Pedal to the Metal: Safeguarding Local Communities' Affected Rights in Developing Countries' Mining Legal Frameworks Amid the Global Rare Earth Race

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Abstract

This article explores how developing countries can address the challenges of balancing economic benefits and local human rights when drafting legal frameworks for rare-earth elements (REE) mining. REEs are critical minerals widely used in defence and green energy industries. Other developing countries with abundant unexploited REE reserves are now facing growing international attention and economic opportunities after China's recent restrictions on REE exports, amid tensions with the United States. However, like other mining activities, relaxing regulations to attract investment often comes at the long-term expense of public health, living conditions, and labour standards. The article first identifies some common challenges developing countries face when walking the fine line between REE mining's economic benefits and human rights impacts. These include the pressure to adopt low regulatory standards due to technological and economic dependency, as well as weak enforcement driven by corruption. It then proposes that REE-rich developing nations agree on a common set of minimum standard practices to ensure that raising their current standards does not discourage prospective partners. It would also address possible limitations to this approach such as countries' divergent priorities, market effects, and potential issues with competition law. Then, to find solutions for the mining corruption challenge, the article reflects on international examples like Tanzania and China to conclude that regulations should ensure frequent supervision and assessment to prevent and detect corruption before, during, and even after every project.

1 Introduction

If historical eras are named after their dominant resources – such as the Stone Age or Iron Age – then the current era might rightly be called the 'Rare Earths Age', though it does not roll off the tongue quite as smoothly. Rare earth elements (REEs) are minerals widely used in today's world, from everyday technological appliances to the green energy and defence industries to spaceship construction. A global race towards mineral security, especially in search of REEs, started in the 2010s when China, the main global REE supplier, accounting for 90% of raw ore exports, cut down these exports.[1] After years of exploration and research for alternative suppliers, some developing countries have emerged as notable for their commercially exploitable REE reserves and low mining regulatory standards.

However, whether the standards for REE mining in developing countries will stay low in the future is subject to discussion. Given that developing countries are also trying to keep up with the sustainability transition,[2] it might be worth asking whether this 'Rare Earth Age' is the time they advance the longstanding inadequate human rights protection in their mining industries. In the scope of this article, sustainability is used as a lens to point out some common challenges that prevent the legal frameworks from effectively protecting the locals' affected rights, namely the technical and commodities dependence, and the corruption and illegal mining issues. Then, it is suggested that developing countries develop an international collaboration to agree on higher standard practices and a more decentralised approach in the procedures to tackle corruption to balance mining's economic benefits and local communities' rights.

2 Challenges in Safeguarding Human Rights in Rare-Earth Mining

This section will go into two common challenges that most developing countries with REE reserves would face when trying to safeguard communities' rights in REE mining legal frameworks. These challenges are: i, commodity and technology dependence; and ii, corruption and illegal mining. The reasons behind each challenge and how they weaken human rights

[1] Reuters, 'China proposes new rules to tighten control over rare earth sector' (*Reuters.com,* 19 February 2025) https://www.reuters.com/markets/commodities/china-proposes-new-rules-tighten-control-over-rare-earth-sector-2025-02-19/#:~:text=Rare%20earths%20are%20a%20group,90%25%20of%20global%20refined%20output accessed 9 March 2025.

[2] Robin Broad and Julia Fischer-Mackey, 'From Extractivism towards *buen vivir*: Mining Policy as an Indicator of a New Development Paradigm Prioritising the Environment' (2017) 38 Third World Quarterly 1327.

protection are examined, which helps identify suitable approaches to balance REEs mining's economic benefits and its human rights impacts.

The first challenge that would prevent developing countries from effectively protecting local communities' rights in REE mining regulations is their commodity and technology dependence. Commodity dependence is a phenomenon when a country relies heavily on the export of primary commodities, such as minerals, fuels, and agricultural products, for a significant portion of its export earnings.[3] A nation is considered commodity export dependent when these commodities constitute more than 60% of its total merchandise exports.[4] In terms of REEs, some developing countries with REE reserves have a history of commodity dependence on mining, which indicates the same reliance on this resource. An example is Tanzania, South Africa.[5] Even without commodity dependence, developing countries with REE reserves are also under pressure to make use of this highly sought-after resource. Because of this position, losing out on foreign investments in the extractive industry can be said to be a considerable loss for their economies, even destabilising them. The usual way to secure the position as suppliers of raw minerals is by attractive lax regulations. However, the rise of sustainability transition dawns on developing countries that they need to move up in the supply chain, or they will end up exhausting the resources at a cheap price.[6] Moving up in the supply chain means trying to process the minerals so that they can be exported at higher prices, and mining can be more strictly regulated.[7] The problem they face when trying to move up is that they do not have the core technology to process the minerals by themselves, especially to process REEs which are fairly complicated minerals and an emerging market.[8] These dependencies on foreign investment and technology in REE mining are said to make these countries hesitant to raise the standards for their mining regulations.[9] Mining companies always

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[3] UNCTAD, 'The state of commodity dependence' (*UNCTAD*) https://unctad.org/topic/commodities/state-of-commodity-dependence accessed 1 April 2025.
[4] Ibid.
[5] Ibid.
[6] UNCTAD, 'Critical minerals boom: Global energy shift brings opportunities and risks for developing countries' (*UNCTAD*, 26 April 2024) https://unctad.org/news/critical-minerals-boom-global-energy-shift-brings-opportunities-and-risks-developing-countries accessed 1 April 2025.
[7] Ibid.
[8] Shuang-Liang Liu et al., 'Global rare earth elements projects: New developments and supply chains' (2023) 157 Ore Geology Reviews 105428; Lisa Depraiter and Stéphane Goutte, 'The role and challenges of Rare Earths in the Energy Transition (2023) HAL Open Science 9/2023, halshs-04199796 https://shs.hal.science/halshs-04199796/file/REE_in_Energy_Transition_DG.pdf?utm_source=chatgpt.com accessed 1 April 2025.
[9] Kyla Tienhaara, 'Mineral investment and the regulation of the environment in developing countries: lessons from Ghana' (2006) 6 International Environmental Agreements: Politics, Law and Economics 371; Eric Neumayer, *Greening Trade and Investment: Environmental Protection Without Protectionism* (Routledge 2001); Nick Mabey and Richard McNally, 'Foreign Direct Investment and the Environment: From Pollution Havens to Sustainable Development (WWF-UK 1999).

need to keep operation costs as low as possible,[10] so if one potential host country sets higher standards, resulting in higher operation costs, foreign investors might cease to invest or go to another country. The Ok Tedi gold and copper mine in Papua New Guinea is an example of why immediately setting standards similar to those of developed countries is not advised for developing countries that lack the economic abilities.[11] With an estimated 70% of export income coming from mining exports,[12] the government of Papua New Guinea had to lower its environmental standards eventually, despite being very wary of its impacts in preliminary negotiations with foreign entities.

Low human rights standards due to dependencies are reflected in the fact that local people are usually displaced and do not have their consent acquired when mining projects are planned to operate in their areas.[13] Their labour standards are barely considered and are vaguely worded in the legal frameworks, so that the labour costs can be kept as low as possible to attract foreign investment. No one takes responsibility for accidents caused by inadequate mine construction and working conditions, because the vague wording in regulatory standards leaves space for companies to argue that the law is unclear.[14] Low environmental standards also affect human rights in that they lead to land degradation and a toxic living environment where the locals cannot continue living or working.[15] All of this happens because developing countries, on each of their own, are toothless when faced with foreign investors whose projects they heavily rely on.

If commodity and technology dependence leave developing countries with no choice but to lower regulatory standards, then corruption and illegal mining add fuel by preventing effective enforcement of established standards. The culprits of corruption in developing countries are mostly weak institutions, together with, specifically in the mining sector, the lack of anti-

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[10] Hervé Losaladjome Mboyo et al., 'Distribution of Operating Costs Along the Value Chain of an Open-Pit Copper Mine' (2025) Applied Science 1602.
[11] AS Mather and K Chapman, *Environmental Resources* (Routledge 2018); Gavin Hilson and James Arthur Haselip, 'The Environmental and Socioeconomic Performance of Multinational Mining Companies in the Developing World Economy' (2004) 19(3) Minerals and Energy – Raw Materials Report 25; Xia Cao, 'Regulating Mine Land Reclamation in Developing Countries: The Case of China' (2007) 24 Land Use Policy 472.
[12] Hilson and Haselip (n 11).
[13] Siri Lange, 'Gold and Governance: Legal Injustices and Lost Opportunities in Tanzania' (2011) 110 African Affairs 233; Amnesty International, 'Viet Nam: Authorities must investigate reports of beatings at mining quarry' (Amnesty International Public Statement 2018)
[14] Cindy S. Woods, 'It isn't a state problem: The Minas Conga Mine Controversy and the Need for Binding International Obligations on Corporate Actors' (2015) 46(2) Georgetown Journal of International Law 629
[15] Linlin Zhang, 'Towards Sustainable Rare Earth Mining: A Study of Occupational and Community Health Issues' (M.A.Sc thesis, University of British Columbia 2014).

corruption infrastructure.[16] An example of a weak institution can be seen in Vietnam, where a scandalous corruption case in the REE mining sector occurred, leading to the arrest of some big names in both the public and private sectors, including the Former Deputy Minister of Natural Resources and Environment.[17] Corruption has allowed for tons of illegally mined REEs to be transported to China in this case. The weak institution is partially due to the lack of suitable anti-corruption infrastructure and technology in place to assess and detect corruption possibilities in the mining sector. Anti-corruption infrastructure in developing countries is often underwhelming compared to the mining industry's complications in technical matters, public–private sector relationships, and high-value transactions.[18] Even with adequate infrastructure, there can still be inaction against corruption due to the lack of political will.[19] The authorities might refrain from effectively solving corruption issues, either because it requires fundamental changes or because they are benefiting from it.

Corruption affects the locals' rights to a fair trial regarding their complaints or lawsuits against mining companies or the persons in authority. In 2018, the locals near a mine in Yen Bai province in Vietnam posted on social media photos and videos of the mine's guards physically assaulting them with guns, batons, and electric cattle prods while they were protesting against the project. The local authorities and police then demanded that the local people take their posts down instead of demanding restitution from the mining company for assaulting the protesters.[20] This practice, where the authorities benefit and ignore the locals' opinions, is commonly seen in most mining regions in Vietnam. Corruption, when illegal mining is involved, affects the people's rights to adequate housing, safety, etc, because illegal mining is mostly conducted below permitted environmental and safety standards.

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[16] Bertrand Venard, 'Institutions, Corruption and Sustainable Development' (2013) 33(4) Economics Bulletin 2545; Ramos-Mejia and others, 'Sustainability transitions in the developing world: Challenges of sociotechnical transformations unfolding in contexts of poverty' (2018) 84 Environmental Science and Policy 217; Azmat Gani, 'Sustainability of Energy Assets and Corruption in the Developing Countries' (2021) 26 Sustainable Production and Consumption 741.

[17] T Nhung, 'Gây thất thoát hơn 736 tỷ đồng, cựu thứ trưởng bị truy tố' (*VietnamNet,* 11 March 2025) https://vietnamnet.vn/truy-to-cuu-thu-truong-bo-tn-mt-vi-gay-that-thoat-hon-736-ty-dong-2379367.html accessed 12 March 2025.

[18] Nieves Zúñiga, 'Corruption risk mitigation in the mining sector' (2019) (*Transparency International*, 22 February 2019) https://knowledgehub.transparency.org/assets/uploads/helpdesk/Corruption-risk-mitigation-mining-sector-2019.pdf accessed 12 March 2025; Oyu O'Leary, 'Bribery & Corruption in the Mining Industry of Developing Countries, With the Main Focus on Mongolia, and the Role of the IFA' (MFAcc thesis, University of Toronto Mississauga 2024).

[19] Gani (n 16).

[20] Amnesty International, 'Viet Nam: Authorities must investigate reports of beatings at mining quarry' (2018) Amnesty International Public Statement https://www.amnesty.org/fr/wp-content/uploads/2021/05/ASA4192752018ENGLISH.pdf accessed 9 April 2025.

In short, the dual challenges of commodity and technology dependence, along with corruption and illegal mining, significantly undermine the protection of local communities' human rights in developing countries with REE resources. These structural issues not only discourage the establishment of stringent regulatory standards but also weaken enforcement mechanisms where standards do exist. Dependency on foreign investment and processing technologies compels states to maintain lax regulations to remain economically competitive, often at the expense of human rights and environmental protections. Meanwhile, corruption, fuelled by weak institutions and insufficient infrastructure, further erodes accountability, enabling rights violations to persist. Understanding and addressing these obstacles is therefore crucial to designing a legal framework that balances economic development with the well-being of affected communities.

3 Recommendations for Developing Countries to Protect Their Locals' Human Rights in the Rare-Earth Mining Legal Frameworks

To improve human rights protection in REE mining regulation, this section suggests that: 1, an international collaboration might help raise standards without the fear of losing investments; and 2, a more decentralised approach might help tackle ineffective enforcement caused by corruption and illegal mining. Merits of each of the suggestions are explained, followed by considerations of possible shortcomings or case study examples.

To establish higher standards without risking investment loss, developing countries with REE reserves could form an international cooperation or agreement to adopt higher sustainability standards for rare-earth mining simultaneously. This model resembles the Organization of the Petroleum Exporting Countries (OPEC) but would focus on sustainable development rather than market price control. It aligns with the International Commodity Agreement (ICA) model, historically used by commodity suppliers to manage market prices, though its effectiveness remains debated.[21] Predictions suggest REE suppliers may pursue similar agreements due to the sector's geographic advantages and fluctuating demand, though primarily for economic reasons rather than sustainability goals.[22]

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[21] John Baffes, Peter Nagle and Shane Streifel, 'International Commodity Agreements and Cartels: Lessons and Policy Implications' (2024) The World Bank Research Observer lkae008.

[22] Jennifer Harris, 'No Country Can Solve Critical Mineral Shortages Alone' (*Financial Times,* 7 July 2023) https://www.ft.com/content/394dca37-ac50-4380-9b03-4fdfcef2ff7c accessed 8 March 2025.

Nonetheless, one might argue that this approach's feasibility can be driven by market effects and states' divergent priorities or face anti-competition issues. The market effect issue is that countries joining the agreement still lose investment because those which do not prioritise human rights and do not join would attract the investment instead. However, this is where sustainability comes into play. As the goal of sustainable development is to balance among its pillars to benefit the current generation without risking the needs of future generations, it helps find a middle ground to make the obligation to human rights less of a trade-off to states' economic benefits. Because of this, states might feel more encouraged to join the sustainability agreement and uphold human rights while protecting their environment. This agreement could be on a shared minimum set of standard practices that are higher than what they would have gotten on their own, because they are now free from the fear of losing investments. As explained above, raising the standards might cause a loss of investments, which is detrimental to the economies with commodity dependence, but they are free from this fear when all the potential countries for mining share the same minimum standards and requirements. Higher reclamation standards help ensure that the land can be utilised for other purposes so that the locals can continue their economies post-mining. Besides requiring stricter supervision to ensure compliance with higher standards and adequate reclamation plans after mine closure, they can even consider demanding technology exchange. It can be demanded that the locals be prioritised in terms of job opportunities and skills training, like what is usually promised by mining supporters, but rarely becomes a reality.[23]

The international agreement approach might also face concerns related to competition law. Unlike other areas of international economic law, there is no overarching international competition law regime or a global court with jurisdiction over states' decisions to join such agreements.[24] While states are not obligated to enter international agreements, tensions could arise in this context of the current global race for mineral security. Countries importing REE elements may resist increased mining costs imposed by stricter sustainability standards in exporting nations. They could argue that the cooperation functions as a *de facto* cartel if it establishes binding sustainability standards that apply to non-member states, effectively

[23] Bonita Meyersfeld, 'Empty Promises and the Myth of Mining: Does Mining Lead to Pro-Poor Development?' (2016) 2(1) Business and Human Rights Journal 31; Nhi Ba Nguyen, Bryan Boruff and Matthew Tonts, 'Mining, Development and Well-Being in Vietnam: A Comparative Analysis' (2017) 4 The Extractive Industries and Society 564.

[24] Chris Noonan, 'The Emerging Principles of International Competition Law' in Chris Noonan (ed), *The Emerging Principles of International Competition Law* (Oxford University Press 2008).

restricting supply and influencing market conditions. For example, the United States has a history of challenging international resource-related agreements under its extraterritorial antitrust laws. A key precedent is *United States v. Aluminum Company of America (Alcoa)* (1945), where the US applied antitrust law beyond its borders to address anti-competitive practices. In that case, the court ruled that foreign agreements affecting US markets could be subject to US antitrust law.[25] However, the US has repeatedly failed in its attempts to apply extraterritorial antitrust laws against OPEC, which it deemed operated as a resource-exporting cartel.[26] Given this history, the US might struggle to challenge the proposed sustainability-focused cooperation under its anti-cartel framework, especially when the cooperation lacks the explicit intent to manipulate prices or restrict output for profit maximisation, which are core characteristics of a cartel.[27] The international agreement proposed can also be used as an international legal mechanism for developing states to exchange anti-corruption infrastructure with more developed countries and ask them for joint and bilateral efforts to tackle corruption in their transnational REE projects hosted in developing countries. This is particularly helpful when the central government wants to prevent corruption among its ministries or local authorities. China, for example, has collaborated with the United Kingdom, one of the world's biggest financial hubs, to fortify recovery and confiscation of assets obtained through corruption.[28]

In the context of land reclamation after REE mining, Cao argues that, besides requiring better standards with more advanced technology and skilled experts, developing countries need to plan beyond the "end of mine" control.[29] It is suggested that this mindset could be implemented in the bigger context of mining as a whole. As in dealing with corruption, with suitable techniques in hand, the authorities need to think beyond what can be done after corruption has occurred and have a vision to "sustain" legal obligations from the stage of granting permissions. The principles of the 2030 Sustainable Agenda identified and categorised anti-corruption approaches into: Prevention, Detection, Sanction, and Awareness.[30] The Prevention step may

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[25] *United States v Aluminum Co of America* 148 F2d 416 (2nd Cir 1945).
[26] Irvin M Grossack, 'OPEC and the Antitrust Laws' (1986) 20 Journal of Economic Issues 725.
[27] Library of Congress, 'Organizations and Cartels' (*Library of Congress – Research Guides)* https://guides.loc.gov/oil-and-gas-industry/organizations#note1 accessed 12 March 2025.
[28] Zhuan Zuo, 'Cooperation Mechanism between China and the UK in Anti-Corruption Asset Recovery' (2023) 14 Beijing Law Review 2028.
[29] Xia Cao, 'Regulating Mine Land Reclamation in Developing Countries: The Case of China' (2007) 24 Land Use Policy 472.
[30] United Nations, 'World Public Sector Report 2019: Chapter 2: Corruption And The Sustainable Development Goals' (United Nations, 2019)

include mechanisms to assess potential corruption risks before granting mining permissions. Detection means assessments and supervision to expose corrupt behaviours in operating mines; then, the Sanction step suggests that there are credible accountability institutions to carry out punishments and look for remedies. The Awareness step can contribute significantly to the success of the Detection and Prevention steps if the law does not disregard the "grassroots" and refuses to utilise the human factors to combat corruption, leading to an ineffective and out-of-touch legal framework. Thus, the legal framework must consider raising awareness among the local people and allow their active participation, which is also an international human rights obligation of civil self-determination that has not been properly practiced in developing countries' mining activities.

In Tanzania, the government have carried out transparency, awareness, and oversight steps to tackle corruption in the mining sector and received some positive results.[31] They reformed the law to adopt the Extractive Industries Transparency Initiative (EITI) standard requirements,[32] ran public awareness campaigns on the radio and television, and public education about the harms of corruption,[33] and detected potentially corrupt transactions through an "oversight" scheme. These efforts have created a growth of transparency in management, followed by the growth in government revenue in the mining sector, and exposed any corporations intending to bribe officials to avoid the social responsibility packages.[34] In Peru, the government gives a lot of weight to the communities' voices through their transparent public hearings on prospective mining projects. Public hearings play such a crucial role in community involvement that they have prompted the government to reassess certain mining projects, occasionally even leading to their suspension or cancellation.[35]

However, these changes can only happen when the authorities have the political will to tackle corruption and uphold human rights. When there is a lack of political will, there needs to be

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[31] Elikana Eliakimu Sadock, 'The Fight Against Corruption? The Effectiveness Of Efforts To Mitigate Grand Corruption In The Healthcare And Mining Sectors In Tanzania' (Master thesis, University of Gothenburg 2021).
[32] Japhace Poncian and Henry Michael Kigodi, 'Transparency initiatives and Tanzania's extractive industry governance' (2018) 5(1) Development Studies Research 106.
[33] Elikana Eliakimu Sadock, 'The Fight Against Corruption? The Effectiveness Of Efforts To Mitigate Grand Corruption In The Healthcare And Mining Sectors In Tanzania' (Master thesis, University of Gothenburg 2021); Alan Doig and Stephen Riley 'Corruption and anti-corruption strategies: Issues and case studies from developing countries' (1998) Corruption and Integrity Improvement Initiatives in Developing Countries, 45–62.
[34] Gráinne de Búrca, 'The Past and Future of Human Rights' in Gráinne de Búrca (ed), *Reframing Human Rights in a Turbulent Era* (Oxford University Press 2021).
[35] Maiah Jaskoski, 'Environmental Licensing and Conflict in Peru's Mining Sector: A Path-Dependent Analysis' (2014) 64 World Development 873.

pressure from different stakeholders and interested actors to advocate for changes. Burca's[36] "experimentalist" model is a promising proposal that creates pressure on the authorities to continuously investigate and revise the law,[37] creating up-to-date literature that goes hand in hand with its practice. Burca's model works by creating a flow back and forth among three actors of the international human rights systems: the governments, the international institutions, and the people. It aims to use the government as a centre to process issues, while international institutions and NGOs stand in the middle to engage with and maximise the people's voices, then pressure changes by states. This model is engaged closely with the grassroots to improve both the literature on human rights treaty adoption and the states' enforcement.[38]

4 Conclusion

With China's more restrictive strategies in REE exportations recently, the race towards mineral security by the United States and other developed countries is becoming more and more heated every day. REEs are expected to be in high demand at least until the near future of 2030 and beyond.[39] The legal frameworks for REEs are becoming increasingly dynamic and complex, involving disciplines such as politics, economics, technology, environmental protection, and human rights. This shift is driven by developing countries' growing focus on sustainable development and rising public expectations for human rights protection, fuelled by efforts to raise awareness from international institutions and NGOs. This position might suggest to developing countries with potential REE reserves and sustainable development goals that it is high time for fundamental challenges like corruption and commodity dependence to be tackled seriously, instead of by marginal alterations as they have been. Sustainability in general, and human rights protection in specific, should not just be an overall development goal that the law assists in achieving, but should also be the vision incorporated in the legislating process and

[36] Gráinne de Búrca, 'The Past and Future of Human Rights' in Gráinne de Búrca (ed), *Reframing Human Rights in a Turbulent Era* (Oxford University Press 2021).
[37] Charles Sabel and William H. Simon, 'Democratic Experimentalism', in Justin Desautels-Stein and Christopher Tomlins (eds), *Searching for Contemporary Legal Thought* (Cambridge University Press 2017).
[38] Gráinne de Búrca, 'The Past and Future of Human Rights' in Gráinne de Búrca (ed), *Reframing Human Rights in a Turbulent Era* (Oxford University Press 2021).
[39] Philip Andrews-Speed and Anders Hove, 'China's rare earths dominance and policy responses' (2023) Oxford Institute for Energy Studies Working Paper CE7 https://www.oxfordenergy.org/wpcms/wp-content/uploads/2023/06/CE7-Chinas-rare-earths-dominance-and-policy-responses.pdf accessed 8 March 2025.

law enforcement.[40] This means the law should not just be set out to meet the goals of sustainable development, but should be set out using a sustainable vision. It should be made to last and last well through the rapid changes of this day and age. Adopting this vision suggests that developing countries should pay more attention to the human factors in their sustainable REE mining legal frameworks. To do that, they should cooperate on the international level and, domestically, build sustainable, decentralised supervision and decision-making processes to tackle challenges, as REE cannot be a standalone fight.

[40] Margherita Pieraccini and Tonia Novitz, 'Sustainability and Law: A Historical and Theoretical Overview' in Margherita Pieraccini (ed) and Tonia Novitz (ed), *'Legal Perspectives on Sustainability'* (Bristol University Press 2020) 10.