoring, grievance mechanisms, and environmental management plans that are relevant to local water governance and stakeholder engagement. Together, Group- and site-level disclosures can support dialogue between companies and public authorities, inform independent verification where appropriate, and help identify opportunities for collaboration on data sharing and environmental management.

Rio Tinto also highlighted the importance of an enabling policy environment for sustainable land management and LDN-related objectives. While mining impacts are generally localized and subject to rehabilitation obligations, wider land degradation in Mongolia is also influenced by pasture and broader land use and rangeland pressures beyond mining operations. This illustrates that corporate action can contribute to sustainable land management, but its effectiveness is influenced by the wider policy framework. Clear land use planning, rehabilitation requirements, restoration policies and landscape-level coordination can help align company actions with broader public objectives for sustainable land management and LDN.

Link to UNCCD objectives and monitoring

Rio Tinto's disclosures are relevant to LDN objectives because mining is a high-impact sector where land transformation is direct, measurable, and long term. The company's reporting illustrates how the LDN response hierarchy (avoid, reduce, and reverse) is reflected in corporate governance, operational management and public disclosure.

The **avoid** stage is reflected in disclosures on biodiversity values, culturally significant areas, water-stressed areas, community concerns, and the assessment of potential impacts during project planning. The **reduce** stage is reflected in reporting on land disturbance, water stewardship, including water efficiency, recycling and discharge management, together with dust control, waste and tailings management, and stakeholder engagement. The **reverse** stage is reflected in disclosures on rehabilitation activities, mine closure planning, post-mining land use, and the monitoring of rehabilitation progress.

Rio Tinto's disclosures align most closely with indicators that describe corporate management activities and operational performance, including land disturbed, land rehabilitated, water withdrawals, water recycling, operations located in water-stress areas, mine closure planning, and grievance mechanisms. They align less directly with indicators of land productivity, soil organic carbon, or drought risks. This illustrates the complementary roles of corporate disclosure and national monitoring systems. Corporate reporting provides information on land-related pressures, management responses, and operational performance, while national monitoring provides landscape-scale perspective needed to assess cumulative land degradation, drought, and progress towards LDN.

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Appendix 1. Mapping GRI Disclosures to Land Degradation Neutrality (LDN) Objectives

Rio Tinto’s 2025 GRI Content Index shows broad coverage of the GRI Universal Standards, selected GRI Topic Standards and GRI 14: Mining Sector 2024. For UNCCD purposes, the most relevant disclosures are those on material topics, water, biodiversity, waste, tailings, environmental compliance, Indigenous Peoples and local communities, resettlement and

closure planning. These disclosures help identify land- and water-related impacts, management systems, and accountability mechanisms. The full list of reported GRI disclosures is available in Rio Tinto’s GRI Content Index, located in the 2025 Sustainability Fact Book (Rio Tinto, 2025c).

GRI Disclosure or Recommendation referenced in Rio Tinto’s GRI Content Index	LDN-Relevant Information Supported
<i>GRI 2: General Disclosures 2021</i>	Provides organizational context needed to interpret Rio Tinto’s land-, water-, and biodiversity-related disclosures, including reporting boundaries, reporting period, assurance scope, activities, products, operating model, business relationships, governance structures, policy commitments, remediation processes, grievance channels, and stakeholder engagement.
<i>GRI 3: Material Topics 2021</i>	Explains how material topics are determined, which topics are material, and how impacts are managed. This supports understanding of why land, soil, water, biodiversity, and community-related issues are prioritized.
<i>GRI 14: Mining Sector 2024</i>	Provides mining-sector disclosures and recommendations for tailings, waste, water, biodiversity, land and resource rights, Indigenous Peoples and local communities, resettlement, closure and rehabilitation.
<i>GRI 203: Indirect Economic Impacts 2016</i>	Provides information on infrastructure, services, and significant indirect economic impacts, which are relevant to social outcomes around mining regions and host communities.
<i>GRI 302: Energy Consumption 2016</i>	Provides information on energy use within the organization, supporting analysis of climate and operational footprint issues that can indirectly affect land and water.
<i>GRI 303: Water and Effluents 2018</i>	Provides information on water withdrawals, water sources affected by withdrawal, recycled and reused water, and water consumption.
<i>GRI 101: Biodiversity 2024</i>	Provides information on the identification and management of biodiversity impacts.

GRI Disclosure or Recommendation referenced in Rio Tinto's GRI Content Index	LDN-Relevant Information Supported
<i>GRI 305: Emissions 2016</i>	Provides information on significant air emissions, including Scope 1, 2 and 3 greenhouse gas emissions, emissions intensity, nitrogen oxides (NOx) and sulphur oxides (SOx).
<i>GRI 308: Supplier Environmental Assessment 2016 and GRI 414: Supplier Social Assessment 2016</i>	Provides information on suppliers screened using environmental and social criteria.
<i>GRI 411: Rights of Indigenous Peoples 2016 and GRI 413: Local Communities 2016</i>	Provides information on incidents involving the rights of Indigenous Peoples, local community engagement, impact assessments, development programs and operations with actual or potential negative impacts.



United Nations
Convention to Combat
Desertification



Business
4 Land



CASE STUDY

Olam Agri: Sustainability Disclosure to Support Land, Soil and Water Stewardship



Acronyms

Acronym	Definition
B4L	Business4Land
DCF	Deforestation- and Conversion-Free
ESG	Environmental, Social and Governance
EUDR	European Union Regulation on Deforestation-free Products
FPIC	Free, Prior and Informed Consent
FSC®	Forest Stewardship Council
GRI	Global Reporting Initiative
HCV	High Conservation Value
IBAT	Integrated Biodiversity Assessment Tool
IDRA	International Drought Resilience Alliance
LDN	Land Degradation Neutrality
REDD+	Reducing Emissions from Deforestation and Forest Degradation, and the conservation, sustainable management of forests and enhancement of forest carbon stocks
SASB	Sustainability Accounting Standards Board
SDG	Sustainable Development Goal
SGX	Singapore Exchange
TNFD	Taskforce on Nature-related Financial Disclosures
TTM	Traceable to Mill
TTP	Traceable to Plantation
UNCCD	United Nations Convention to Combat Desertification
WRI	World Resources Institute

Executive summary

This case study examines how Olam Agri uses sustainability reporting to support the management and disclosure of land-, soil-, water-, and biodiversity-related issues, and explores how corporate disclosures can contribute to the United Nations Convention to Combat Desertification (UNCCD) Land Degradation Neutrality (LDN) objectives.

Olam Agri's reporting has evolved into a comprehensive disclosure system combining its Annual Report, Sustainability Data & Disclosures, Global Reporting Initiative (GRI) Content Index, Sustainability Accounting Standards Board (SASB) Index, Response to Taskforce on Nature-related Financial Disclosures (TNFD), Climate-related Disclosures, and Multi-Capital Accounting report. Together these disclosures provide a structured picture of governance, management approaches, risks, dependencies, impacts, and performance across operations and supply chains.

The case study finds that corporate disclosure can contribute to LDN by improving transparency, strengthening organizational governance and

accountability, and supporting collaboration among companies, governments and other stakeholders. Beyond communicating performance, disclosure can help improve management systems, build confidence in reported information, and create a basis for partnerships. Table 1 summarizes these functions.

Three examples - regenerative agriculture and soil health; sustainable forest management in the Congo Basin; and deforestation- and conversion-free (DCF) supply chains - illustrate how reporting can support different aspects of sustainable land management.

The case also highlights that sustainability reporting is designed to disclose material, credible and decision-useful information rather than all operational data. Public disclosure therefore serves as a governance and accountability layer and can provide the basis for dialogue, partnerships, and informed decision-making. Its value for governments lies in helping identify companies active in priority landscapes, assess the maturity of corporate land-management systems and highlight opportunities for data sharing and landscape partnerships.

Table 1. How Corporate Sustainability Disclosures can support Land Degradation Neutrality (LDN)

Function of Corporate Disclosure	How it can support LDN
Signalling	Demonstrates governance, commitments and management maturity, helping users identify credible organizations and good practice.
Management Improvement	Helps identify policy, governance and data gaps, supporting continuous improvement in the management of land-related issues.
Partnerships	Creates opportunities for dialogue, data sharing and collaboration among companies, governments, investors and other stakeholders.
Data Quality and Accountability	Encourages the disclosure of information that is evidence-based, verifiable and comparable, strengthening confidence in reported information.
Policy Feedback	Highlights implementation barriers and emerging practices that can inform incentives, regulation, finance and other enabling conditions for sustainable land management.

Company profile

Company and sector context

Olam Agri is a global food, feed and fiber agribusiness headquartered in Singapore. The company operates across grains and oilseeds, wheat milling and pasta, feed and protein, edible oils, rice, specialty grains and seeds, cotton, wood products, rubber, sugar and bioenergy, as well as logistics and risk-management functions. It has operations in more than 30 countries with over 70 manufacturing and processing facilities (Olam Agri, 2025a). This makes Olam Agri structurally exposed to land-, soil-, water-, and biodiversity-related issues across direct operations and supply chains.

To illustrate how sustainability reporting supports different aspects of sustainable land management, the case study examines three areas of Olam Agri's business: regenerative agriculture, sustainable forest management in the Congo Basin, and deforestation- and conversion-free (DCF) supply chains.

Interfaces with land, soil, and water

Land degradation, soil health, and water availability are material issues to Olam Agri from both an impact and business perspective. Olam Agri's 2025 reporting indicates that material sustainability focus areas are identified through stakeholder inputs, standards and industry expectations, then mapped across operations and supply chains to identify significant impacts, risks, and opportunities (Olam Agri, 2025a). These issues are relevant to agricultural productivity, farmer resilience, sourcing reliability, processing operations, deforestation and conversion, biodiversity, regulatory exposure, and social license to operate.

The company's reporting identifies advancing climate solutions, preserving and regenerating nature, supporting and improving livelihoods, and conducting business responsibly as core sustainability priorities relevant to Olam Agri's business model. Figure 1 also shows how the company addresses its material sustainability topics through its Sustainable Futures Plan, which defines action levers including regenerative agriculture, protecting ecosystems, and helping farmers thrive.

Overall, Olam Agri's land interfaces can be grouped into three broad and overlapping areas:

- own operational footprint, including directly owned, leased or managed land such as plantations, concessions, farms and forestry operations; factories, processing sites and logistics facilities; and surrounding land and water resources that may be affected by effluents, waste streams, water use or induced impacts;
- third-party sourcing and trading supply chains;
- landscape-level which cuts across own operations and supply chains and includes traceability, deforestation monitoring, regenerative agriculture, water stewardship, and community engagement.

Olam Agri's *Response to the Taskforce on Nature-Related Financial Disclosures (TNFD) 2025* (Olam Agri, 2025g) further clarifies the company's land-, soil-, and water-related impacts, dependencies, risks, and opportunities:

- Olam Agri's land-related impacts may arise through land use, deforestation and conversion, water use, soil pollution, and water pollution.
- The company depends on ecosystem services such as water quality regulation, climate regulation, soil quality and retention, pollination and biological pest control.
- Physical risks include declining water availability, declining soil fertility, soil erosion, pests, and diseases. Transition risks include regulatory, market or reputational risks linked to land footprint, deforestation and pollution.
- Opportunities relate to resource efficiency, early compliance with market regulations such as the European Union Regulation on Deforestation-free Products (EUDR), and sustainable products or sourcing models, including certified rice, FSC-certified wood products, responsibly sourced palm oil and soy, and regenagri®-certified cotton.



Figure 1. Olam Agri Sustainable Futures Plan: Pillars and Levers for Action. Source: Building a Brighter Future: Annual Report 2025

Lessons learned

Olam Agri's agricultural, forestry, processing, and sourcing activities make land, soil, water and biodiversity structurally relevant to its business model. Regenerative agriculture, Congo Basin forest management and DCF supply chains provide practical examples of how corporate reporting can connect to practical approaches to sustainable land management.

The case shows that reporting architecture matters. The company uses a maturing disclosure system that combines GRI-linked reporting, selected SASB references, Olam Agri supplementary Sustainability Data and Disclosures, Olam Agri-specific TNFD material, policies and commodity-level reports (Olam Agri, 2024, 2025h, 2025g, 2025d, 2025f).

Reporting can improve internal discipline. In Olam Agri's case, *GRI 13: Agriculture, Aquaculture and Fishing Sectors 2022* (Global Sustainability Standards Board, 2022) helped identify policy and data gaps, select relevant data points, and improve internal processes. Although the evidence does not show that reporting itself directly created new land-management programs.

The case highlights the importance of evidence-based disclosure. The company limits some public claims to information that is verified, certified, validated or otherwise sufficiently robust for external scrutiny. Like most companies, it manages substantially more detailed operational information than is disclosed publicly. Sustainability reporting should therefore be understood as a governance and accountability layer that presents material, decision-useful information, while more detailed operational data may remain internal because of commercial sensitivity, technical complexity, or verification requirements.

Credible disclosure requires companies to limit public claims to information that can be supported and verified. Olam Agri's approach of publicly claiming regenerative agriculture areas only where they are verified, certified or validated shows how companies can avoid overclaiming. This is especially important for land restoration and nature-positive claims, where results are difficult to measure.

Sector-wide alignment is important. For deforestation- and conversion-free supply chains, collective action, disclosure expectations, public commitments and

technical frameworks have helped create momentum around shared definitions, monitoring approaches and reporting expectations. Disclosure standards work best when they are aligned with industry initiatives, finance expectations and supportive regulation.

The policy and regulatory environment remain essential. Corporate commitments and practices can be supported or undermined by public policy. Governments can use disclosures to identify credible companies, data holders and potential partners, while also providing the incentives, regulatory clarity, and enabling conditions that make land restoration and sustainable land management viable.

Finally, for companies, the practical lesson is to start with available sourcing and risk data, improve traceability and monitoring over time, and not let imperfect data prevent progress.

Collectively, these findings suggest that sustainability disclosure serves multiple functions beyond reporting. It can signal management maturity, strengthen internal governance, support evidence-based dialogue with governments and investors, identify opportunities for collaboration, and improve confidence in sustainability claims through verifiable data. These functions make disclosure an important enabling mechanism for achieving LDN.

Use of sustainability reporting and disclosures

Reporting architecture and evolution

Olam Agri's 2025 reporting provides a largely standalone evidence base through its Annual Report, Sustainability Data & Disclosures, GRI Content Index¹, SASB Index, Response to the TNFD, Climate-related Disclosures and Multi-Capital Accounting report (Olam Agri, 2025a, 2025g, 2025h, 2025d, 2025f, 2025b, 2025c). Together, these documents provide the primary sources for understanding the company's approach to land-, soil-, water-, and biodiversity-related issues.

To analyse reporting over time, this case study also draws on earlier disclosures published through Olam Group. Before Olam Agri began standalone sustainability reporting, information relevant to its activities was reported within Olam Group's annual reports, GRI reports, Singapore Exchange's SGX

Core ESG Metrics for Singapore-listed-company reporting, and later its Supplementary Sustainability Disclosures. These earlier publications were used only to understand the evolution of reporting and are distinguished from current Olam Agri disclosures where appropriate.

Its reporting has become progressively more modular to respond to evolving reporting standards, stakeholder expectations, and reporting practices. Its reporting suite combines complementary reporting frameworks and standards, each serving different purposes and audiences. The Annual Report provides business, governance and strategic context. The Sustainability Data & Disclosures supplements the Annual Report by presenting detailed sustainability information prepared with reference to the GRI Standards, together with additional disclosures, where appropriate, aligned with the SASB Standards. The GRI Content Index and SASB Index map reported

¹ A GRI Content Index is a table or index that shows which GRI disclosures an organization has reported and where the relevant information can be found, for example in the annual report, sustainability disclosures, website or policy documents. It does not usually contain all substantive sustainability information itself; rather, it helps users navigate the reported information.



information to the respective Standards. The Response to the Taskforce on Nature-related Financial Disclosures (TNFD) further explains nature-related dependencies, impacts, risks and opportunities; the Climate-related Disclosures focus on climate governance and risk; and the Multi-Capital Accounting Report explores the company's wider impacts and dependencies. Together, these documents provide complementary perspectives on Olam Agri's sustainability performance.

Although the reporting architecture has evolved, the company's core land-related topics have remained broadly consistent. Earlier disclosures already addressed Healthy Ecosystems, Healthy Soils, Water, Climate Action, and Responsible Sourcing. With references to biodiversity, deforestation, land-use change, soil degradation, water stress, water stewardship, pesticide and fertilizer use, and supply chain traceability.

Over time, these themes have continued to structure the reporting, providing a long-term view of the company's approach to land-related impacts. Reporting has also become more detailed, and provides greater transparency on the systems used to manage land-related impacts, including Soil Management Plans, Integrated Water Resource Management Plans, biodiversity-risk screening, remote sensing, traceability systems and regenerative agriculture frameworks.

Role of the GRI Standards

Olam Agri uses GRI as a structuring and discipline-setting tool. The company described going through the GRI Standards, especially *GRI 13*, mapping its content against the existing company's policies, and using that process to identify gaps. The company explained that this helps bring attention to relevant topics or details that could be added to policies and data systems, while noting that the company would only include commitments it was fully prepared to stand behind.

In Olam Agri's case, reporting forms part of a continuous management cycle. Operational systems generate data; GRI Standards provide a structure for organizing and assessing that information; and the reporting process can then feed back into policy updates, data governance and internal process improvements.

The Olam Agri *2025 GRI Content Index* states that the company reported with reference to GRI Standards, including the *GRI Universal Standards 2021*, relevant Topic Standards and Sector Standard, in particular *GRI 13: Agriculture, Aquaculture and Fishing Sectors 2022* (Global Sustainability Standards Board, 2016a, 2018, 2021a, 2021b, 2021c, 2022). These disclosures help make information on land-, soil-, water-, biodiversity- and supply chain-related issues visible, comparable and auditable across a complex agricultural value chain. *GRI 3: Material Topics 2021* provides the basis for explaining why each topic is considered material and how the company manages its impacts. The Topic Standards then support more specific reporting on materials, energy, emissions, water and effluents, biodiversity, supplier environmental assessment, and rights of Indigenous Peoples and local communities. *GRI 13* adds agriculture-sector recommendations drawing attention to natural ecosystem conversion, soil health management, pesticides, land and resource rights, and Free, Prior and Informed Consent (FPIC). Appendix 1 identifies the GRI disclosures and sector recommendations that are most relevant to understanding how Olam Agri reporting contributes to LDN objectives.

Overall, the company's disclosures help external stakeholders understand:

- where the company's interfaces with land are located, including its operations, sensitive ecosystems, and areas where commodities are produced or sourced;
- the company's governance and strategies to manage land-related impacts through measures to avoid, reduce and reverse land degradation, including DCF commitments, regenerative agriculture, water stewardship, soil management, ecosystem protection, and supplier due diligence;
- the metrics the company reports on related to its nature impacts and dependencies, such as its spatial footprint, fertilizers and pesticides use in upstream assets, water consumption and water withdrawals in water-stressed areas.
- Where important information remains limited in its public reporting, such as indicators on soil organic carbon trends, erosion rates, or changes in land productivity.

Public disclosure versus internal data

Like most companies, Olam Agri manages a greater amount of information internally than it discloses publicly, since sustainability reporting is intended to provide material, credible information on governance, due diligence, management systems, impacts and accountability, rather than to disclose all operational data. The company explained that the level of public disclosure is shaped by practical considerations such as data complexity and granularity, verification requirements, commercial sensitivity, confidentiality considerations, and the need to avoid greenwashing or overstatement.

For example, the company described soil health monitoring in regenerative agriculture programs, including soil sampling and analysis of chemical composition, microbial indicators and soil organic carbon. However, it also explained that these detailed soil-health measurements are not intended for public reporting. Similarly, public disclosure of land converted to regenerative agriculture is limited to areas that have been verified, certified or independently validated. The company also noted that it may still undertake surveys and soil health programs where these are useful, but it only invests in third-party certification where there is a customer or market reason to do so. As a result, the publicly reported figure captures the portion of regenerative agriculture activities that is auditable and traceable, rather than the full range of work undertaken.

This illustrates the balance companies need to strike between using detailed, location-specific data to manage land on the ground and providing public disclosures that are robust, comparable and supported by verifiable evidence to withstand scrutiny. This means that public disclosure can improve transparency and accountability, but it is usually a filtered layer above operational data systems. For land-, soil-, water-, and biodiversity-related topics, the most useful information for day-to-day management is often site-specific and technically detailed, whereas public reporting tends to present aggregated metrics, policy commitments, certification coverage, impacts and risks assessments or selected program examples rather than releasing all farm polygons, satellite imagery, soil-test results or supplier-level datasets.

The implication for governments and public authorities is that public disclosures can help identify companies that operate in landscapes relevant to land-use planning and LDN, the land-related issues they manage, the maturity of their governance and management systems, and where companies may hold information that could support policy dialogue. However, sustainability reports alone are unlikely to provide the level of spatial detail needed for official land-use, drought or LDN monitoring. Their greatest value lies in serving as a starting point for dialogue and collaboration, where trusted data-sharing arrangements and agreed indicators can help connect company-held information with national monitoring and policy needs.

Management approach

Governance and due diligence

Olam Agri's reporting describes governance structures and risk assessment processes for managing land-related issues. Responsibility is embedded within Olam Agri's management, including the sustainability team and relevant business functions, and is overseen by the Sustainability Committee of the

Olam Agri Board. This governance is supported by company policies, operational due diligence and risk management processes that guide decision-making across operations and supply chains.

Business and operational teams are responsible for identifying and managing land-related issues in day-to-day activities, including farming, processing sites, and sourcing operations. This includes applying policies such as the Living Landscapes Policy, Plantations, Concessions & Farms Code, Supplier Code and

commodity-specific sourcing policies (Olam Agri, 2023a, 2023b, 2025e). For owned or managed land, due diligence considers environmental impacts and risks, land conversion, protected areas, High Conservation Value (HCV) areas, water bodies, community impacts, land and resource rights, and FPIC requirements. In some cases, the company has considered compensation or reparation processes where communities agree and where impacts or land rights issues require action. For supply chains, teams use risk-based approaches to traceability, supplier engagement, deforestation risk, and responsible sourcing.

Specialist sustainability, legal, environmental health and safety, sustainable finance functions support pre-investment due diligence processes, including for land that may be affected by future operations such as factories or processing facilities. Due diligence considers the direct environmental footprint of a proposed investment, including potential land conversion, proximity to protected areas, HCV areas, sensitive landscapes or local communities. Where the new factory or processing facility will source locally, the company assesses whether the investment could indirectly encourage additional deforestation or land conversion in the supply surrounding area. This extends the analysis beyond the operational footprint to impacts linked to business relationships and induced supply chain activity.

Senior management and Board-level governance provide accountability and strategic oversight. This includes oversight by the Board Sustainability Committee of sustainability policies and related commitments.

Regenerative agriculture and soil health

Olam Agri's public reporting presents regenerative agriculture and soil health as part of its broader approach to land, water, biodiversity and climate resilience. This is traceable through the 2025 *GRI Content Index*, where *GRI 13's* additional recommendations on soil health cover soil management plans, threats to soil health, soil management practices and input optimization, including fertilizer use.

Olam Agri's 2025 reporting, including its *Annual Report, Sustainability Data & Disclosures, GRI Content Index, Response to the TNFD*, provide the main public

evidence on soil health (Olam Agri, 2025a, 2025g, 2025h, 2025d). These publications identify the non-optimal use of fertilizers and synthetic nutrients, together with poor land management practices, as contributors to unhealthy and degraded soils, while the TNFD report further explains how these issues create nature-related dependencies and risks, including declining soil fertility, soil erosion, and soil pollution. These sources describe regenerative agriculture as a way to support soil restoration, farmer resilience, food security, water management, and carbon sequestration. Reported practices include minimizing soil disturbance, maintaining soil cover, improving fertilizer use, correcting soil pH and salinity, crop rotation, composting, mulching, biochar, bokashi, minimum tillage, agroforestry and integrated pest management.

The company reports regenerative agriculture activity across several supply chains. Examples include regenagri®-certified cotton in Côte d'Ivoire and the United States of America (USA), and rice programs focused on alternate wetting and drying, straw and stubble management, composting, and related soil practices. The company also describes a general regenerative agriculture framework based on six broad principles, including keeping soil covered, returning organic matter to soil, maintaining living roots in the soil, integrating livestock where relevant, and reducing or avoiding tillage. The company also described farmer surveys to understand current practices, cultures, access to implements and willingness or ability to adopt new tools.

Congo Basin forest management

The Congo Basin example illustrates a distinct land management approach in Olam Agri's reporting, focused on sustainable forest management, conservation and social engagement. The company reports that it manages 2.1 million hectares of forest concessions in the Republic of Congo (RoC) to Forest Stewardship Council (FSC®) standards. Its management model combines selective harvesting in four concessions with a low-intensity harvesting approach designed to support natural forest regeneration; a fifth concession set aside for conservation with over 92,000 hectares permanently preserved under a REDD+ program and HCV set-asides² (Forest Stewardship Council, 2025; Olam Agri, 2026).

2 REDD+ refers to activities that reduce emissions from deforestation and forest degradation, and support conservation, sustainable forest management and enhancement of forest carbon stocks. High Conservation Value (HCV) refers to areas with especially important environmental, biodiversity, social or cultural values that require protection or careful management.

This example is described most clearly in Olam Agri's wood products disclosures and website, and is relevant to disclosures on biodiversity, natural ecosystem conversion, land and resource rights, and Indigenous Peoples and local communities. Public reporting also points to biodiversity protection activities, including partnerships with organizations such as the Wildlife Conservation Society (WCS), anti-poaching patrols, and monitoring through camera traps and acoustic tools. This example also links to its wider biodiversity assessment, including through tools such as the Integrated Biodiversity Assessment Tool (IBAT), species mapping and supply-area assessment. At operational level, related factory data include energy use, water use, and waste streams.

Disclosed information also presents local development as part of Olam Agri's Congo Basin approach. Company information refers to engagement with Indigenous Peoples and local communities, equitable job opportunities, FPIC, social resources, social action plans, healthcare, health outreach, and water-related support. This shows that forest management cannot be separated from social safeguards and community engagement.

Deforestation- and conversion-free supply chains

The deforestation- and conversion-free (DCF) supply-chain example illustrates how Olam Agri reports its approach to sustainable land management across its supply chains. It focuses on traceability, commodity-risk screening, supplier engagement and monitoring

of higher-risk supply chains, and is relevant to the topic of natural ecosystem conversion in *GRI 13*, *GRI 308: Supplier Environmental Assessment 2016*, *GRI 414: Supplier Social Assessment 2016*, and related disclosures on biodiversity, land and resource rights, and local communities (Global Sustainability Standards Board, 2016c, 2016b, 2022).

The company seeks to understand broadly where products are sourced from, then identifies higher-risk countries, regions and commodities based on factors such as recent deforestation, commodity exposure, water stress, soil health and biodiversity considerations. For more sensitive supply chains, including soy, rubber and palm, business teams map supply chains and review contracts, while sustainability teams provide oversight. The company uses polygons where available; where polygons are not available, it may use point data with an assigned radius. This shows that traceability systems are becoming more detailed, but also that companies do not always have complete farm-level data for every supplier or supply chain. This approach is reflected in public reporting through commodity-specific disclosures. *The Edible Oils Sustainability Profile 2024* reports traceability to mill and plantation, mill risk ratings using Global Forest Watch (GFW), and supplier-compliance information.

This example also shows how disclosure frameworks and industry initiatives can support more consistent approaches to DCF sourcing. The company's DCF monitoring is shaped by disclosure expectations, market requirements, industry initiatives, technical frameworks and regulation. *GRI 13* helps users find information on commitments to reduce or eliminate



natural ecosystem conversion, supplier compliance, traceability, DCF sourcing, and participation in landscape or sectoral initiatives. The company also noted that collective industry action and annual reporting expectations have helped companies move toward more common definitions, commitments and monitoring approaches.

Here the disclosures show systems for identifying and managing deforestation and conversion, especially through traceability, spatial data, supplier engagement and commodity-specific monitoring. However, corporate reporting often presents aggregated percentages, risk assessments or policy commitments rather than full supplier maps, farm polygons or satellite datasets. As a result, the evidence is useful for assessing governance and impact management.

Targets and performance tracking

Olam Agri complements its governance and management disclosures with a set of publicly available sustainability targets and annual progress updates. These targets translate the company’s strategic commitments into measurable objectives and provide stakeholders with a consistent way to track progress over time. Rather than reporting only policies or individual metrics, the framework links long-term ambitions with annual performance updates, helping users understand both the direction of travel and the pace of implementation.

Table 2 illustrates selected land-related targets from Olam Agri’s *Sustainability Progress Against Our Key Targets (2025)* (Olam Agri, 2025i). The examples show how the company reports against commitments on regenerative agriculture, ecosystem protection, water stewardship, and responsible sourcing by presenting the published target, the latest reported status and progress towards the target.

Table 2. Examples of Olam Agri’s Published Land-Related Sustainability Targets and Reported Progress. Source: Adapted from Olam Agri, *Sustainability Progress Against Our Key Targets (2025)*.

Topic	Published Target	2025 Reported Status	Progress towards Target
Regenerative Agriculture	Advance regenerative agriculture across 500,000 hectares	286,112 ha certified	57%
Ecosystem Protection	Protect ecosystems in priority landscapes	Three ecosystem protection initiatives undertaken in identified landscapes	Ongoing*
Water Stewardship	Reduce water-use intensity by 10% in high water-use processing facilities	4% reduction in targeted facilities since 2024	40%
Waste and Circularity	Divert 100% of operational waste from landfill to circular uses	79% put to circular use (Tier 1 facilities)	79%
Responsible Sourcing – Soy	100% deforestation- and conversion-free (DCF) soy origination volumes in priority biomes	100% DCF soy origination volumes in priority biomes	Achieved
Responsible Sourcing – Rubber	90% of rubber from Côte d’Ivoire and Indonesia traceable and EUDR compliant	90% traceable and EUDR compliant	Ongoing
Responsible Sourcing – Palm oil	100% traceable to mill (TTM) and 90% traceable to plantation (TTP)	100% TTM; 90% TTP (2024 reporting)	Ongoing

*The published target refers to ecosystem protection initiatives rather than a percentage-based target.

Metrics and evidence of environmental, social and business outcomes

Olam Agri's public reporting provides useful evidence of land-, soil-, water-, and biodiversity-related activities, management systems and coverage metrics (see Table 3 and Figure 2). The evidence is strongest on the scale of assessment, traceability, certification, water use, and biodiversity screening. These indicators show

where Olam Agri is applying management systems and where land-related risks are being assessed. Public reporting provides less consolidated evidence on location-specific baselines and measured changes in land condition, which means the metrics are most useful for assessing land-management performance.

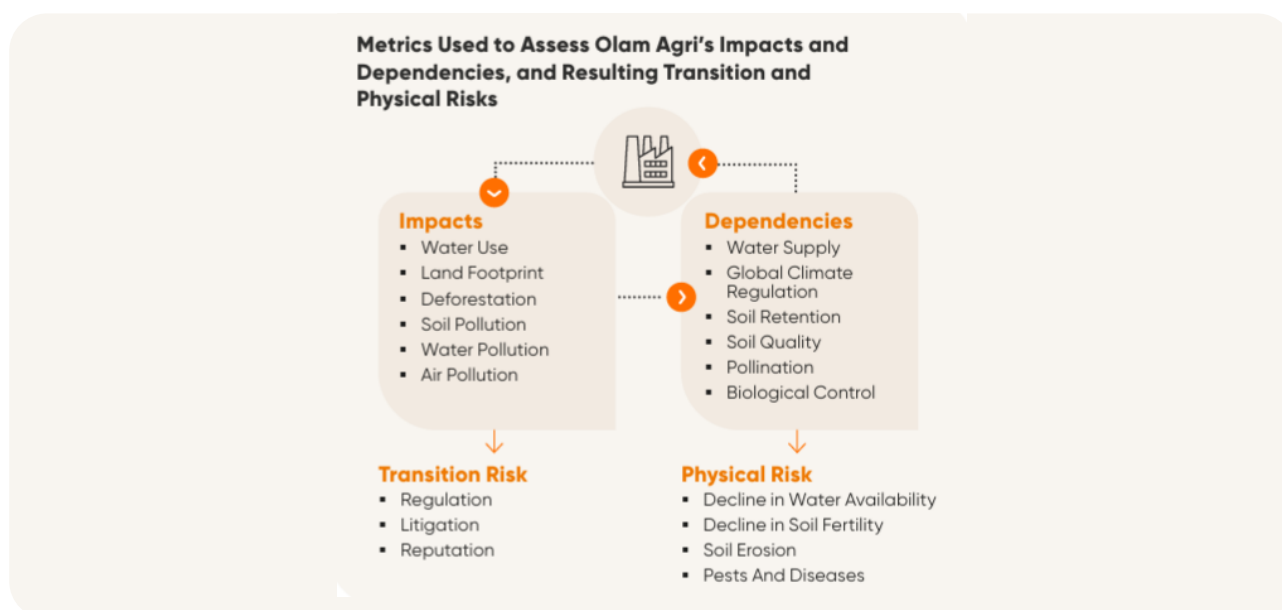


Figure 2. Metrics used to assess Olam Agri's nature impacts and dependencies and resulting risks. Source: Olam Agri Response to the Taskforce on Nature-related Financial Disclosures (2025)

Water is one of the areas where Olam Agri's reporting provides the strongest quantitative evidence (Olam Agri, 2025h). The company reports water withdrawals, water consumption, water intensity, and water withdrawal in water-stressed areas. In 2025, Olam Agri reported 57.5 million m³ of water withdrawn across its farm and processing operations, comprising 55.0 million m³ at the farm stage and 2.5 million m³ at Tier 1 and Tier 2 processing facilities. Water intensity for Tier 1 and Tier 2 processing facilities was 0.55 m³ per metric tonne of production. The company also disclosed 674,596 m³ of water consumed from water-stressed areas at Tier 1 and Tier 2 facilities, together with location-specific reporting on water withdrawals from high and extremely high baseline water-stress areas. These disclosures provide more than operational performance metrics. They help

identify where the company's operations intersect with water-stressed landscapes and where water-related risks may require enhanced management. For UNCCD, and particularly the International Drought Resilience Alliance (IDRA), it underscores the urgency of articulating proactive drought resilience policies in conjunction with businesses-level water management strategies, engaging water users at landscape scale to design anticipatory responses to drought risks.

Biodiversity and nature disclosures have become more systematic over time (Olam Agri, 2025h; Olam Group Limited, 2024, 2025). Earlier reporting included biodiversity disclosures under *GRI 304* and examples such as the Congo Basin forest concessions, protected-area management and anti-poaching activities. By 2024, Olam Group reported IBAT-Pro

biodiversity-risk screening across 88 Tier 1 and Tier 2 sites, including 68 Olam Agri sites. In 2025, Olam Group's Supplementary Sustainability Disclosures report that Olam Agri assessed all upstream assets, more than half of Tier 1 processing sites, and 23 supply chains across eight major commodities, covering more than 400 regions in 15 countries, using datasets such as EXIOBASE, Commodity Footprint, IBAT, Global Forest Watch and World Resources Institute (WRI) Aqueduct. Olam Agri's TNFD report provides a complementary view, reporting 71% coverage of purchased volumes across cotton, maize, palm oil, rice, rubber, soy, wheat and wood.

For supply chain traceability and responsible sourcing, the 2025 reporting (Olam Group Limited, 2026c) states that Olam Agri procured 1.16 million MT of certified raw materials from suppliers. The *Edible Oils Sustainability Profile 2024* (Olam Agri, 2024) provides more commodity-specific evidence, including 100% traceability to mill, 1,396 mills recorded in the 2024 supply chain, 90% traceability to plantation, and Global Forest Watch mill risk ratings. Together, certified raw-material volumes, traceability data and supplier risk ratings provide evidence of management systems for responsible sourcing and deforestation management.

Regenerative agriculture disclosures provide evidence of soil management actions that are relevant to the "reduce" and potentially "reverse" elements of the LDN response hierarchy, but public reporting does not provide consolidated Olam Agri-wide indicators such as soil organic carbon trends, erosion rates, or land-productivity change. This partly reflects the focus of reporting standards, including *GRI 13*, which emphasize disclosure of soil-management plans, threats, practices rather than requiring companies to report standardized soil-outcome metrics across all operations and supply chains. For companies, this means corporate reporting can credibly describe management actions without overclaiming measured restoration outcomes. For governments and UNCCD audiences, it means such disclosures can help identify relevant practices and potential data sources, but would need to be complemented by agreed indicators and location-specific data to support LDN monitoring.

Social and rights-related metrics provide additional context for land governance, including the social safeguards that form part of Olam Agri's approach to land-related activities. Olam Agri reports commitments to Indigenous Peoples and local communities, FPIC, customary and legal tenure rights, and community engagement. In 2025, Olam Agri ran programs covering local community engagement, impact assessments and/or development programs across

commodities. The social dimension can be seen in the Congo Basin forest-management example, where reported activities include social action plans, equitable job opportunities, FPIC, Indigenous Peoples and local community engagement, healthcare, health outreach, and water-related support.

Business benefits highlight why disclosure can influence internal management and external accountability. These are best described as risk management and market access benefits. Improved traceability, biodiversity screening, verified sustainability claims, and commodity-specific certifications can support stakeholder confidence, customer requirements, investor and lender due diligence, and preparedness for regulation such as the EUDR.

Table 3. Examples of metrics disclosed by Olam Agri. Source: Olam Agri Sustainability Data & Disclosures. Annual Report 2025

Evidence type	Examples in the Olam Agri 2025 Reporting Evidence Base
Management Activities	Regenerative agriculture practices; soil management plans; integrated water resource management plans; water stewardship; deforestation- and conversion free sourcing (DCF); traceability systems; Congo Basin forest management; biodiversity and nature-risk assessment.
Responsible Sourcing, Traceability and Certification	1.16 million MT of certified raw materials procured; commodity-specific traceability; certified sourcing; supplier due diligence; DCF monitoring.
Water	Water withdrawal reported separately for farm (55 million m ³) and processing (2.5 million m ³) operations (total 57.5 million m ³); water intensity (0.55 m ³ /MT); water withdrawn from water-stressed areas (674,596 m ³).
Biodiversity and Nature	Identification of impact drivers including land use, water use, air pollution, water pollution, and soil pollution; sensitive-location criteria including biodiversity importance, ecosystem integrity, water risks and Indigenous rights. Biodiversity risk assessment covering all upstream assets, more than half of Tier 1 processing sites, and 23 supply chains across eight commodities, more than 400 regions and 15 countries; coverage of 71% of purchased volumes across eight key commodities.
Soil and Regenerative Agriculture	Regenerative agriculture framework based on six principles (six interlinked principles: improving soil health; enhancing biodiversity; enhancing water stewardship; increasing carbon sequestration; reducing greenhouse gas emissions; and strengthening farmer profitability); Soil Management Plans; soil management practices; geospatial screening of land degradation risks; verified regenerative agriculture hectares; practices including reduced soil disturbance, soil cover, optimized fertilizer management, agroforestry and integrated pest management.
Social and Rights-related Evidence	Commitments relating to Indigenous Peoples and local communities, FPIC, customary and legal tenure rights, community engagement; social action plans; healthcare and livelihood programs; local development in production landscapes.
Targets and Progress	Public targets and annual progress on regenerative agriculture (500,000 ha target), water intensity, waste diversion, biodiversity protection, responsible sourcing and climate.

Use of disclosures by stakeholders

Investors, lenders, customers and civil society

Olam Agri's public disclosures function as a governance and credibility signal for several stakeholder groups. Investors and lenders use sustainability reporting to assess whether the company understands its land, nature and water impacts and risks, and has management systems to address them. In this sense, disclosure can operate as a "hygiene factor" for finance stakeholders; it may not be the sole basis for capital allocation, but weak disclosure can undermine confidence.

This is consistent with an International Federation of Accountants case study (Bikash Prasad, International Federation of Accountants, 2022) on Olam Agri's sustainability finance function, which states that the team leads ESG reporting to meet the requirements of investors, regulators and ratings agencies, and supports data integrity for external reporting.

For customers and markets, the company's experience suggests that customer pressure is stronger in some consumer-facing commodities than in more commodified supply chains. In Olam Agri's context, collective industry commitments, disclosure expectations and technical initiatives appear to have played a particularly important role for commodities such as soy, rubber and palm.

Publicly available disclosures also feed into external assessments, benchmarks, ratings, supply chain transparency assessment and stakeholder scrutiny. SPOTT, the Sustainability Policy Transparency Toolkit, managed by the Zoological Society of London (ZSL), has assessed Olam in palm oil and in timber and pulp, using public materials such as its annual report and sustainability disclosures (SPOTT / Zoological Society of London, 2025a, 2025b). The World Benchmarking Alliance assessed Olam in several of their benchmarks including the Food and Agriculture, Nature, Social, Gender and climate-related benchmarks (World Benchmarking Alliance, 2025). MSCI has assigned Olam an ESG Rating of AA and the company has been included in the FTSE4Good Index Series (Olam Group

Limited, 2026a). Olam also reports to CDP and other initiatives such as the Cocoa & Forests Initiative and the UN Global Compact (Olam Group Limited, 2026b).

Relevance for governments and policymakers

Olam Agri gave examples of situations where national governments lacked resources to understand land use at local level, and where company data, such as crop surveys, maps or satellite imagery, could help improve understanding of land use and land-use change. The company also emphasized that such data sharing depends on a shared purpose, strong communication between the company and the government, and appropriate governance arrangements for the use of data.

Under the UNCCD, governments report on the *UNCCD Strategic Framework* (United Nations Convention to Combat Desertification, 2017) following a four-year cycle. This includes three standardized metrics for land-use change, net primary productivity, and soil organic carbon, together equating the UNCCD's definition for land degradation. Standard resolution is comparatively coarse, but governments have the option to use national, more granular data sets. UNCCD country reporting serves as a broad assessment tool of Sustainable Development Goal (SDG) target 15.3 and LDN, rather than a detailed land-use planning and monitoring framework. The UNCCD Secretariat is currently building on this gap, piloting much more granular integrated land-use planning platforms in selected countries. These platforms aim to provide more decision-useful data to public decision-makers, by, for example, supporting landscape-level planning and the management of trade-offs in land-use allocation. Likewise, the second phase of UNCCD's Target-setting Programme is making LDN targets spatially explicit. This allows to map LDN targets to specific landscapes and identifies priority areas for action.

Corporate sustainability reports usually do not provide the level of detail needed for direct use in national monitoring. Instead, they provide complementary

information on governance, management systems, due diligence, traceability, targets, and selected performance indicators. Governments, by contrast, may need more localized and spatially specific data to support land-use or LDN monitoring. These disclosures can help governments identify companies operating in priority landscapes, understand which commodities and regions are exposed to land and water risks, assess where company activities may create or help manage impacts on land, ecosystems and communities, evaluate the maturity of corporate land management systems, and identify opportunities for dialogue, collaboration and, where appropriate, voluntary data sharing.

For UNCCD audiences, the main value of corporate disclosures is that it can help connect company action with national land policy priorities. When companies report on land use, soil health, water stress, biodiversity, restoration, traceability, and drought risk in a consistent way, governments can better identify where private sector data and action may support LDN monitoring, drought resilience and sustainable land management. Corporate disclosure can also help companies assess their existing policies, goals and disclosures, identify gaps, and improve data collection and internal management systems.

To play this role effectively, corporate disclosure needs to be contextualized. Sustainability information is most decision-useful when it can be linked to national official baselines and indicators, and to clear safeguards for how data is shared and used. Comparability also remains challenging because companies operate across different commodities, geographies and sourcing models. Verification is another important condition: public company disclosures can support government monitoring when the scope of reported information is clear, methodologies are credible, and claims are limited to information that can be verified.

Finally, the usefulness of corporate disclosures depends on the wider policy enabling environment. Company commitments and data systems can be strengthened or constrained by regulation, incentives, jurisdictional approaches, market requirements, and public-private coordination. The company pointed to Brazil as a cautionary example of how national policy can affect corporate commitments on land and forests. Public policies that favor more traditional land development or intensive production models may penalize companies with no-deforestation commitments or commitments to alternative ways of doing business as they may face pressure or



commercial disadvantage. This illustrates that the value of corporate reporting also depends on a policy environment that enables companies to implement and maintain commitments on deforestation, land restoration and sustainable land management. The company also emphasized that land degradation, desertification and soil health decline in regions such as West Africa and India pose major risks to food security, including in areas that should otherwise be highly productive agricultural land. Addressing these risks requires action beyond company-level disclosure, including technological innovation, landscape-level collaboration, public policy support, blended finance and credible market mechanisms. Disclosure can support transparency and accountability when reporting is clear, verifiable and subject to appropriate scrutiny. It can then complement public policy and finance mechanisms by helping direct action and investment towards sustainable land management and LDN.

Link to UNCCD objectives and monitoring

Olam Agri's disclosures cover relevant themes to UNCCD objectives including land, soil, water, biodiversity, deforestation, restoration practices and farmer resilience. By reporting on these issues in a structured and consistent way, the company provides information that can help stakeholders understand how land-related impacts, dependencies, risks, and management responses are addressed across its operations and supply chains.

From an LDN perspective, the principal contribution of corporate reporting is not to replace government monitoring systems, but to strengthen the enabling conditions for sustainable land management. For example, GRI-based reporting helps organize information on land, soil, water, biodiversity, sourcing, and communities in a consistent, globally comparable and credible way, making it easier for investors, governments and other stakeholders to understand company approaches and compare practices across organizations. Olam Agri also noted that its soil team had begun reviewing the UNCCD *Business4Land Guide: Corporate Disclosures and Target-setting for Land* (United Nations Convention to Combat Desertification, 2024), including its indicator guidance, to assess whether it could inform future internal land and soil metrics. This illustrates how reporting frameworks can evolve through interaction between corporate practice and international policy initiatives.

For governments, the most practical contribution of corporate reporting is to identify companies operating in priority landscapes, understand the maturity of corporate land management systems, and identify organizations that may hold relevant information or technical expertise. Where appropriate governance arrangements are in place, this can create opportunities for voluntary data sharing, for example through crop surveys, maps, satellite analysis or supply chain information, to complement official evidence and support landscape initiatives. However, direct use for LDN monitoring would require agreed baselines and indicators, data-sharing protocols, and validation.

Corporate reporting can also provide valuable policy feedback. By identifying where companies face barriers to implementing sustainable land management or restoration, such as financial constraints, conflicting policy signals or limited market incentives. This can inform the design of incentives, regulation, public finance mechanisms, and jurisdictional approaches that encourage greater public-private investment in sustainable land management.

These observations are particularly relevant in the work of the UNCCD Intergovernmental Working Group on the Future Strategic Framework, which is tasked with developing the key elements of a post-2030 strategic framework, potentially including goals and targets. One opportunity is to identify a core set of corporate disclosure metrics that align, where appropriate, with LDN objectives and indicators. This would strengthen the signalling function of corporate reporting, improve comparability across companies and provide governments with more consistent information to support dialogue, policy development and, where appropriate, national LDN implementation.

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Appendix 1. Mapping GRI Disclosures to Land Degradation Neutrality (LDN) Objectives

This appendix provides an illustrative mapping between the GRI Standards and the Land Degradation Neutrality (LDN) objectives discussed in this case study. It shows how disclosures relevant to regenerative agriculture, soil health, sustainable forest management, deforestation- and conversion-

free supply chains, water stewardship and governance can contribute information relevant to LDN implementation. The mapping is intended to illustrate potential areas of alignment rather than imply that reporting against these disclosures alone demonstrates progress towards LDN.

GRI Disclosure or Recommendation referenced in Olam Agri's GRI Content Index	LDN-relevant Information Supported
<i>GRI 2: General Disclosures 2021</i>	Provides information on the company's activities, value chain, policy commitments, embedding of commitments, remediation processes and stakeholder engagement, and describes the governance and accountability conditions that enable land-related action.
<i>GRI 3: Material Topics 2021</i>	Explains how material topics are determined, which topics are material and how impacts are managed, and therefore explains why land, soil, water, biodiversity, and responsible sourcing are prioritized.
<i>GRI 301: Materials 2016</i>	Provides information on the materials used by weight or volume, including group sourcing volume by region. This can help give helpful context on sourcing scale and regional exposure.
<i>GRI 305: Emissions 2016 and GRI 13 Topic 13.1 Emissions</i>	Provides information of Scope 1, 2 and 3 emissions; GRI 13 draws attention to land-use-change emissions, and helps identify climate pressures associated with land conversion.
<i>GRI 304: Biodiversity 2016 and GRI 13 Topic 13.3 Biodiversity</i>	Provides information on sites near protected or high biodiversity value areas; significant biodiversity impacts; habitats protected or restored; IUCN Red List or national conservation species affected by operations. It supports the avoid, reduce and reverse hierarchy and landscape-risk prioritisation.
<i>GRI 13 Topic 13.4 Natural ecosystem conversion</i>	Provides information on the policies and commitments to reduce or eliminate natural ecosystem conversion; traceability; deforestation- or conversion-free production and sourced volumes; unknown origin volumes; size, location and type of natural ecosystems converted. This provides aggregated / commodity-specific information at group level relevant to avoiding degradation and land conversion.

GRI Disclosure or Recommendation referenced in Olam Agri's GRI Content Index	LDN-relevant Information Supported
<i>GRI 13 Topic 13.5 Soil health</i>	Provides information on soil management plan, main threats to soil health, soil remediation practices and actual or potential impacts of fertilizer use. This is relevant to the reduce and reverse elements of the LDN response hierarchy.
<i>GRI 13 Topic 13.6 Pesticide use</i>	Provides information on pest-management approaches, mitigation of hazardous-pesticide impacts, worker training and pesticide volumes by toxicity class. This is relevant to soil and water quality, ecosystem health and sustainable land management.
<i>GRI 303: Water and Effluents 2018 and GRI 13 Topic 13.7 Water and effluents</i>	Provides information on the interactions with water as a shared resource, management of discharge-related impacts, water withdrawal, discharge and consumption. This is relevant for drought and land-water resilience analysis.
<i>GRI 308: Supplier Environmental Assessment 2016 and related GRI 13 natural ecosystem conversion recommendations</i>	Provides information on screening of new suppliers using environmental criteria; negative environmental impacts in the supply chain and actions taken; traceability and DCF assessment of sourced volumes. This is relevant as much of Olam Agri's land-related impacts and risks sits in third-party sourcing.
<i>GRI 413: Local Communities 2016, GRI 411: Rights of Indigenous Peoples 2016, GRI 414: Supplier Social Assessment 2016, and GRI 13 Topics 13.12, 13.13 and 13.14</i>	Provides information on community engagement and impact assessments; land and natural-resource rights; Indigenous Peoples; FPIC; supplier social screening. It is relevant as it informs on the social context, and the safeguards for land governance and socially legitimate land management.



United Nations
Convention to Combat
Desertification



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