ADDRESSING THE "GREEN RESOURCE CURSE" IN SUB-SAHARAN AFRICA

by Tracy Stein, Carl Bruch, and Jordan Dieni

Tracy Stein is a Visiting Attorney with the Environmental Law Institute (ELI). Carl Bruch is a Senior Attorney and Director of International Programs at ELI. Jordan Dieni is a Visiting Researcher with ELI.

SUMMARY

The global transition to a carbon-neutral economy will bring about a surging demand for land and for minerals required in renewable energy technologies. It brings the threat of conflict between those seeking to develop these resources and those who live on the lands and risk displacement, loss of livelihood, and environmental contamination. These risks are particularly acute in Sub-Saharan Africa, though many Sub-Saharan countries have adopted legislation to prevent and peacefully resolve disputes. This Article summarizes the relevant legal provisions in 48 countries that could prevent, reduce, and resolve conflicts over land and minerals, including laws that recognize customary land rights, protect the environment, require compensation and benefit sharing, guarantee access to information and participation, and provide for access to justice. It details a number of important trends, and finds that many countries have already enacted critical legal provisions which, if implemented and enforced, may help prevent a "green resource curse."

The global transition to a carbon-neutral economy will bring profound shifts to diverse economic sectors, including energy, transportation, manufacturing, and housing. This transformation will generate a massive demand for land for renewable energy generation from solar, wind, hydropower, and biofuels.[1] At the same time, clean energy technologies, batteries, and wind turbines will give rise to a surging demand for minerals, such as lithium, nickel, cobalt, copper, and rare earth metals.[2]

This transition to a green energy economy holds promise of tremendous growth and opportunity. In Africa alone, where approximately 600 million people do not have access to electricity, the race to electrify and benefit from abundant solar resources will fuel social and economic development.[3] Investment and responsible development in mining for inputs to clean energy technology also has the potential to elevate developing countries and communities through public revenues and jobs.

Yet, the dramatic demand for land and minerals can also threaten to aggravate existing tensions and generate new conflicts between those seeking to use the resources for the transition to a carbon-neutral economy and those who live on the land.[4] The technologies and mineral extraction require large tracts of land, potentially displacing those who live and depend on the land for their livelihoods. In

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1. Teresa Kramarz et al., *Governing the Dark Side of Renewable Energy: A Typology of Global Displacements*, 74 Energy Rsch. & Soc. Sci. 1 (2021).

2. The International Energy Agency (IEA) estimates that the world is on track to double the current overall demand for minerals for clean energy technology by 2040, and that it would require four times the mineral requirements to meet the Paris Agreement goals. IEA, The Role of Critical Minerals in Clean Energy Transitions 5, 8 (2022) [hereinafter IEA 2022 Report].

3. This estimate is as of 2021. Carole Brunet et al., *Will Solar Energy Escape the Natural "Resource Curse"?*, 44 Energy Strategy Revs. 101010 (2022).

4. Clare Church & Alec Crawford, International Institute for Sustainable Development, Green Conflict Minerals: The Fuels of Conflict in the Transition to a Low-Carbon Economy 7 (2018).

addition to the potential for displacement, local communities face social and environmental harms posed by mineral extraction and processing.

In particular, minerals needed for wind turbines, lithium-ion batteries, solar photovoltaic cells, and other technologies require different and more extensive methods of processing that pose additional hazards, including unsafe disposal of hazardous waste, depletion of water resources, environmental degradation, and more.[5] The risks to local communities, whether through displacement (legal or otherwise) or environmental destruction of land, homes, and livelihood, are great.[6] As such, the transition could be a curse rather than a blessing.

There is substantial literature on the resource curse in general—the paradox by which countries rich in resource wealth (e.g., oil, gas, and minerals) fail in development goals or in enriching their greater populations.[7] Resource curses depend on many factors, such as corrupt, weak institutions compared to those with strong democratic norms, transparency, and public accountability.[8] Risk of conflict may also turn on whether the benefits of the resources actually flow to the people.[9]

Thus far, the emerging body of literature on the "green resource curse"—that is, the resource curse in the context of a global push to a carbon-neutral economy—has largely focused on whether and how the concept applies to the renewable energy transition.[10] This body of research considers both the increasing global demand for particular minerals,[11] and the potential impacts in relation to specific forms of renewable energy generation (e.g., hydro[12] and solar[13] power). Many of the concerns about a green resource curse reflect the same concerns of past examples of the resource curse.

Africa, a continent rich in land and raw materials, is particularly susceptible to potential "green resource" conflicts.[14] The rush to develop renewable energy facilities or extraction operations in Africa could lead to displacement of Indigenous peoples and traditional communities who have lived on lands for generations outside of statutory systems governing land tenure. The transition to a carbon-neutral economy will necessarily require significant efforts to avoid the types of conflicts over land and minerals that have historically accompanied development, along with resultant resource curses and conflict-inducing land grabs.

Despite the potential for disputes, there is cause for hope. As this Article shows, countries throughout Sub-Saharan Africa have already enacted many legal provisions—often in response to previous disputes over land and minerals—to address land grabbing and contestation over minerals. In addition to legal protections, countries also have governmental authorities in place to implement and enforce those measures. While these legal systems generally have not yet been applied to the impending transition to a carbon-neutral economy, many of these legal mechanisms may—if implemented and enforced—work to prevent and peacefully resolve conflicts among communities, commercial enterprises, and governments related to the green resource curse.

The Article examines the existing legal protections and frameworks that could prevent and peacefully resolve conflicts related to land and minerals in Sub-Saharan Africa, with a particular focus on the transition to a carbon-neutral economy. The focus on existing legal protections does not guarantee a solution to the potential green resource curse. Implementation and enforcement are essential to giving legal effect to these provisions, and in many cases, the environmental rule of law lags.[15] The legal mechanisms can only be as strong and effective as the political will and government institutions that enforce them. Malfeasance, corruption, limited political will, external pressures, and chronic understaffing may render the strongest of legal protections ineffective.[16] Notwithstanding implementation and enforcement questions, the analysis of existing legislation is important because it can help to set priorities: where does legislation exist (in which case, efforts to address the green resource curse should focus on implementation and enforcement); and where is it lacking (in which case, efforts should focus on the development of effective legislation)?

Part I summarizes the methodology used for analyzing the legal regimes of 48 Sub-Saharan African countries. Part II synthesizes the findings of these 48 in-depth legislative

5. Kramarz et al., *supra* note 1.
6. *Id.* Specific renewable energy technologies pose a variety of different upstream and downstream impacts. For example, solar photovoltaic panels require copper, lead, nickel, zinc, iron, and other minerals that have led to dispossession of local populations. Solar farms require land that might currently be used for agriculture or conservation. The production of wind turbines requires large quantities of sand-dependent concrete, which is heavily dependent on water. Other impacts include soil erosion, deforestation, and biodiversity loss, and wind technology can expose communities to radiation and toxicity. Minerals needed for batteries also require large quantities of water to mine, and battery disposal can lead to all sorts of environmental harms. *Id.* at 5-6.
7. *See, e.g.*, Richard Auty, Sustaining Development in Mineral Economies: The Resource Curse Thesis (1993); Jeffrey D. Sachs & Andrew M. Warner, Center for International Development & Harvard Institute for International Development, Natural Resource Abundance and Economic Growth (1997).
8. Scott W. Lyons, *Preventing a Renewable Resource Curse*, 15 Sustainable Dev. L. & Pol'y 4, 4-6 (2015).
9. *Id.*
10. Alycia Leonard et al., *The Resource Curse in Renewable Energy: A Framework for Risk Assessment*, 41 Energy Strategy Revs. 100841 (2022); André Månsson, *A Resource Curse for Renewables? Conflict and Cooperation in the Renewable Energy Sector*, 10 Energy Rsch. & Soc. Sci. 1 (2015).
11. Kramarz et al., *supra* note 1; Kirsten Hund et al., World Bank Group, Minerals for Climate Action: The Mineral Intensity of the Clean Energy Transition (2020).
12. Kathleen J. Hancock & Benjamin K. Sovacool, *International Political Economy and Renewable Energy: Hydroelectric Power and the Resource Curse*, 20 Int'l Stud. Rev. 615 (2018).
13. Brunet et al., *supra* note 3.
14. Vast reserves of the world's green energy minerals are found in countries considered fragile or corrupt by Transparency International's Corruption Perceptions Index and the Fund for Peace's Fragile States Index, including many in Africa. Church & Crawford, *supra* note 4, at 10-14.
15. United Nations Environment Programme, Environmental Rule of Law: First Global Report (2019).
16. Alex Grzybowski, United Nations Interagency Framework Team for Preventive Action, Toolkit and Guidance for Preventing and Managing Land and Natural Resources Conflict: Renewable Resources and Conflict 6, 22 (2012).

reviews, noting trends in legislation. Part III analyzes the most prominent and important procedural and substantive protections—and combination thereof—likely to promote a peaceful transition to carbon-free energy development throughout Sub-Saharan Africa. Part IV provides a few key concluding thoughts on preventing a green resource curse in Sub-Saharan Africa.

I. Methodology

This research project adopted a three-step approach to developing an analytic framework. In the first step, a review of the literature on the causes and solutions to the resource curse was undertaken to identify the common types of conflicts that have and are expected to arise from the global transition to a carbon-neutral economy.[17] The conflicts focused on those related to extraction of minerals (e.g., lithium, cobalt, copper, and rare earth metals) and those related to land use for renewable energy facilities (solar, wind, hydropower, and biofuels).

In the second step, again drawing upon the literature review, procedural and substantive legal provisions were identified that could prevent or peacefully resolve each of the identified conflicts. In a number of instances, different conflicts had similar solutions (e.g., transparency, participation, resource rights, etc.). The third step, then, consolidated the provisions into five broad categories of legal protections with 40 individual indicators (see Table 1).

For each country, the researchers reviewed relevant legislation to ascertain whether that country had legal protections for each of the 40 indicators. Depending on the legislation that a country has adopted to date, research typically focused on a country's constitution and laws governing land, mining, the environment (including stand-alone environmental impact assessment (EIA) legislation), energy and electricity, government administration (including freedom of information), and other relevant legislation. Where available, regulations, decrees, and orders were also analyzed.

Where there was documented practice regarding a specific law or provision, it was noted, but a detailed analysis of the level of implementation and enforcement of the laws is beyond the scope of this Article. For each country, the research team created detailed lengthy profile reports that set forth the relevant legal provisions addressing each indicator. Across the 48 countries in Sub-Saharan Africa, the research team evaluated almost 1,000 laws and generated thousands of pages of research.

The Annex to this Article captures the high-level results of the country-by-country analysis. For each country, the table indicates whether the research found that (1) a country has legal provisions granting a basic minimum protection for the indicator; (2) the country has some legal protections, but they do not rise to the basic minimum protection (e.g., because it is not necessarily clear or provides only qualified protections), meriting a "partial" indicator; or (3) no relevant provisions were found for that indicator. The remainder of the Article draws upon this data.

II. Analysis of Green Resource Curse Legal Protections and Trends

This part summarizes and synthesizes the findings of our analysis of the capacity of the legal systems of 48 Sub-Saharan countries to address the green resource curse. It has five subsections, one for each of the categories of legal provisions important to addressing the green resource curse: land and resource rights, environmental and social protections, compensation and benefit sharing, access to information and participation, and access to justice. Each subsection provides an overview of the relevant provisions and the state of knowledge regarding their potential to prevent or peacefully resolve environmental conflicts. The subsection then analyzes the key legal trends across the continent for the relevant indicators.[18]

A. *Land and Resource Rights*

Both mining and renewable energy projects require land and can affect water, forests, and other natural resources. Vast tracts may be needed for solar or wind farms or biofuels production, and the damming of a river for hydropower often requires flooding fertile valleys. However, much of the land and natural resource usage in Sub-Saharan Africa is governed by traditional tenure systems, rather than statutory systems of ownership and use.[19] Without legal recognition of these customary tenure rights and systems, conflict may arise with communities and individuals as concessions and leases are granted for new mines or renewable energy projects on these lands, interfering with land use and access to natural resources crucial to livelihoods.

Recognition of land rights throughout Sub-Saharan Africa is complicated by legal pluralism, with multiple systems governing landownership, occupancy, and use in parallel: one statutory and one (or more) customary. Statutory systems involve formal legal title to land, while customary systems of ownership or occupation are based on traditional or informal rules related to familial ties, long-standing occupation, and use rights granted and regulated by com-

17. Kendra Dupuy et al., Green Curses and Violent Conflicts: The Contentious Dynamics of Africa's Green Energy Transition, Presentation at the 2021 Annual Conference of the International Studies Association (Apr. 2021).

18. To illustrate promising trends or noteworthy types of legislation, each subsection provides examples of certain provisions or protections from various countries. The examples provided are not exhaustive, do not include every promising or well-crafted protection provided by every country in the study, and do not rate the relative strengths and weaknesses of any country's overall legal structure. Other countries that are not noted may have issued similar protections through regulations or judicial decisions, which may not have been captured by this study.

19. Liz Alden Wily, Rights and Resources Initiative, Rights to Resources in Crisis: Reviewing the Fate of Customary Tenure in Africa (Briefs 1-5) (2012); Andy White & Alejandra Martin, Forest Trends, Who Owns the World's Forests? Forest Tenure and Public Forests in Transition (2002); Rights and Resources Initiative, Who Owns the World's Land? A Global Baseline of Formally Recognized Indigenous and Community Land Rights (2015).

Table 1. Categories of Indicators for Legal Protections to Prevent and Peacefully Resolve Conflicts Over Land and Minerals

Categories of Legal Protections	Indicator
Land and Resource Rights: legal provisions recognizing ownership, use, and access rights for land and minerals	Recognition of customary land tenure rights
	Recognition of customary rights to access natural resources
	Recognition of rights of artisanal and small-scale miners
	Protection to landowners/surface holders in context of conflict with mining permit holder
Environmental and Social Protections: legal provisions to reduce, prevent, and redress social and environmental harms of resource extraction and development projects	Permit/license requirement for mining
	Permit requirement for renewable energy facility (biofuels, solar, hydro, wind, etc.)
	Environmental impact assessment (EIA) requirement for mining permit/license
	EIA requirement for electric/renewable energy project-siting permit
	Environmental protections
	Worker protections
	Site remediation (post-closure) requirements
Compensation and Benefit Sharing: legal provisions providing (1) compensation for compulsory land acquisition, property damage, or loss of access to resources, and (2) guarantees that local residents and communities share in the benefits of development and operations	Adequate compensation for land dispossession
	Timely compensation for land dispossession/eminent domain
	Compensation for loss of access to land or resources
	Compensation for damage to land/resources
	Benefit-sharing requirements—mining
	Benefit-sharing requirements—siting for electric/renewable energy projects
Access to Information and Participation: legal provisions ensuring that individuals and local communities have the rights to access relevant information and have a meaningful opportunity to participate in development decisions impacting their communities	General access to information (A2I) law
	A2I re: proposed project's activities
	A2I re: siting process for electric/renewable energy project
	A2I re: permits/contracts/licenses—mining/electric
	A2I re: mining revenues
	A2I re: environmental impacts (actual and potential) of project
	A2I re: social impacts (actual and potential) of project
	A2I re: benefit sharing
	Public participation in project-siting process (electric/renewable energy project)
	Public participation when granting mining licenses
	Public participation in EIA/environmental and social impact assessment process
	Public engagement through agreement/compact/social license
	Free, prior, and informed consent (FPIC) requirement in project-siting process
	FPIC requirement in mining license process
Access to Justice: legal provisions ensuring meaningful access to recourse and justice (including access to courts, arbitration, mediation, administrative bodies) to protect substantive and procedural rights	Standing to assert artisanal and small-scale mining rights
	Standing to assert customary land tenure rights
	Standing to dispute land dispossession/eminent domain
	Standing to dispute land valuation/compensation/timeliness
	Standing to challenge subsurface mining interference with surface rights
	Standing to enforce benefit-sharing agreements/license provisions
	Standing to enforce EIA requirements
	Standing to enforce environmental/social protections provided by law and/or licensing

munity leadership.[20] Similarly, use of certain resources—such as forest resources, pastoralist grazing land, fisheries, or artisanal mines—may be tied to traditional systems of usage and not statutory ownership or lease. Failure to recognize the rights of individuals and communities to occupy and access traditional lands and resources can result in forced displacement and/or loss of livelihood and lifestyle in the face of development projects.[21]

In addition to these issues, disputes may arise out of conflicting surface versus subsurface rights. In many Sub-Saharan countries, the state generally owns the rights to subsurface mineral resources (regardless of who owns the land above) and regulates the terms of exploitation.[22] When such exploitation causes significant disruption for landowners or occupiers (e.g., in limiting access to or damaging land, structures, or livelihoods), conflict may result between surface users and governments or between surface users and mining operations (often large-scale mining (LSM) interests).[23]

The status of artisanal and small-scale mining (ASM)—a crucial source of income for millions in Sub-Saharan Africa—may also present a potential source of conflict.[24] When ASM rights are not recognized in statutory law, countries risk disputes arising between artisanal/small-scale miners and LSM operations or between ASM operators and other groups, communities, and government entities. For example, the granting of concessions to LSM may lead to the forced removal of other artisanal miners in the area in preference for the large-scale operations.[25] Legal recognition of the rights of artisanal and small-scale miners can legitimize their activities and provide a framework for interaction and conflict resolution, potentially preventing such disputes.[26]

Failure to recognize rights to land and other natural resources can lead to conflict in several ways. For example, governments might lease or grant concessions on land or to resources that are held under customary tenure systems that do not receive the same protections provided under statutory systems. This may allow governments to favor mine operators or developers and ignore the claims of customary landowners or resource users, including the potential for forced displacement without compensation and loss of livelihoods—two major drivers of conflict.[27] Protecting these rights under statutory law is critical to preventing and resolving disputes.

Trends

The majority (41 of 48) of Sub-Saharan countries recognize some level of customary land tenure in statutory law, with significant variation in legal methods for recognizing customary rights.[28] Many countries explicitly established customary land rights in their post-independence constitutions,[29] as well as in land laws.

In many cases, customary tenure is recognized as equal under law to statutory tenure without any requirement of title or registration.[30] Nevertheless, some countries have enacted mechanisms for individuals to formalize their customary rights, typically by registering their land rights as customary or by converting them to statutory rights.[31] Such mechanisms seek to provide permanent formal designation with the resultant protections.

There are significant variations in recognition of communal compared to individual customary land tenure. While the majority of countries surveyed recognize a level of individual customary tenure, many countries (at least 35) also recognize communal customary land rights. Administration of communal land tenure often falls under the administration of a community executive, leadership council, or other local government body.[32] These entities may have the power to designate or lease customary land for use or occupancy, without necessarily providing protections for individual claims to the land.

In contrast to customary land rights, no Sub-Saharan country grants broad protection of customary rights of access to or use of natural resources generally. There are many protections of customary uses of a range of natural resources—including forest resources, pastoralist grazing,

20. Admos Chimhowu, *The "New" African Customary Land Tenure. Characteristic, Features, and Policy Implications of a New Paradigm*, 81 Land Use Pol'y 897 (2019).
21. Kramarz et al., *supra* note 1.
22. James Mitchell, *Pulling the Rug Out From Under: The Land Tenure Dynamics of Mining Concessions in Sub-Saharan Africa*, 3 Extractive Indus. & Soc'y 1117, 1119 (2016).
23. Tony Andrews et al., Canadian International Resources and Development Institute & United Nations Development Programme, The Role of Host Governments in Enabling or Preventing Conflict Associated With Mining 18 (2018).
24. *Id.*; Gavin Hilson & Roy Maconachie, *Artisanal and Small-Scale Mining and the Sustainable Development Goals: Opportunities and New Directions for Sub-Saharan Africa*, 111 Geoforum 125, 128 (2020).
25. Terah U. De Jong et al., U.S. Agency for International Development (USAID), Mining and the Green Energy Transition (2021); Andrews et al., *supra* note 23, at 18.
26. Morgane Fritz et al., Intergovernmental Forum on Mining, Minerals, Metals, and Sustainable Development, Global Trends in Artisanal and Small-Scale Mining (ASM): A Review of Key Numbers and Issues 49-62 (2017); Andrews et al., *supra* note 23, at 103-14; Nicholas Garrett, *Taming Predatory Elites in the Democratic Republic of the Congo: Regulating Property Rights to Adjust Incentives and Improve Economic Performance in the Mining Sector*, *in* Governance, Natural Resources, and Post-Conflict Peacebuilding 363 (Carl Bruch et al. eds., Routledge 2016).
27. Grzybowski, *supra* note 16, at 28; Lance Robinson & Fiona Flintan, *Can Formalisation of Pastoral Land Tenure Overcome Its Paradoxes? Reflections From East Africa*, 12 Pastoralism Rsch. Pol'y & Prac. (2022).
28. This Article provides a tally of our findings that includes both "partial" and "yes" indicators where a minimal level of protection is provided (reflecting our findings set forth in the Annex). In a few limited instances, "partial" indicators from the Annex are not included in the tally provided in the Article. Where that is the case, an explanatory footnote is provided.
29. Constitutional recognition was found in at least nine countries. *See*, *e.g.*, Equatorial Guinea Constitution (1991); Ghana Constitution (1992); Kenya Constitution (2010); South Sudan Constitution (2011); Uganda Constitution (1995); Zambia Constitution (1991); Zimbabwe Constitution (2013).
30. *See*, *e.g.*, Equatorial Guinea Land Law (2009); Guinea-Bissau Land Act (1998); Liberia Land Rights Act (2018); Tanzania Village Land Act (1999); Uganda Constitution (1995); Zambia Constitution (2016).
31. *See*, *e.g.*, Angola Decree No. 58/07 Approving the General Regulation for Land Concession (2007); Benin Land Law (2013) and Amendment to the Land Code (2017); Burundi Law Revising the Land Code (2011); Tanzania Village Land Act (1999); Uganda Constitution (1995).
32. *See*, *e.g.*, Liberia Land Rights Act (2018); Namibia Communal Land Reform Act (2002); Land Use Act (1978) Cap. (L5) (Nigeria); Lands Act, Cap. 184 (1995) (Zam.); Zimbabwe Constitution (2013).

fishing, hunting, and so on—but these protections tend to be resource-specific. Thus, while most (37 of 48) countries protect customary rights to one or more resources, the form and subject of that protection vary significantly.

There were some commonalities. Many surveyed countries recognized customary rights to forest resources. However, there was variation regarding where and how those rights were acknowledged. For example, in countries where customary use and access rights to forest resources were identified, these were often connected to land tenure/occupancy rights,[33] including through communal lands.[34] In other countries, customary rights to access forest resources are recognized to a degree in state-owned or protected forests.[35]

The recognition of other rights to other resources also took varying forms. Some Sub-Saharan African countries have enacted laws addressing pastoralist rights by providing protections to access traditional grazing areas,[36] while others seek to balance agricultural and pastoral interests, or at least require the consideration of both.[37] Albeit less common, some Sub-Saharan African countries also provide statutory protections for customary rights for fishing and hunting practices[38] and water usage.[39]

The vast majority (46 of 48) of Sub-Saharan African countries have codified some protections of the rights of surface landowners (or lawful occupiers) vis-à-vis subsurface mineral exploitation. The type of rights spans a wide spectrum. Most commonly, countries require mineral rights or concession holders to compensate surface owners/occupiers for the disturbance of their rights, typically including damage to the surface land or resources.[40] Further, many countries surveyed explicitly allow surface owners and occupiers to continue to graze livestock and cultivate the surface, provided that such activities do not interfere with mining operations.[41]

While less common, some countries require the holder of the mineral concession to seek a level of consent or agreement from the surface owner/occupier. For example, a growing number of Sub-Saharan African countries have laws requiring the concession holder to secure consent from the surface user, especially to operate near cultivated or inhabited land,[42] or from the chief or local authority in the case of communal customary land.[43]

Most Sub-Saharan African countries (41 of 48) recognize ASM rights to some degree. The majority of these countries have specific permits for artisanal and/or small-scale mining operations, with many restricted to nationals (or entities of which nationals comprise the majority).[44] Notably, in some cases, the permitting process is less involved and/or costly for applicants and operators, which may encourage the formalization of the ASM sector.[45] Other noteworthy provisions provide for services as part of the permitting process, such as capacity-building workshops and health and safety procedures to ASM applicants.[46]

B. *Environmental and Social Legal Protections*

Adverse environmental and social impacts from development, including land and water pollution, habitat destruction, water stressors, and other health and safety hazards, have long been the source of conflict between developers and local communities.[47] In some cases—notably, Bougain-

33. *See*, *e.g.*, Malawi Forestry Act (1997); Land Use Act (1978) Cap. (L5) (Nigeria); *Alexkor Ltd. v. Richtersveld Cmty.* 2003 (12) BCLR 1301 (CC) (S. Afr.).
34. *See*, *e.g.*, Angola Presidential Decree No. 171/18 Approving the Forestry Regulation (2018); Lesotho Forest Act (2009); Liberia Community Rights Law (2009); Namibia Forest Act (2001); Zimbabwe Communal Land Forest Produce Act (1987)/(2001).
35. *See*, *e.g.*, Angola Presidential Decree No. 171/18 Approving the Forestry Regulation (2018); Benin Land Law (2013); Burundi Law No. 1/07 of July 15, 2016, Revising the Forestry Code (2016); Cameroon Forest, Wildlife, and Fisheries Regulations (1994); Gabon Forest Code (2001); Niger Guidelines of the Rural Code, Order No. 93-015 (1993); Senegal Forestry Code (2018); Togo Forestry Code (2008); Forests Act No. 17 (2015) Government Gazette (SI) (Zam).
36. *See*, *e.g.*, Burkina Faso Pastoralism Law (2002); Ethiopia Constitution (1994); Guinea Pastoral Code (1995); Niger Ordinance No. 2010-29 of May 20, 2010, Relating to Pastoralism (2010); South Sudan Land Act (2009).
37. *See*, *e.g.*, Benin Land Law (2013); Community Land Act, No. 27 (2016) Kenya Gazette Supplement No. 148; Tanzania Village Land Act (1999).
38. *See*, *e.g.*, Benin Land Law (2013); Cameroon Forest, Wildlife, and Fisheries Regulations (1994); Gabon Mining Code (2019).
39. *See*, *e.g.*, Tanzania Water Resources Management Act (2009).
40. *See*, *e.g.*, Botswana Mines and Minerals Act (1999); Burkina Faso Mining Code (2015); Cameroon Mining Code (2016); Central African Republic Mining Law (2009); Chad Mining Code (1995); Congo-Brazzaville Mining Code (2005); Côte d'Ivoire Mining Code (2014); Democratic Republic of the Congo Mining Code (2002, as amended 2008); Djibouti Mining Code (2016); Eritrea Mining Proclamation (1995); Ethiopia Mining Proclamation (1993); Gambia Mines and Quarries Act (2005); Guinea Mining Code (2011); Mining Act, No. 12 (2016) Kenya Gazette Supplement No. 71; Lesotho Mines and Minerals Act (2005); Liberia Minerals and Mining Law (2000); Madagascar Mining Code (1999); Malawi Mines and Minerals Act (2018); Mali Mining Code (2012); Mauritania Mining Code (2008); Namibia Minerals Act (1992); Niger Mining Code (1993); Minerals and Mining Act No. (20) (2007) (Nigeria); Rwanda Mining Law (2018); Senegal Mining Code (2016) and Decree on the Application of the Mining Code (2017); Seychelles Minerals Act (1962); Somalia Mining Code (1984); South Sudan Mining Act (2012); Tanzania Mining Act (2019); Togo Mining Law (1996); Uganda Mining Act (2003); Mines and Minerals Development Act No. 11 (2015) (Zam.).
41. *See*, *e.g.*, Botswana Mines and Minerals Act (1999); Cameroon Mining Code (2016); Djibouti Mining Code (2016); Eswatini (Swaziland) Mines and Minerals Act (2011); Ghana Minerals and Mining Act (2006); Mining Act, No. 12 (2016) Kenya Gazette Supplement No. 71; Lesotho Mines and Minerals Act (2005); Liberia Minerals and Mining Law (2000); Madagascar Mining Code (1999); Malawi Mines and Minerals Act (2018); Minerals and Mining Act No. (20) (2007) (Nigeria); Sierra Leone Mines and Minerals Act (2009); Uganda Mining Act (2003); Mines and Minerals Development Act No. 11 (2015) (Zam.); Zimbabwe Mines and Minerals Act (1961)/(2001).
42. *See*, *e.g.*, Angola Mining Code (2012); Benin Mining Code (2006); Botswana Mines and Minerals Act (1999); Guinea Mining Code (2011); Guinea-Bissau Mining Code (2014); Malawi Mines and Minerals Act (2018); Mali Mining Code (2012); Sierra Leone Mines and Minerals Act (2009); Tanzania Mining Act (2010); Mines and Minerals Development Act No. 11 (2015) (Zam.). In most cases, if landowner/occupier consent is refused, the government can step in to mediate or expropriate the land in question.
43. *See*, *e.g.*, Côte d'Ivoire Mining Code (2014); Mines and Minerals Development Act No. 11 (2015) (Zam.).
44. *See*, *e.g.*, Eswatini (Swaziland) Mines and Minerals Act (2011); Mining Act, No. 12 (2016) Kenya Gazette Supplement No. 71; Madagascar Mining Code (1999).
45. See, for example, the Ethiopia Mining Operations Proclamation §11(2) (2010), which states: "No person is required to possess financial resources, technical and professional competence in order to acquire artisanal mining license."
46. *See*, *e.g.*, Madagascar Mining Code (1999); Minerals and Mining Act No. (20) (2007) (Nigeria).
47. Philip M. Omenge et al., *Environmental and Social Impact Assessment Procedural Steps That Underpin Conflict Identification: Reference to Renewable*

ville, Papua New Guinea—such conflicts have escalated to armed conflict.[48] The processing techniques involved with minerals for renewable energy (such as copper, aluminum, and lithium) present additional challenges, because they often cause greater water stress (through higher water intensities), often occur in water-scarce areas, and release high levels of greenhouse gases.[49] Abandoned mines also present a range of hazards, including mine shaft collapse, soil and water contamination, and interference with agriculture.[50] Conflicts are likely to arise where projects result in environmental degradation, land mismanagement, water scarcity, and other adverse social impacts.[51]

A range of legal and regulatory requirements aimed at protecting the environment, worker safety, and community well-being can reduce potential conflict between developers and local communities and landowners.[52] Strong regulatory oversight and rigorous licensing requirements that require developers to comply with environmental protection laws, EIA requirements, and health and safety standards as conditions to license or permit approval can reduce impacts that could otherwise result in conflict.[53]

For example, environmental and social impact assessments can identify potential impacts, address community concerns, and provide effective prevention and mitigation measures before conflicts occur.[54] Site remediation requirements, including bond requirements or environmental accountability measures, can prevent abandoned mines or redress damage, thereby reducing other sources of conflict. National laws that require developers to adopt health and safety codes and practices, fair employment practices, and international safety standards also play a role in reducing tensions between developers and local workers.[55]

Trends

Of the five categories of legal measures that are important for addressing the green resource curse, environmental and social protections provided the most consistent and promising trends. It is now standard practice, as detailed below, for Sub-Saharan African countries to provide environmental and social protections through licensing requirements, EIAs and other environmental protections, site remediation requirements, and worker protections.

Of particular note, almost every Sub-Saharan African country requires licensing for mining permits. The vast majority of countries also require licensing for renewable energy development under general electricity provisions or specific renewable energy acts and provisions: 47 of 48 countries require permits for mining, and 43 of 48 countries require permitting for electric siting.

Many Sub-Saharan African countries include environmental and social standards as part of licensing processes for both mining and energy.[56] For example, some countries now require environmental permits or licenses from environmental protection agencies or other ministries as a condition of license approval.[57] Among the more notable license protections, several recently enacted laws require mining ministries to evaluate considerations such as whether operations will be carried out in a way to protect the environment, manage waste, promote sustainable development and sustainable mining, prevent detrimental impacts on human health, the environment, and ecosystems, and minimize impacts on neighboring countries.[58] A number of countries also require the permit seeker to include risk management or environmental protection plans or post-closure rehabilitation plans in applications.[59] Other licensing requirements focus on socioeconomic impacts or community benefits, including in some cases requiring community development plans for employing and training citizens or procuring goods and services for operations within the country.[60]

Use of licensing to protect the environment and promote social well-being is also generally accepted in renewable energy licensing.[61] Under electrical codes, a number of noteworthy provisions require licensing authorities to

Energy Resource Development in Kenya, 5 Int'l J. Energy Prod. & Mgmt. 157, 161-62 (2020); Grzybowski, *supra* note 16, at 10-12, 16, 33-34.

48. Philippe Le Billon, *The Resource Curse*, Adelphi Papers 11 (2005); Michael Cornish, *The Bougainville Conflict: A Classic Outcome of the Resource-Curse Effect?*, Peace & Conflict Monitor 4 (2010), http://michaelcornish.org/wp-content/uploads/2012/01/Michael-Cornish-The-Bougainville-conflict-a-classic-outcome-of-the-resource-curse-effect-Peace-and-Conflict-Monitor-United-Nations-University-for-Peace-2010.pdf.
49. De Jong et al., *supra* note 25, at 31; IEA 2022 Report, *supra* note 2, at 131, 197.
50. De Jong et al., *supra* note 25, at 32.
51. Grzybowski, *supra* note 16, at 10-12, 16, 33-34; Tony Andrews et al., Canadian International Resources and Development Institute, The Rise in Conflict Associated With Mining Operations: What Lies Beneath? 21, 52 (2017).
52. Andrews et al., *supra* note 23, at 16, 19; Grzybowski, *supra* note 16, at 21.
53. *See*, *e.g.*, Andrews et al., *supra* note 23, at 16, 19.
54. Omenge et al., *supra* note 47, at 162; Grzybowski, *supra* note 16, at 33; Andrews et al., *supra* note 23, at 16; De Jong et al., *supra* note 25, at 45.
55. International Finance Corporation, Sustainable and Responsible Mining in Africa: A Getting Started Guide 21-22 (2014).
56. *See* notes 57-60.
57. *See*, *e.g.*, Angola Environment Framework Law (1998); Central African Republic Environmental Code (2007); Eswatini (Swaziland) Mines and Minerals Act (2011); Ghana Environmental Assessment Regulations (1999); Mozambique Mining Law (2014) and Environment Law (2014); Namibia Environmental Management Act (2007); Niger Mining Decree Applying Mining Law (2006); Seychelles Environment Protection Act (2016); Tanzania Mining Act (2010).
58. *See*, *e.g.*, Cameroon Mining Code (2016); Congo-Brazzaville Environmental Code (1991) and Mining Code (2005); Côte d'Ivoire Mining Code (2014); Equatorial Guinea Mining Law (2019); Guinea Mining Code (as amended 2013); Guinea-Bissau Mining Code (2014); Malawi Mines and Minerals Act (2019); Mozambique Mining Law (2014); São Tomé e Príncipe Environmental Law (1999) and Exploration and Extraction Regime (2020).
59. *See*, *e.g.*, Cameroon Mining Code (2016); Congo-Brazzaville Environmental Code (1991) and Mining Code (2005); Côte d'Ivoire Mining Code (2014); Equatorial Guinea Mining Law (2019); Guinea Mining Code (as amended 2013); Guinea-Bissau Mining Code (2014); Malawi Mines and Minerals Act (2019); São Tomé e Príncipe Environmental Law (1999) and Exploration and Extraction Regime (2020).
60. *See*, *e.g.*, Burundi Mining Code (2013); Central African Republic Mining Law (2009); Chad Electric Sector Law (2019); Eritrea Mining Proclamation (1995); Gabon Mining Code (2019); Guinea Mining Code (as amended 2013); Uganda Mining Act (2003).
61. *See*, *e.g.*, Côte d'Ivoire Electricity Code (2014); Djibouti Electricity Act (2016); Ghana Energy Commission Act (1997); Energy Act, No. 1 (2019) Kenya Gazette Supplement No. 29; Sierra Leone Renewable Energy Action Plan (2015); Energy Regulation Act No. 12 (2019) Government Gazette (Zam.).

take into consideration issues such as the well-being of locals (including social, cultural, and recreational life) and protection of the environment, natural resources, or food security.[62] A ministry may also be required to consider the developer's technical and financial abilities to complete a project to prevent project abandonment.[63]

In addition to some of the general licensing requirements mentioned above, the overwhelming majority of countries also require some type of environmental review or EIA as part of licensing for both mining (46 of 48 countries) and electricity generation (46 of 48). While EIAs are often required for LSM, it is less typical for a law to require EIAs for ASM.

Of note, a number of the countries condition approval of a license or permit on whether the EIA establishes that development will not have an adverse impact on the environment.[64] Some EIA provisions authorize ministries to impose obligations on developers to provide environmental management or mitigation plans, study feasibility alternatives, and include plans to reduce negative impacts.[65] Other noteworthy protections require EIA analysis of ecologically sensitive or protected areas, potential damage to archeological heritage sites, potential climate impacts (including vulnerability assessments), impacts on women or vulnerable groups, or impacts on neighboring countries.[66]

A number of EIA provisions also require developers to identify and analyze social and economic effects on local communities, such as impacts on jobs, food security, local customs, health and well-being, specific impacts on women or vulnerable groups, general impact on the public interest, and potential land conflicts/resettlement.[67] A number of laws also impose obligations to follow up on EIAs, including, for example, by requiring developers to update management plans, issue ongoing environmental self-monitoring plans, or provide periodic audits or annual activity assessments.[68] While less common, some countries require public hearings to guarantee a role for the community in addressing environmental concerns raised in EIAs.[69]

Every Sub-Saharan African country (48 of 48) provides a minimum of general environmental protections through constitutions, environmental codes, other codes, and regulations by environmental authorities. Aside from EIA requirements, some significant environmental provisions impose obligations on developers to undertake development activities to prevent pollution; preserve biodiversity; minimize, treat, reclaim, and recycle waste; conduct environmental audits to mitigate detrimental impacts; and/or face liability and fines (civil and criminal) for violating environmental provisions.[70]

In addition, many environmental ministries have broad authority to issue orders to prevent activities likely to have an adverse impact on the environment or to ensure that environmental factors are considered in development projects. For example, many laws authorize ministries to limit mining in protected or sensitive environmental areas, inspect premises during operations to ensure compliance with environmental laws, require authorization to clear trees/forests, demand annual environmental assessments,

62. *See, e.g.*, Cameroon Electric Law (2011); Côte d'Ivoire Electricity Code (2014); Mauritania Electrical Code (2001); Environmental Impact Assessment Decree No. (86) (1992) 79:73 S.O.G., A979 (Nigeria); Rwanda Electricity Act (2011); São Tomé e Príncipe Electricity Sector Law (2014); Togo Electrical Code (2000); Uganda National Environment Act (2019).

63. *See, e.g.*, Guinea-Bissau Land Act (1998); Seychelles Environment Protection Act (2016); Sierra Leone Guidelines for Environmental and Social Impact Assessments of Renewable Energy Technologies (2019).

64. *See, e.g.*, Benin Environment Code (1999); Burkina Faso Mining Code (2015) and Strategic Environmental Assessment Decree (2015); Burundi Mining Code (2013); Cabo Verde Renewable Energy Act (2011); Chad Mining Code (1995); Comoros Environmental Impact Assessment Law (1995); Democratic Republic of the Congo Environment Law (2011) and Electricity Law (2014); Guinea-Bissau Mining Code (2014); Mauritania Environment Law (2000); Niger Mining Decree Applying Mining Law (2006); Rwanda Mining Law (2018); São Tomé e Príncipe EIA Regulation (1999); Tanzania Environmental Management Act (2004); Togo Environmental Framework Law (2008); Mines and Minerals Development Act No. 11 (2015) (Zam.).

65. *See, e.g.*, Benin Environment Code (1999); Burkina Faso Mining Code (2015) and Strategic Environmental Assessment Decree (2015); Burundi Mining Code (2013); Chad Mining Code (1995); Comoros Environmental Impact Assessment Law (1995); Democratic Republic of the Congo Environment Law (2011) and Electricity Law (2014); Guinea-Bissau Mining Code (2014); Mauritania Environment Law (2000); Niger Mining Decree Applying Mining Law (2006); Rwanda Mining Law (2018); São Tomé e Príncipe EIA Regulation (1999); Tanzania Environmental Management Act (2004); Togo Environmental Framework Law (2008); Mines and Minerals Development Act No. 11 (2015) (Zam.); *see also* Angola EIA Decree (2020).

66. *See, e.g.*, Cameroon Forestry, Wildlife, and Fisheries Regulations (1994); Chad Mining Code (1995); Mining Act, No. 12 (2016) Kenya Gazette Supplement No. 71 and Energy Act, No. 1 (2019) Kenya Gazette Supplement No. 29; Malawi Mines and Minerals Act (2018) and Environment Management Act (2016); Mali Mining Code (1999); Mauritania Environmental Impact Assessment Decree (2004); Mozambique Environmental Impact Assessment Decree (2015); Senegal Environment Code (2001); Seychelles Environment Protection Act (2016); Tanzania Environmental Management Act (2004).

67. *See, e.g.*, Cabo Verde Environmental Impact Assessment Act (2020); Côte d'Ivoire Environment Code (1996); Gabon Decree Regulating Environmental Impact Studies (2005); Guinea Mining Code (as amended 2013); Mining Act, No. 12 (2016) Kenya Gazette Supplement No. 71; Mauritius Environment Protection Act (2002); Niger Environmental Assessment Law (2018); Senegal Environment Code (2001); Tanzania Environmental Management Act (2004).

68. *See, e.g.*, Botswana Environmental Assessment Act (2011); Burundi Mining Code (2013) and Environmental Code (2011); Cabo Verde Environmental Impact Assessment Act (2020); Central African Republic Environmental and Social Impact Assessment Order (2014); Côte d'Ivoire Environment Code (1996); Democratic Republic of the Congo Electricity Law (2014); Eritrea Environmental Protection and Management Regulations (2017); Eswatini (Swaziland) Environmental Management Act (2002); Gabon Mining Code (2019); Gambia National Environment Management Act Regulations (1994)/(2014); Guinea Mining Code (as amended 2013); Malawi Mines and Minerals Act (2018); Mauritius Environment Protection Act (2002); Namibia Electricity Act (2007); Uganda National Environment Act (2019).

69. *See, e.g.*, Central African Republic Environmental and Social Impact Assessment Order (2014); Chad Mining Code (1995); Environmental Impact Assessment Decree No. (86) (1992) 79:73 S.O.G., A979 (Nigeria).

70. *See, e.g.*, Angola Environment Framework Law (1998); Benin Environment Code (1999); Burundi Environment Code (2000); Central African Republic Environmental Code (2007); Democratic Republic of the Congo Environment Law (2011); Malawi Environment Management Act (2016); Mali Water Code (2002); Mozambique Mining Law (2014) and Environment Law (2014); Rwanda Environment Law (2018); Senegal Environment Code (2001); Tanzania Environmental Management Act (2004); Togo Environmental Audit Act (2011) and Mining Code (2012); Zimbabwe Environmental Management Act (2002).

withdraw mining licenses, or issue other environmental protection orders.[71]

To protect against another long-standing conflict stressor, the vast majority of countries (45 of 48) have also legislated site remediation or mine closure protections. Notable mine closure provisions impose obligations on developers to restore land to its original condition, rehabilitate land, forests, and polluted water, post bonds, fund special accounts for post-operation rehabilitation, provide local socioeconomic support beyond closing, submit decommission plans (to be approved by ministries), or obtain final rehabilitation certificates.[72] Other significant provisions authorize ministries to fine or impose liability on developers for a specified period of time following the closing of a mine or to enter liability orders for environmental damage.[73]

The vast majority of Sub-Saharan African countries (46 of 48) also provide protections for workers under mining or labor laws, with several noteworthy laws requiring health and safety insurance for workers as part of the mining permit process and empowering governments to terminate licenses and impose sanctions on companies for violating the law or licenses. A number of recent laws also require permit holders to issue employee protection codes, issue health plans or workplace regulations (subject to ministry approval), notify employees of worker protections under law, comply with the strictest laws of any country where they conduct business, participate in medical monitoring and reporting systems, provide for regular medical examinations, provide for worker participation in health and safety matters and work policies, or provide educational and housing opportunities for workers.[74] To promote worker safety, a ministry may have authority to inspect work sites, remedy dangerous practices, order site closures, withdraw mining licenses, or impose criminal liability or fines for worker safety violations.[75]

C. Compensation and Benefit-Sharing Rights

Displacement of people for new mining sites or renewable energy installations affects livelihoods and land rights (which are often held under customary tenure), which in turn can be a source of conflict. In addition to displacement, mining and renewable energy projects may cause environmental, economic, or social impacts.[76]

Legal provisions requiring timely and adequate compensation to landowners and those holding land rights under customary tenure for losses and damages arising out of development are critical to reducing the potential for conflict.[77] In order to be "fair," compensation should make the victim whole, and not leave them worse off.[78] Among other things, formulas for just compensation for land dispossession consider factors such as the reasonable value of the land based on the costs of replacement or resettlement and economic harms caused by loss of livelihood and access to the lands.[79]

As recognized by the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries, and Forests in the Context of National Food Security (VGGT), genuine public purpose in the expropriation and due process "have been identified as central pre-requirements to fair compensation."[80] Compensation should also redress environmental and economic damages to lands and natural resources (including soil erosion, deforestation, and water contamination) and economic harms from lost farming opportunities.[81] Compensation schemes should also factor in the rights and needs of women and vulnerable groups.[82]

In some cases, land resettlement may be preferable to monetary compensation as a way to protect livelihoods by providing access to lands for farming or pasture or forest resources.[83] Relocation schemes that seek to improve living conditions and protect tenure rights can reduce the likelihood for conflict.[84]

Mining and renewable energy development can drive conflict if the local communities not only bear the negative impacts (including pollution, loss of jobs, an influx of nonlocal workers, loss of access to natural resources, and disruption to local life and practices), but also do not receive an equitable share of the benefits (revenues, jobs,

71. *See*, *e.g.*, Central African Republic Environmental Code (2007); Comoros Environment Decree (1993); Democratic Republic of the Congo Mining Code (2002, as amended 2018); Eswatini (Swaziland) Environmental Management Act (2002); Guinea Mining Code (as amended 2013); Mauritania Environmental Code (2000); Niger Mining Decree Applying Mining Law (2006); Togo Environmental Framework Law (2008); Environmental Management Act No. 12 (2011) (Zam.).
72. *See*, *e.g.*, Angola Mining Code (2012); Benin Mining Code (2006); Burundi Mining Code (2013); Central African Republic Environmental Code (2007); Congo-Brazzaville Mining Code (2005); Comoros Mining Code (2019); Côte d'Ivoire Mining Code (2014); Democratic Republic of the Congo Mining Code (2002, as amended 2018); Guinea Mining Code (as amended 2013) and Environmental Code (2019); Guinea-Bissau Mining Code (2014); Mauritania Mining Code (2008); Rwanda Mining Law (2018); National Environmental Management Act 107 of 1998 (S. Afr.); Tanzania Mining Act (2012).
73. *See*, *e.g.*, Cameroon Mining Code (2016); Mozambique Mining Law (2014).
74. *See*, *e.g.*, Burkina Faso Mining Code (2015); Cameroon Mining Code (2016); Chad Labor Code (1996); Comoros Mining Code (2019); Gabon Mining Code (2019); Guinea Mining Code (as amended 2013); Liberia Minerals and Mining Law (2000); Mali Mining Code (2020); Sierra Leone Mines and Minerals Act (2009); Mine Health and Safety Act 29 of 1996 (S. Afr.); Mines and Minerals Development Act No. 11 (2015) (Zam.).
75. *See*, *e.g.*, Central African Republic Mining Law (2009); Ghana Minerals and Mining Act (2006); Niger Mining Code (1993); Senegal Mining Code (2016); Somalia Mining Code (1984); Tanzania Mining Act (2010).
76. Gavin Hilson, *An Overview of Land Use Conflicts in Mining Communities*, 19 Land Use Pol'y 65, 66 (2002).
77. Babette Wehrmann, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, Understanding, Preventing, and Solving Land Conflicts: A Practical Guide and Toolbox 97 (2017); Sarah Lowery & Darryl Vhugen, USAID, Land Tenure & Energy Infrastructure: Strengthening and Clarifying Land Rights in Energy Infrastructure Projects and Programming 13-14 (2016).
78. Wehrmann, *supra* note 77, at 97.
79. Lowery & Vhugen, *supra* note 77, at 14; Simon Keith et al., Food and Agriculture Organization of the United Nations, Compulsory Acquisition of Land and Compensation 23-38 (2008); Jonathan Mills Lindsay, World Bank, Compulsory Acquisition of Land and Compensation in Infrastructure Projects 6-7 (2012).
80. Wehrmann, *supra* note 77, at 97.
81. Hilson, *supra* note 76, at 71-72; Grzybowski, *supra* note 16, at 34.
82. Lindsay, *supra* note 79.
83. *Id.* at 7.
84. Hilson, *supra* note 76, at 68-69; Wehrmann, *supra* note 77, at 97.

procurement opportunities, etc.).[85] This combination of inequitable burdens *and* inequitable benefits can be a particularly powerful driver of conflict.

In this context, it is important to distinguish compensation (which focuses on addressing the negative impacts) from benefit sharing (which focuses on the equitable allocation of financial and other benefits), as they have different objectives. In practice, though, compensation and benefit sharing are often intertwined.

Benefit-sharing mechanisms can advance socioeconomic development, provide significant benefits to communities, and advance the perception of just and fair development, all factors that may help reduce conflict.[86] Effective benefit-sharing arrangements often focus on monetary awards, such as a share of revenues, royalties, taxes, and fees, providing local financial resources to mitigate social and environmental damage associated with development and generating benefits for local populations.[87] In addition, benefit-sharing provisions that invest in local communities through employment and training opportunities and investments in infrastructure, schools, and healthcare, all promote collaboration and sharing of development benefits as a means to reduce potential conflict.[88] Benefits from electricity-generating facilities may also include access to the electricity, preferential rates, or training in distributing or installing energy products—all of which may build community support and reduce conflict.[89]

Poorly designed benefit-sharing arrangements can and have indirectly contributed to conflict in situations where they fail to benefit the communities, are not properly implemented, or result in diversion of funds from interested communities to corrupt leaders or violent groups.[90] Similarly, unfair distribution of benefits may drive conflict.[91] Research to date has not provided clarity regarding the effectiveness of particular benefit-sharing mechanisms vis-à-vis one another regarding the grouping of mechanisms to provide greater protections.

Nevertheless, there is clear agreement on the centrality of community and stakeholder engagement to guide the selection and development of benefit-sharing strategies that are best suited for a specific project in a particular context.[92] The diversity in options and approaches underscores the importance of a clear benefit-sharing strategy—and of engaging stakeholders to arrive at the best strategies in the context of a specific project.

Trends

Almost all Sub-Saharan African countries (47 of 48) provide constitutional and/or statutory compensation for landowners injured as a result of displacement or damage to the land—including compensation for the fair or just value of dispossessed land and, to a lesser degree, loss of use of resources of the land. As for a sharing of development benefits, the vast majority of Sub-Saharan African countries (34 of 48) have enacted legislation providing at least minimal benefit-sharing provisions in the context of mining. As set forth below, the range of benefit-sharing mechanisms varies greatly from country to country, from revenue sharing to local development commitments to enforceable community development plans. Benefit sharing is much less prevalent in the context of electrical facility siting.

The vast majority of countries in the study (47 of 48) require just compensation for land displacement. A number of laws include specific substantive factors to be considered in the calculation of what constitutes "just" compensation. To that end, just compensation has been defined as the "fair market value" of the land or compensation "commensurate" with the value of the property or based on "a willing seller/willing buyer" assessment.[93]

As part of this valuation, a number of countries specifically include compensation for value added, such as investments in the property or structures on the property (including investments in, improvements to, or "betterment" of the property).[94] Some surveyed countries also require consideration of the current use of the property, historical use of the property, and the purpose of the expropriation.[95] Importantly, when valuing the land for compensation, the vast majority of countries do not consider the increase in value to the land by virtue of the impending development, which can increase the value of the property.[96]

85. Andrew Bauer et al., United Nations Development Programme & Natural Resource Governance Institute, Natural Resource Revenue Sharing 13-14, 23-25 (2016); Hilson, *supra* note 76, at 66.
86. Grzybowski, *supra* note 16, at 8, 10, 13, 26; International Finance Corporation, Local Benefit Sharing in Large-Scale Wind and Solar Projects 9-11 (2019).
87. Bauer et al., *supra* note 85, at 24-25; Andrews et al., *supra* note 23, at 54-55; Church & Crawford, *supra* note 4, at 7.
88. Andrews et al., *supra* note 23, at 54; Lowery & Vhugen, *supra* note 77, at 7, 10-11, 17; Bauer et al., *supra* note 85, at 20.
89. Lowery & Vhugen, *supra* note 77, at 6; International Finance Corporation, *supra* note 86, at 19.
90. Bauer et al., *supra* note 85, at 25, 46, 72; Jon Altman, *Benefit Sharing Is No Solution to Development: Experiences From Mining on Aboriginal Land in Australia*, *in* Indigenous Peoples, Consent, and Benefit Sharing: Lessons From the San-Hoodia Case 285-302 (Rachel Wynberg et al. eds., Springer 2009); Rachel Wynberg & Maria Hauck, *People, Power, and the Coast: A Conceptual Framework for Understanding and Implementing Benefit Sharing*, 19 Ecology & Soc'y (2014); Grzybowski, *supra* note 16, at 12.
91. Andrews et al., *supra* note 23, at 54.
92. International Finance Corporation, *supra* note 86, at 19.
93. *See*, *e.g.*, Eswatini (Swaziland) Acquisition of Property Act (1961); Ethiopia Constitution (1994); Uganda Land Act (1998).
94. *See*, *e.g.*, Burundi Land Code (2011) and Mining Code (2013); Chad Land Tenure and Customary Rights Act (1967); Eswatini (Swaziland) Acquisition of Property Act (1961); Ghana Land Use and Spatial Planning Act (2016); Land Regulations, Legal Notice No. 280 (2017) Kenya Gazette Supplement No. 179; Malawi Lands Acquisition Act (as amended 2017); Mozambique Mining Law (2014); Nigeria Constitution (1999); Rwanda Expropriation Act (2015); Senegal Expropriation Law (1976, as amended 2005); South Sudan Land Act (2009); Tanzania Land Act (1999).
95. *See*, *e.g.*, Benin Land Law (2013); South African Constitution (1996 with amendments 2012); South Sudan Land Act (2009).
96. *But see* Eswatini (Swaziland) Acquisition of Property Act (1961) (including "any increase in the value . . . likely to accrue from the use to which the property acquired will be put"); Guinea Land Use Code (1992) (providing compensation to "cover all the direct, material and certain prejudice caused by the expropriation," with valuation fixed at the "date of the expropriation order and taking into account their value at that date"); Seychelles Acquisition of Land in the Public Interest Act (1996) (including consideration of "any value due to any license, wayleave, easement, royalty, privilege, or concession attached to the land").

Some countries provide for substitute land/resettlement as an accepted alternative to monetary compensation. Where resettlement is provided as an option, a number of notable country provisions provide specific conditions for resettlement, including that resettlement should be on "suitable alternate land," done with consideration of "economic well-being and social and cultural value" of those to be resettled, or require resettlement on land or "circumstances" "similar to or improved" from their prior situation.[97] Some also provided for ancillary costs, such as "reasonable" costs of resettlement or consideration of lost livelihood income.[98] As part of relocation, some countries also consider the social and emotional costs of relocation, including compensation for "lost opportunity" costs or disruption costs (such as an additional percentage of the property's market value assessment to compensate for the disturbance).[99]

The strong majority of Sub-Saharan African countries[100] explicitly require the "prompt" payment of compensation. While most countries have not defined "prompt" in their statutes or constitutions, some countries recognize that the land transfer shall not be completed until the amount and timing have been agreed upon by those affected or the landowner has received payment of the compensation prior to seizure.[101] Similarly, a number of countries preclude a developer from exercising a mining or electric license until the landowner has received payment.[102]

While not as universal or clear, many countries[103] provide for at least some type of compensation for loss of access to land or natural resources, including damages for lost livelihoods, through broad general provisions providing damages for "any losses" or "disturbances" to landowners' land use.[104] For example, countries specifically provide for compensation for lost profits, benefits, business, livelihoods, natural resources, and crop yields, including, for example, loss of expected income or earnings where people have been deprived of the natural surface or customary usage rights or due to interference with grazing, forestry, fishing, or other uses of natural resources.[105]

Almost all Sub-Saharan African countries (47 of 48)[106] provide for some type of compensation for damages caused to the surface of land, and many specifically note that compensation is available for crops, trees, buildings, works, or property damaged in the context of mining.[107]

In a less common but seemingly growing trend, compensation for damage to land or property in the development of energy infrastructure can now be found in several recent electricity/energy code provisions.[108] In addition, many countries provide compensation and other remedies for environmental harms or contamination, such as

97. *See*, *e.g.*, Angola Mining Code (2011); Ethiopia Rural Land Administration and Land Use Proclamation No. 456 (2005); Ghana Constitution (1992); Guinea Mining Code (as amended 2013); Mozambique Mining Law (2014); Land Use Act (1978) Cap. (L5) (Nigeria); Sierra Leone Mines and Minerals Act (2009).
98. *See*, *e.g.*, Botswana Acquisition of Property Act (1971); Eswatini (Swaziland) Acquisition of Property Act (1961); Guinea Mining Code (as amended 2013); Land Regulations, Legal Notice No. 280 (2017) Kenya Gazette Supplement No. 179; Malawi Lands Acquisition Act (as amended 2017); Rwanda Expropriation Act (2015); Tanzania Land Act (1999); Land Acquisition Act, Cap. 189 (1970) (Zam.).
99. The Land Regulations, Legal Notice No. 280 (2017) Kenya Gazette Supplement No. 179 and Uganda Land Act (1998) include an additional assessment of 15% of the property's market value to compensate for disturbance in the just compensation calculation in certain circumstances. The Democratic Republic of the Congo Mining Code (2002, as amended 2018) provides that fair compensation for land includes the value of the land "increased by half."
100. Thirty-nine out of 48 countries address the timing of compensation in land acts, mining acts, constitutions, or other laws.
101. *See*, *e.g.*, Djibouti Public Purpose Expropriation Act (1991); South Sudan Mining Act (2012); *see also* Tanzania National Land Policy (1997) (providing for interest if compensation is not paid promptly).
102. *See*, *e.g.*, Minerals and Mining Act No. (20) (2007) (Nigeria) (mineral title can be suspended if not paid within six months of granting title); Nigerian Electricity Regulatory Commission—Acquisition of Land and Access Rights for Electricity Projects Regulations (2012) (compensation must be paid prior to commencement of civil works); Somalia Mining Code (1984) (government authorized to suspend or revoke mining license if payment not made within 14 days); South Sudan Mining Act (2012) (no mining until compensation paid) and Land Act (2009) (payment must be made within 60 days of transfer); Eswatini (Swaziland) Acquisition of Property Act (1961) (payment must be made within two months).
103. Twenty-one countries out of 48 provide at least some coverage (limited or broad) under legislation protecting interference with land rights. Nineteen countries out of 48 only recognize some types of damage for loss of access to land under mining codes as a result of mining interference. One country recognizes damages for loss of access under electric provisions, but not for mining interference.
104. *See*, *e.g.*, Angola Mining Code (2011); Burkina Faso Land Use Code (2014); Central African Republic Land and Property Code (1960); Democratic Republic of the Congo Electricity Law (2014); Gambia Mines and Quarries Act (2005); Guinea Mining Code (as amended 2013); Guinea-Bissau Land Act (1998); Lesotho Mines and Minerals Act (2005); Mauritius Minerals Act (1966); Minerals and Mining Act No. (20) (2007) (Nigeria); Rwanda Land Act (2021); Senegal Mining Code (2016); Sierra Leone Mines and Minerals Act (2009); Mineral and Petroleum Resources Development Act 28 of 2002 (S. Afr.); Uganda Mining Act (2003); Mines and Minerals Development Act No. 11 (2015) (Zam.); Zimbabwe Mines and Minerals Act (as amended 1975).
105. *See*, *e.g.*, Burundi Land Code (2011) and Mining Code (2013); Cameroon Mining Code (2016); Ethiopia Land Holdings Proclamation No. 1161 (2019); Gabon Mining Code (2019); Ghana Minerals and Mining Act (2006); Land Regulations, Legal Notice No. 280 (2017) Kenya Gazette Supplement No. 179; Malawi Mines and Minerals Act (2018); South Sudan Land Act (2009); Tanzania Land Act (1999). Of note, the Malawi Land Act (2018) provides that compensation can also consider nuisance value, loss of goodwill, loss of business, costs of professional advice, and impacts on present and future generations. The Niger Rural Code (1993) requires a developer to purchase land where it is so damaged or no longer suitable for cultivation valued at "twice its preoccupation value."
106. Thirty-six of 48 countries provide for compensation for damages to the land under a variety of provisions, including land acts and environmental acts. Eleven of 48 countries provide for damages arising out of mining, without clear provision for damages outside of mining codes (although environmental regulations may provide additional protections not included in these figures).
107. *See*, *e.g.*, Benin Land Law (2013); Botswana Mines and Minerals Act (1999); Burundi Mining Code (2013); Cabo Verde Mining Code (2014); Cameroon Mining Code (2016); Gabon Mining Code (2019); Gambia Mines and Quarries Act (2005); Guinea-Bissau Mining Code (2014); Lesotho Mines and Minerals Act (2005); Malawi Mines and Minerals Act (2018); Mauritius Minerals Act (1966); Namibia Electricity Act (2007) and Minerals Act (1992); Rwanda Mining Law (2018); Somalia Mining Code (1984); Tanzania Land Act (1999); Togo Mining Act (1996); Mines and Minerals Development Act No. 11 (2015) (Zam.). Of note, Zambia provides "strict liability" for damage arising out of mining operations, extending to direct and indirect harms on the economy and social cultural conditions, along with a general reference to compensation for any harm to human and animal health (including medical expenses, compensation for disability, and compensation for loss of life), and "any other consequential disorder."
108. *See*, *e.g.*, Botswana Power Corporation Act (1973); Eritrea Electricity Proclamation (2004); Energy Act, No. 1 (2019) Kenya Gazette Supplement No. 29; Uganda Electricity Act (1999).

cleanup measures and rehabilitation, under the polluter-pays principle.[109] In some instances, damages may apply at least for environmental damage under environmental laws, without provision under other laws for non-environmental harms to land, such as damage to crops, trees, or buildings by virtue of development.

The types of benefit-sharing arrangements vary greatly among Sub-Saharan African countries. A significant majority (34 of 48) of countries studied[110] have enacted legislation providing at least minimal benefit-sharing provisions in the specific context of mining.

Many Sub-Saharan African countries guarantee that revenues from royalties and fees be shared with affected landowners[111] or with local governing bodies or local development funds.[112] Numerous countries also require developers to invest directly in the local communities by training and employing locals, procuring goods and supplies from local sources, establishing and investing in social works and infrastructure, or contributing to community development funds.[113]

In a notable recent trend, a growing number of Sub-Saharan African countries are requiring community development plans that are developed in collaboration with communities. These countries require community development plans as part of the mining licensing process and require commitments to train and employ locals, purchase local goods, invest in local infrastructure (such as education, health, roads, water, and power, and other community services), and generally recognize the interest in promoting the local community and its economy.[114] Several countries specifically require community development plans to provide for equal opportunities for women or historically disadvantaged individuals in employment and training.[115]

Although less common, a few countries provide that a community development plan, negotiated with and endorsed by the community, is a binding and enforceable agreement and a condition to either the licensing process or the beginning of development, and the breach of which can result in forfeiture of a license.[116] Some legislation concerning community development plans also requires corporate social responsibility plans that promote sustainable practices, support local environmental, social, and cultural activities, and adopt requirements for ethical business practices.[117]

Unlike the promising development of benefit-sharing schemes in mining legislation, benefit-sharing requirements are as yet much less common in electric or renewable energy legislation.[118] Royalties to local communities or community development plans as part of electric or renewable energy licensing appear to be mostly nonexistent.[119] While not guaranteeing local benefits, several countries have enacted provisions assessing dues or fees from developers to go to national development funds that promote electrification or renewable energy projects.[120]

D. Access to Information and Participation

Exclusion breeds conflict. Conflict is most likely to arise when "local communities have been systematically excluded from decision-making processes."[121] Engagement of communities, both by providing access to information about the impacts of a project and by guaranteeing meaningful opportunities to consult and participate in development decisions, is critical for promoting transparency in decision making,

109. *See*, *e.g.*, Burkina Faso Environmental Code (1997); Central African Republic Environmental Code (2007); Chad Mining Code (1995); Democratic Republic of the Congo Constitution (2011) and Environment Law (2011); Equatorial Guinea Environmental Law (2003); Guinea Mining Code (as amended 2013); Guinea-Bissau Environmental Law (2011); Lesotho Environment Act (2008); Mali Mining Code (1999); Mozambique Environment Law (2014); Niger Environmental Assessment Law (2018); Land Use Act (1978) Cap. (L5) (Nigeria); São Tomé e Príncipe Environmental Law (1999); Uganda Electricity Act (1999).

110. A country was given credit if it had at least one legal requirement for benefit sharing in its laws. As set forth above, however, there is a broad range of mechanisms, and some countries provide far more protection through elaborate benefit-sharing mechanisms, including broad community development plans. A country received "partial" credit if revenues go into a national development fund without providing funds directly to a local government or community, and those countries are not included in the tally of countries that require benefit sharing.

111. *See*, *e.g.*, Ghana Minerals and Mining Act (2006); Seychelles Minerals Act (1962); Zimbabwe Mines and Minerals Act (as amended 1975).

112. *See*, *e.g.*, Burkina Faso Mining Code (2015); Cameroon Mining Code (2016); Central African Republic Mining Law (2009); Democratic Republic of the Congo Mining Code (2002, as amended 2018); Eswatini (Swaziland) Mines and Minerals Act (2011); Guinea Mining Code (as amended 2013); Guinea-Bissau Land Act (1998); Mining Act, No. 12 (2016) Kenya Gazette Supplement No. 71; Malawi Mines and Minerals Act (2018); Niger Amended Mining Law (2017); Senegal Mining Code (2016); Sierra Leone Mines and Minerals Act (2009); South Sudan Mining Act (2012); Togo Environmental Framework Law (2008); Uganda Mining Act (2003); Zimbabwe Mines and Minerals Act (1975).

113. *See*, *e.g.*, Angola Mining Code (2011); Cameroon Mining Code (2016); Congo-Brazzaville Mining Code (2005); Equatorial Guinea Mining Law (2019); Eritrea Mining Proclamation (1995); Eswatini (Swaziland) Mines and Minerals Act (2011); Ethiopia Mining Operations Proclamation (2010); Gabon Mining Code (2019); Liberia Minerals and Mining Law (2002); Mozambique Mining Law (2014); Rwanda Mining Law (2018); Mineral and Petroleum Resources Development Act 28 of 2002 (S. Afr.); South Sudan Mining Act (2012); Togo Mining Act (1996); Uganda Mining Act (2003); Mines and Minerals Development Act No. 11 (2015) (Zam.).

114. *See*, *e.g.*, Central African Republic Mining Law (2009); Côte d'Ivoire Mining Code (2014); Democratic Republic of the Congo Mining Code (2002, as amended 2018); Ethiopia Mining Operations Proclamation (2010); Eswatini (Swaziland) Mines and Minerals Act (2011); Mining Act, No. 12 (2016) Kenya Gazette Supplement No. 71; Malawi Mines and Minerals Act (2018); Mali Mining Code (2020); Mines and Minerals Act No. (20) (2007) (Nigeria); Rwanda Mining Law (2018); Sierra Leone Mines and Minerals Act (2009); South Sudan Mining Regulations (2014); Tanzania Mining Act (2019).

115. *See*, *e.g.*, Malawi Mines and Minerals Act (2018); Mineral and Petroleum Resources Development Act 28 of 2002 (S. Afr.); South Sudan Mining Regulations (2014); Tanzania Mining Act (2019).

116. *See*, *e.g.*, Guinea Mining Code (as amended 2013); Malawi Mines and Minerals Act (2018); Sierra Leone Mines and Minerals Act (2009); Tanzania Mining Act (2019).

117. *See*, *e.g.*, Tanzania Mining Act (2019).

118. Only three out of 48 countries have legislation that requires local community benefit-sharing mechanisms. *See*, *e.g.*, Guinea-Bissau Land Act (1998) (providing fees to local communities based on public land acquisition); Senegal Electricity Code (2021) (prioritizing jobs for local communities); Broad-Based Socio-Economic Empowerment Act 53 of 2003 (S. Afr.) (facilitating benefits for historically disadvantaged/Black communities).

119. *See*, *e.g.*, Uganda Electricity Act (1999) (requires hydropower operator to pay royalties to local government).

120. *See*, *e.g.*, Chad Electric Sector Law (2019); Congo-Brazzaville Electricity Code (2003); Gambia Renewable Energy Act (2013); Energy Act, No. 1 (2019) Kenya Gazette Supplement No. 29; Rwanda Electricity Act (2011).

121. Grzybowski, *supra* note 16, at 6.

preventing government corruption, and ultimately reducing potential conflict over development decisions.[122]

Access to information plays a fundamental role in elevating local voices in development decisions, promoting public discourse, increasing transparency and accountability, reducing corruption, improving the quality of decision making, and building community understanding of and support for government decisions—all important factors in preventing and peacefully resolving conflicts related to the transition to a carbon-neutral economy.[123] In furtherance of these goals, numerous developing countries have enacted general access to information laws.[124] In the context of mining and the siting of renewable energy facilities, access to information about the scope of a project, contracts, and potential impacts elevates the community's role in negotiating and addressing potential conflict with developers as a means to prevent conflict later; it also helps to fight corruption and ensure sound decisions.[125]

Further, as recognized through the Extractive Industries Transparency Initiative (EITI), access to information is considered crucial in preventing conflicts over mining, both by ensuring transparency in the payment of revenues associated with extractive industries and by providing individuals and communities with knowledge of the permitting process and potential impact of mining operations, as well as revenues.[126] In the context of environmental oversight, access to information empowers communities and other civil society actors to engage, to help uphold environmental protections, and to know when enforcement actions are necessary to address violations.[127]

Access to information, on its own, has limited value unless the law also provides for meaningful opportunities to participate in government decision making processes. Public participation provides opportunities for people to protect their rights and interests; access to information informs that participation. Legal provisions guaranteeing public participation in decisions concerning permits, EIAs, and other development decisions play a crucial role in incorporating public concerns and producing legitimate, just development decisions, thereby reducing the potential for conflict.[128] Stakeholder participation is more likely to lead to equitable outcomes and productive relationships, and stakeholders are more likely to believe justice has been achieved and to accept a project if they have been included in transparent and fair decision making processes.[129]

For example, stakeholder consultation and participation that identifies appropriate and lasting local benefit-sharing measures are likely to lead to more positive outcomes, acceptance, reduced conflict, and lower costs.[130] In the context of environmental protections, public participation "improves the information available to decision makers, can enhance implementation, and provides a means for avoiding or resolving disputes before they escalate."[131] In the context of renewable energy, the most common cause for lack of community acceptance results from inadequate engagement and community involvement in decisionmaking.[132]

To be effective, laws providing rights to information and participation must be meaningful and accessible, and must apply to all stakeholders, particularly women and other groups that have historically been marginalized.[133] Availability of information is meaningless "if the costs of accessing it are unreasonable (time and money) and if the information is not 'user-friendly.'"[134] The ability to reduce conflict may turn on whether constituents have an opportunity for genuine, meaningful participation at all stages of the decision making process, and whether the interests of those concerned are actually heard and incorporated into development decisions.[135] This, in turn, may depend on the level of "participation" provided by law, ranging from the less exacting legal mandate of consultation (such as the need to consult with individuals or communities at various stages of licensing), to collaboration between developers and individuals (such as collaborating to develop community development plans), to the more stringent legal requirements that require developers to obtain community consent to various projects.[136]

122. De Jong et al., *supra* note 25, at 41; Grzybowski, *supra* note 16, at 8, 13, 25; Babette Wehrmann et al., GIZ, Land Use Planning: Concepts, Tools, and Applications 13-14, 16-17 (2011).
123. United Nations Environment Programme, *supra* note 15, at 21, 82; Brendan E. Asogwa & Ifeanyi J. Ezema, *Freedom of Access to Government Information in Africa: Trends, Status, and Challenges*, 27 Recs. Mgmt. J. 318, 320-21 (2017); Wehrmann, *supra* note 77, at 119; United Nations Development Programme (UNDP), Practice Note: Access to Information 2 (2003) [hereinafter UNDP Practice Note]; Minu Hemmati, Multi-Stakeholder Processes for Governance and Sustainability: Beyond Deadlock and Conflict 58 (2002).
124. Asogwa & Ezema, *supra* note 123, at 319, 322-23.
125. Grzybowski, *supra* note 16, at 8, 13, 25-26; UNDP Practice Note, *supra* note 123, at 2, 6; Wehrmann, *supra* note 77, at 119.
126. Bauer et al., *supra* note 85, at 66; Grzybowski, *supra* note 16, at 23.
127. *See, e.g.*, *Rio Declaration on Environment and Development*, U.N. Conference on Environment and Development, princ. 10, U.N. Doc. A/CONF.151/26(Vol.I) (1992):
> Environmental issues are best handled with the participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available.

See also United Nations Environment Programme, *supra* note 15, at 21.
128. United Nations Environment Programme, *supra* note 15, at 116-17; Hemmati, *supra* note 123, at 44-45; Poshendra Satyal et al., *Representation and Participation in Formulating Nepal's REDD+ Approach*, 19 Climate Pol'y S8, S10 (2019); Siddiqur R. Osmani, *Participatory Governance: An Overview of Issues and Evidence*, *in* Participatory Governance and the Millennium Development Goals 1, 3-6 (United Nations Department for Economic and Development Affairs ed., 2008).
129. Osmani, *supra* note 128, at 5; Lowery & Vhugen, *supra* note 77, at 12-13.
130. International Finance Corporation, *supra* note 86, at 11-12.
131. United Nations Environment Programme, *supra* note 15, at 21.
132. International Finance Corporation, *supra* note 86, at 12.
133. Lowery & Vhugen, *supra* note 77, at 12-13.
134. UNDP Practice Note, *supra* note 123, at 6; *see also* Hemmati, *supra* note 123, at 58.
135. Satyal et al., *supra* note 128, at S10; Andrews et al., *supra* note 23, at 41. For the specific importance of participation in environmental and social impact assessments, see Omenge et al., *supra* note 47, at 157, 160-62.
136. *See* Satyal et al., *supra* note 128, at S10 (degrees of participation range from informing (as the least participatory), consulting, involving, collaborating, and empowering a voice over decisions (more participatory)).

The United Nations Declaration on the Rights of Indigenous Peoples, along with other international instruments, has recognized the importance of participation, including of free, prior, and informed consent (FPIC)—a process recognizing the importance of consent to development decisions.[137] Babette Wehrmann notes:

> FPIC requires the identification of all tenure rights-holders affected by the investment, mapping of the claims to and uses of the land, identification of decision-making institutions and representatives, sharing of information, carrying out iterative consultations, provision of access to independent sources of information and advice, reaching agreement and making it effective, monitoring and verifying agreements, establishing a grievance process and providing access to remedy and conflict resolution mechanisms.[138]

Trends

Among the five categories of indicators, the greatest degree of variety, inconsistencies, and unpredictable protections relates to rights to information and participation. In one promising trend, many countries have recently enacted general access to information acts, which appear to provide general guarantees for transparency in all significant aspects of the mining and electric-siting process. Nevertheless, numerous countries have yet to enact general acts, with the resulting uncertainty over access to information, as detailed below. In addition, participatory rights are quite limited in mining and siting decisions.

Over the past two decades, 25 of 48 Sub-Saharan African countries have enacted comprehensive laws on access to information, with broad provisions that appear to provide access to information about both mining and energy oversight, including information about siting, licensing, revenues, activities, and more.[139] Among notable provisions, certain access to information legislation specifically requires government bodies to provide information in the language of the requester, respond to both written and oral requests, provide for free disclosure, or provide disclosure without requiring any justification or reason.[140] The public right to information has also been enshrined in a number of constitutions.[141] Nevertheless, access to information provisions may also be limited by specific provisions in acts on access to information or under mining or other specific laws designed to provide for some business confidentiality.[142]

In Sub-Saharan Africa, in the absence of broad laws protecting access to information, inconsistent, unclear, or limited protections under the mining or electrical codes fail to guarantee access to the full scope of development activities associated with the transition to a carbon-neutral economy. Almost every country that did not have an access to information law[143] provided for access to some pertinent information related to mining and licensing—including license application, ongoing activities, revenues, and other siting information and reports—but did not clearly provide for the fuller range of information that would be available through a general freedom of information act.

Of the protections provided, many countries provide access to at least some level of information under mining, environmental, and electricity codes for requesting and receiving information about licensing and permitting.[144] To provide information to the public, some countries require a license applicant to publish notice in a newspaper of its application for a mining or electric license,[145] or require the ministry to post information concerning a permit in

137. Andrews et al., *supra* note 23, at 41. Tony Andrews et al. note that FPIC evolved in the context of international Indigenous people's rights, but is increasingly considered applicable to non-Indigenous communities as well. The importance of access to information and participation have been recognized in numerous international treaties and standards. *See*, *e.g.*, International Covenant on Civil and Political Rights, art. 19, Dec. 16, 1966, 999 U.N.T.S. 171; International Labour Organization, Indigenous and Tribal Peoples Convention, C169, June 27, 1989; REDD+ (Reducing Emissions From Deforestation and Forest Degradation) (decisions creating this framework available at U.N. Framework Convention on Climate Change, *Report of the Conference of the Parties on Its Nineteenth Session, Held in Warsaw From 11 to 23 November 2013, Decisions Adopted by the Conference of the Parties*, U.N. Doc. FCCC/CP/2013/10/Add.1 (Jan. 31, 2014); *Rio Declaration on Environment and Development*, U.N. Conference on Environment and Development, princ. 10, U.N. Doc. A/CONF.151/26(Vol.I) (1992).

138. Wehrmann, *supra* note 77, at 119-20 (citing Food and Agricultural Organization of the United Nations, Respecting Free, Prior, and Informed Consent: Practical Guidance for Governments, Companies, NGOs, Indigenous People, and Local Communities in Relation to Land Acquisition (2014)).

139. *See*, *e.g.*, Angola Access to Information Act (2002); Benin Information and Communication Code (2015); Côte d'Ivoire Access to Information Law (2013); Gambia Access to Information Act (2021); Guinea Access to Information Act (2021); Guinea-Bissau Access to Information Act (2010); Access to Information Act, No. 31 (2016) Kenya Gazette Supplement No. 152; Liberia Freedom of Information Act (2010); Malawi Access to Information Act (2017); Mozambique Access to Information Act (2014); Niger Local Authorities Code (2010); Rwanda Access to Information Act (2013); São Tomé e Príncipe Administrative Procedure Act (2005); Seychelles Access to Information Act (2018); Promotion of Access to Information Act 2 of 2000 (S. Afr.); South Sudan Right of Access to Information Act (2013); Tanzania Access to Information Act (2016); Togo Access to Information Act (2016); Uganda Access to Information Act (2005); Zimbabwe Freedom of Information Act (2020). Namibia and Senegal appear to be considering, but have yet to enact, access to information bills as of December 2022. *See*, *e.g.*, Namibia Access to Information Bill (2021); Senegal Action Plan (2021-2023).

140. *See*, *e.g.*, Côte d'Ivoire Access to Information Law (2013); Access to Information Act, No. 31 (2016) Kenya Gazette Supplement No. 152; Malawi Access to Information Act (2017); Rwanda Access to Information Act (2013); Seychelles Access to Information Act (2018); Tanzania Access to Information Act (2016); Togo Access to Information Act (2016).

141. *See*, *e.g.*, Cabo Verde Constitution (2010); Central African Republic Constitution (2016); Congo-Brazzaville Constitution (2015); Democratic Republic of the Congo Constitution (2011); Ethiopia Constitution (1994); Kenya Constitution (2010); Liberia Constitution (1986); Malawi Constitution (1994); Niger Constitution (2010); Nigeria Constitution (1999); Seychelles Constitution (1997, amended 2017); Somalia Constitution (2012); South Africa Constitution (1996, as amended 2012); South Sudan Constitution (1999); Tanzania Constitution (1997); Uganda Constitution (2006); Zambia Constitution (2016); Zimbabwe Constitution (2013).

142. *See*, *e.g.*, Benin Mining Code (2006); Burkina Faso Access to Information Act (2015); Equatorial Guinea Access to Information Act (2016); Guinea-Bissau Mining Code (2014); Mali Mining Code (1999) and Access to Information Act (1998); Minerals and Mining Act No. (20) (2007) (Nigeria).

143. Twenty-seven countries out of the 48 that have not enacted general access to information laws provide for some, but not full, access to information relating to all phases of the permitting process and ongoing activities.

144. *See*, *e.g.*, Botswana Mines and Minerals Act (1999); Lesotho Electricity Authority Act (2002) and Mines and Minerals Act (2005); Malawi Mines and Minerals Act (2018).

145. *See*, *e.g.*, Eritrea Mining Proclamation (1995); Malawi Mines and Minerals Act (2018); Mozambique Mining Regulation (2015) and Electrical Plant Licensing Regulation (2020).

an official gazette or on a ministry website.[146] Almost one-half of the Sub-Saharan African countries (23 of 48) have adopted a commitment to revenue transparency (while very few countries have specifically adopted EITI into law).[147] Similarly, provisions relating to mining cadastrals and registrars often provide public access to information about revenues.[148] Importantly, not all countries protect public access to mining information: a number of countries specifically limit access to technical, revenue, or other types of mining information under confidentiality provisions in mining codes.[149]

A growing number of countries have also recently enacted electricity or energy codes that specifically provide the public with access to information through regulatory bodies[150] or require public notice of electricity and renewable energy development[151]—a trend that suggests the growing recognition of the importance of providing the public with notice of these projects. Some countries, such as South Sudan, have adopted general legislation, but have yet to adopt implementing regulations or apply the provisions sectorally.[152]

Aside from the broad protections provided under general access to information laws, EIA provisions in both environmental laws and EIA-specific legislation provide an important source of information, particularly for project information that might not necessarily be provided through provisions in mining or electrical codes. Most Sub-Saharan African countries (45 of 48)[153] specifically provide for access to information on environmental and/or social impacts under the EIA requirements contained in mining, electricity, or environmental provisions.[154] Notable provisions create a registry where detailed information required in the EIA process must be free and available to the public at the agency, online, and through hearings.[155] To guarantee public notification, some countries also require a developer or agency to publish notice of EIA reports in national publications.[156] Also of note, a number of environmental codes guarantee access to information in the implementation of general environmental protection measures and policies.[157]

Even though the trends show growing protections for access to information, most countries, in general, appear to provide more limited public participation in mining and renewable energy-siting decisions. Few countries require consent to mining or renewable energy-siting activities. Nevertheless, there are several Sub-Saharan African countries that invite the public to have input on a proposed license (including at a hearing) or require developers to consult with communities or obtain consent of communities in the process of granting mining or electric licenses.[158]

146. *See*, *e.g.*, Angola Mining Code (2012); Cameroon Electric Law (1998) and Mining Decree (2002); Guinea Mining Code (as amended 2013).

147. Liberia and Nigeria have incorporated EITI into their national legal frameworks. Liberia Extractive Industries Transparency Initiative Act (2009); Extractive Industries Transparency Initiative Act (2007) 94:131 O.G., A1111 (Nigeria). Liberia's EITI establishes a government agency tasked with increasing transparency around extractive industries, including through the permitting process, revenue disclosures, and benefit sharing. *See also* Cameroon Mining Code (2016) (noting obligation of permit holders to comply with EITI and other international standards); Côte d'Ivoire Mining Code (2014) (incorporating EITI principles and standards in law); *see also* Niger Constitution (2010) (requiring publication of revenues).

148. *See*, *e.g.*, Eswatini (Swaziland) Mines and Minerals Act (2011); Guinea-Bissau Mining Code (2014); Mining Act, No. 12 (2016) Kenya Gazette Supplement No. 71; Sierra Leone Mines and Minerals Act (2009); Mineral and Petroleum Resources Development Act 28 of 2002 (S. Afr.); South Sudan Mining Act (2012); Tanzania Extractive Industries (Transparency and Accountability) Act (2015); Mines and Minerals Development (General) Regulations, Statutory Instrument No. 7 (2016) (Zam.).

149. *See*, *e.g.*, Benin Mining Code (2006); Burkina Faso Mining Code (2015); Burundi Mining Code (2013); Chad Mining Code (1995); Democratic Republic of the Congo Mining Code (2002, as amended 2018); Djibouti Mining Code (2016); Ghana Minerals and Mining Act (2006).

150. *See*, *e.g.*, Gambia Electricity Act (2005); Ghana Energy Commission Act (1997); Energy Act, No. 1 (2019) Kenya Gazette Supplement No. 29; Mauritius Electricity Act (2005); Sierra Leone Guidelines for Environmental and Social Impact Assessments of Renewable Energy Technologies (2019); Seychelles Energy Act (2012); Uganda Electricity Act (1999); Energy Regulation Act No. 12 (2019) Government Gazette (Zam.); Zimbabwe Electricity Act (2002).

151. For example, Djibouti, Mauritius, and South Africa require publication of information related to renewable energy projects in the official national publications, such as the *Official Gazette*, to solicit public comment. Djibouti Decree on Activities of Electric Producers (2019); Mauritius Electricity Act (2005); Electricity Regulation Act 4 of 2006 (S. Afr.); *see also* Mauritania Electrical Code (2001); Rwanda Electricity Regulations (2013) (relating to notice of electric licensing).

152. South Sudan enacted an access to information law in 2013, but as of December 2022, implementing regulations are still lacking, and there do not appear to be any particular legal provisions related specifically to the environmental, electrical, or renewable energy contexts.

153. Forty-five of 48 countries provide access to information on EIAs for both mining and electric licensing; only one provides EIA information in the context of mining only; and only one provides EIA information in the context of electric licensing only.

154. *See*, *e.g.*, Benin Environment Code (1999); Burkina Faso Strategic Environmental Assessment Decree (2015); Burundi Decree Implementing Environmental Code (2010); Chad Environmental Impact Decree (2010); Congo-Brazzaville Environmental and Social Impact Decree (2009); Côte d'Ivoire Environment Code (1996); Djibouti Environmental Code (2009); Equatorial Guinea Environmental Law (2003); Gabon Environmental Protection Act (2014); Gambia National Environment Management Act (1994); Ghana Environmental Assessment Regulations (1999); Guinea Environmental Code (2019); Guinea-Bissau Environmental Assessment Act (2010); Environmental Management and Co-ordination Act, No. 8 (1999) Kenya Gazette Supplement No. 62; Liberia Environmental Protection and Management Act (2002); Madagascar Environment Law (2015); Mauritania Environmental Impact Assessment Decree (2004); Niger Environmental Assessment Law (2018); Rwanda Environmental Impact Ministerial Order (2008); Seychelles Environmental Protection (Impact Assessment) Regulations (1996); Tanzania Environmental Impact Assessment and Audit Regulations (2005).

155. *See*, *e.g.*, Central African Republic Environmental Assessment Order (2013); Democratic Republic of the Congo Mining Code (2002, as amended 2018); Mauritania Environmental Impact Assessment Decree (2004).

156. *See*, *e.g.*, Botswana Environmental Assessment Act (2011); Burundi Decree Implementing Environmental Code (2010); Guinea-Bissau Environmental Assessment Act (2010); Environmental Impact Assessment Decree No. (86) (1992) 79:73 S.O.G., A979 (Nigeria); Sierra Leone Environment Protection Agency Act (2008).

157. *See*, *e.g.*, Cameroon Environmental Law (1996); Central African Republic Environmental Code (2007); Democratic Republic of the Congo Environment Law (2011); Eswatini (Swaziland) Environmental Management Act (2002); Lesotho Environment Act (2008); Malawi Environment Management Act (2017); Rwanda Environment Law (2018); São Tomé e Príncipe Environmental Law (1999); National Environmental Management Act 107 of 1998 (S. Afr.); Tanzania Environmental Management Act (2004); Uganda National Environment Act (2019); Environmental Management Act No. 12 (2011) (Zam.); Zimbabwe Environmental Management Act (2002).

158. Kenya serves as an example of broader participation in various sectors. In particular, it provides the public with the opportunity to object to energy projects and provides for objections, community input, and in some cases approval from private or community landowners who may be affected by grant of a mining license. Energy Act, No. 1 (2019) Kenya Gazette Supplement No. 29 and Mining Act, No. 12 (2016) Kenya Gazette Supplement No. 71. For other examples of participation in the process of issuing

A noteworthy number of countries also provide participation rights by requiring developers to consult with communities to develop plans or agreements as part of the mining licensing process to provide for social and economic benefits to the community, with provisions that provide for planning, implementation, and monitoring of activities carried out under the plans.[159] A number of countries also appear to provide general rights to consult or object about public projects under land laws.[160]

In Sub-Saharan Africa, the most frequent and meaningful opportunities for participation under law arise as part of the EIA process. The overwhelming majority of countries (44 of 48)[161] have enacted environmental or other laws that require consultation with communities as part of the EIA process. Participation typically includes consultations and hearings on EIAs, and occurs at a range of times, including soliciting comments during scoping, conducting, and reviewing the study, and incorporating public comments into the final EIA.[162] Some EIA provisions require the government to gather, consider, and address public comments, concerns, or objections.[163]

A small but significant number of countries have also enacted environmental legislation that provides for a public right to participate in decisions to authorize or approve projects that are likely to impact the environment.[164] Some laws also require the developer to advise the public of details of the project, run awareness and training programs, or invite written comment through local publications or radio stations, guaranteeing notice to the public in order to provide a meaningful opportunity to participate.[165] As another notable protection, a few countries have recognized the importance of public participation in the context of decisions or public hearings relating to the environment or climate change in general.[166]

E. Legal Recourse

Effective and accessible systems of justice that provide legal recourse to enforce land rights and other protections are essential to preventing conflict from development.[167] It has been observed, for example, that "[t]he presence of an effective judicial system and credible courts is a strong deterrent to conflict; when local communities do not confront persistent barriers to accessing legal remedy, they are less likely to adopt extralegal means to express grievances."[168]

Enforcement of environmental rights in courts, tribunals, or other dispute resolution systems are crucial. Accessibility to mechanisms for dispute resolution and enforcement (and these may be different mechanisms) requires financial, geographic, legal, and practical accessibility. It also requires that these mechanisms be "fair, impartial, timely, and responsive."[169] For legal recourse to function, it is also necessary that there be a clear legal cause of action to empower a court to provide a legal remedy.[170]

Nonjudicial grievance mechanisms play a role in resolving complaints and conflicts outside of formal, statutory justice systems.[171] For example, grievance mechanisms administered through specialized or local land courts may be both more accessible and more attuned to customary norms, and therefore better positioned to provide efficient

mining permits, see Angola Mining Code (2012); Eritrea Regulations on Mining Operations (1995); Eswatini (Swaziland) Environmental Management Act (2002) and Mines and Minerals Act (2011); Mozambique Mining Law (2014); Niger Mining Decree Applying Mining Law (2006); Minerals and Mining Act No. (20) (2007) (Nigeria); São Tomé e Príncipe Exploration and Extraction Regime (2020); Sierra Leone Mines and Minerals Act (2009); Mineral and Petroleum Resources Development Act 28 of 2002 (S. Afr.); Zimbabwe Mines and Minerals Act (2002, with amendments). In context of electric siting, see Guinea-Bissau Land Act (1998) (recognizing the role of local communities in land management in general, including mining and electric siting); Namibia Electricity Act (2007).

159. *See*, *e.g.*, Gabon Mining Code (2019); Guinea Mining Code (as amended 2013); Malawi Mines and Minerals Act (2018); Mali Mining Code (1999); Minerals and Mining Act No. (20) (2007) (Nigeria); Sierra Leone Mines and Minerals Act (2009); South Sudan Mining Act (2012).

160. Benin Land Law (2013); Liberia Land Rights Act (2018) (which appears to require FPIC for interference with use of surface rights of customary landowners).

161. Of those, a handful provide what was considered "partial" participation where participation may depend on the size of a project or fall under general environmental provisions, though not expressly provided as part of an EIA requirement in mining or electric permitting.

162. South Africa calls for public participation in all phases of the EIA investigation, including in the context of conflict resolution. National Environmental Management Act 107 of 1998 (S. Afr.). *See also* Angola EIA Decree (2020); Benin Environment Code (1999); Botswana Environmental Assessment Act (2011); Burkina Faso Strategic Environmental Assessment Decree (2015); Burundi Decree Implementing Environmental Code (2010); Cameroon EIA Decree (2013); Central African Republic Environmental Code (2007); Djibouti Environmental Impact Study Procedure (2011) and Environmental Code (2009); Eswatini (Swaziland) Environmental Management Act (2002); Ethiopia EIA Proclamation No. 299 (2002); Guinea-Bissau Environmental Assessment Act (2010); Mauritania Environmental Impact Assessment Decree (2004); Mozambique Environment Law (2014); Rwanda Environmental Impact Assessment Regulation (2019); Senegal Environment Code (2001).

163. *See*, *e.g.*, Democratic Republic of the Congo Environment Law (2011); Djibouti Environmental Impact Study Procedure (2011) and Environmental Code (2009); Gambia National Environment Management Act (1994); Liberia Environmental Protection and Management Act (2002); Madagascar Environment Law (2015); Namibia Environmental Impact Assessment Regulations (2012); Environmental Impact Assessment Decree No. (86) (1992) 79:73 S.O.G., A979 (Nigeria); São Tomé e Príncipe Environmental Law (1999) and EIA Regulation (1999).

164. *See*, *e.g.*, Côte d'Ivoire Environment Code (1996); Democratic Republic of the Congo Environment Law (2011); Ethiopia Constitution (1994); Gambia National Environment Management Act (1994); Ghana Environmental Assessment Regulations (1999); Environmental Management and Co-ordination Act, No. 8 (1999) Kenya Gazette Supplement No. 62; Tanzania Environmental Impact Assessment and Audit Regulations (2005); Uganda Environmental Impact Assessment Regulations (1998); Environmental Management Act No. 12 (2011) (Zam.); Zimbabwe Environmental Management Act (2002).

165. *See*, *e.g.*, Cameroon EIA Decree (2013); Gambia Environmental Impact Assessment Regulations (2014); Environmental Management and Co-ordination Act, No. 8 (1999) Kenya Gazette Supplement No. 62; Tanzania Environmental Impact Assessment and Audit Regulations (2005).

166. *See*, *e.g.*, Benin Environment Code (1999); Central African Republic Environmental Code (2007); Guinea Environmental Code (2019); Climate Change Act, No. 11 (2016) Kenya Gazette Supplement No. 68; Tanzania Environmental Management Act (2004).

167. Andrews et al., *supra* note 23, at 48.

168. *Id.*

169. *Id.* at 144.

170. United Nations Environment Programme, *supra* note 15, at 25.

171. *See* Andrews et al., *supra* note 23, at 48; *see also* United Nations Human Rights Office of the High Commissioner, Guiding Principles on Business and Human Rights: Implementing the United Nations "Protect, Respect, and Remedy" Framework 31 (2011); Wehrmann et al., *supra* note 122, at 89-90.

and accessible justice, especially in the context of local land administration.[172]

In many developing countries, judicial systems and dispute mechanisms that are able to provide justice or recourse against abuses committed by governments or developers are neither effective nor efficient. The inability to have their rights protected and disputes peacefully (and objectively) resolved can give rise to potential conflict with local communities "whose experiences have undermined their trust in the government and judiciary."[173] Conflict may therefore result where stakeholders lack the capacity to access justice mechanisms or dispute resolution processes, or where backlogs of cases, understaffed courts, or poorly administered systems interfere with access to justice.[174]

Trends

While the legal protections detailed in the sections above are all critical tools for reducing potential conflict, their practical effect is limited if landowners and other rights holders are not able to access courts or administrative bodies to enforce the protections.[175] While most countries provide standing to bring general eminent domain land claims, standing to bring actions to enforce EIAs, environmental rights, and worker protections are less frequent and clear.

The vast majority of countries in Sub-Saharan Africa (44 of 48) provide for access to justice to assert basic land rights concerning land title, land dispossession, or compensation.[176] Countries use different approaches to ensure access to justice for land rights. Individual standing to enforce land rights may be guaranteed by a constitution or a combination of constitutional and statutory laws, and may be brought in civil courts, land courts, administrative bodies, or a combination of all.[177] A number of countries have established designated land courts with preliminary and sometimes exclusive authority to hear claims relating to expropriation and compensation.[178]

Other countries provide a pathway to enforce individual land claims through administrative bodies or regulatory authorities. A claimant may be required to first exhaust administrative remedies, work with land commissions or ministries, or go through mediation or arbitration before a claim may be heard in court or other judicial bodies.[179] A minority of countries appear to provide for dispute resolution exclusively through some form of arbitration or mediation or through a land board, without access to appeal decisions in court.[180]

A solid majority (31 of 48) of Sub-Saharan countries that recognize customary land tenure also seem to facilitate access to assert customary land tenure rights in a court, administrative body, or customary land courts.[181] Some legislation specifically designates customary land courts with jurisdiction over disputes relating to customary tenure,[182] while others authorize local district or traditional authori-

172. *See* Frank F.K. Byamugisha, Securing Africa's Land for Shared Prosperity: A Program to Scale Up Reforms and Investments 23-24 (2013).

173. Andrews et al., *supra* note 23, at 48.

174. Byamugisha, *supra* note 172, at 21-22.

175. For the purpose of this analysis, access to justice recognizes standing by individuals or communities to bring legal complaints to enforce rights before courts, administrative bodies, ministries, land tribunals, or other similar bodies. The underlying analysis reviewed the core legal instruments in each country, but did not necessarily review all possible laws. Therefore, in practice, individuals may have alternative routes to assert civil claims to enforce justice of the harms listed in this section. Importantly, even where legal mechanisms existed, court fees, justice system capacity, corruption, and other barriers to legal systems may impact actual access to justice. United Nations Environment Programme, *supra* note 15. These practical aspects of access to justice are outside the scope of this study.

176. At least 44 out of 48 provide clear access to justice for land rights. It is unclear whether there is access to justice to enforce land rights in the other four countries, as that right might be found in other codes or regulations.

177. *See*, *e.g.*, Angola Constitution (1992); Burkina Faso Land Use Law (2012); Burundi Land Code (2011); Cabo Verde Constitution (2010); Central African Republic Land and Property Code (1960); Ethiopia Constitution (1994); Gambia Constitution (1997); Ghana Constitution (1992) and Land Use and Spatial Planning Act (2016); Liberia Constitution (1986); Malawi Constitution (1994); Mali Land and Property Code (2000); Mauritius Constitution (1968) and Land Acquisition Act (1973); Namibia Constitution (as amended 2010), Electricity Act (2007), and Minerals Act (1992); Nigeria Constitution (1999) and Land Use Act (2004) Cap. (L4) (Nigeria); Rwanda Expropriation Act (2015); São Tomé e Príncipe Constitution (2003), Administrative Procedure Act (2005), and Exploration and Extraction Regime (2020); Sierra Leone Constitution (1991, as amended 2013); Somalia Constitution (2012) and Mining Code (1984); South Africa Constitution (1996, as amended 2012); South Sudan Transitional Constitution (2011) and Land Act (2009); Tanzania Land Acquisition Act (1967); Togo Land Law (2018); Land Acquisition Act, Cap. 189 (1970) (Zam.); Zimbabwe Constitution (2013).

178. *See*, *e.g.*, Land Act, No. 6 (2012) Kenya Gazette Supplement No. 37 (provides broad and exclusive jurisdiction in Environment and Land Court to address tenure-related disputes, including claims concerning dispossession and compensation); Lesotho Land Act (2010); Senegal Expropriation Law (1976) (establishing jurisdiction with expropriation courts); Restitution of Land Rights Act 22 of 1994 (S. Afr.); Uganda Land Act (1999).

179. *See*, *e.g.*, Cameroon Expropriation Law (1985) (claimants must address complaint in administrative body prior to court); Democratic Republic of the Congo Mining Code (2002, as amended 2018) (claimants should seek nonjudicial legal means, including settlement or arbitration, before court intervention); Eswatini (Swaziland) Acquisition of Property Act (1961) (provides that disputes shall be resolved by a board of assessment, composed of an individual appointed by Chief Justice, ministry, and claimant); Guinea-Bissau Land Act (1998) (claimants should first mediate with local land commissions or traditional authority "founded on local custom and tradition," although precautionary court access is available); Niger Rural Code (1993) (judicial proceedings must be preceded by an attempt to reconcile conflicts by customary authorities); Zimbabwe Land Acquisition Act (2004) (provides for Administrative Court review of administrative determinations concerning eminent domain).

180. *See*, *e.g.*, Botswana Acquisition of Property Act (1971) (authorizing a board of assessment to determine disputes relating to compensation, interest, and title); Eritrea Land Proclamation (1994) (providing access to land administrative body with right to appeal to Land Commission only); Gambia Land Provinces Act (1995) (providing that where land is to be taken for a public purpose, claimant must work with land or other ministries to attempt to reach an agreement on compensation before it can proceed to arbitration by a panel of three, including one appointed by claimant).

181. As noted above, not all Sub-Saharan African countries recognize customary land tenure rights. This figure recognizes what appear to be fairly clear rights to assert customary tenure and other land provisions that appear broad enough to include customary tenure claims. It should be noted that in some cases where customary rights have been recognized, research did not reveal clear provisions to enforce these rights.

182. *See*, *e.g.*, Malawi Customary Land Act (2016) (establishing customary land tribunals to hear disputes over customary land claims); Niger Rural Code (1993) (providing jurisdiction in Land Tenure Commission); Land Use Act (2004) Cap. (L4) (Nigeria) (providing jurisdiction to hear customary land claims in customary courts); Restitution of Land Rights Act 22 of 1994 (S. Afr.); Uganda Land Act (1999) (authorizing district land boards to address customary land issues); Lands Act, Cap. 184 (1995) (Zam.).

ties with power to hear such claims in addition to a statutory civil court.[183]

More than half of the surveyed countries (29 of 48)[184] also appear to provide avenues to enforce artisanal or small-scale mining rights, usually recognized initially under licensing provisions, under a number of dispute resolution mechanisms, with countries split between those that facilitate access to justice through courts, arbitration, administrative remedies, or a combination.[185] In the context of surface versus subsurface rights, a significant number of countries (26 out of 48) appear to have adopted some form of grievance system to address mining interference with a landowner's surface rights, again split between those that facilitate access to justice through courts, arbitration, administrative remedy, or a combination thereof.[186]

While access to justice to address land disputes is fairly prevalent, access to justice to enforce EIAs and environmental rules is less common or clear. At least 26 of 48 Sub-Saharan African countries give to persons aggrieved by an agency approval of an EIA or by a violation of an EIA an opportunity to raise complaints before administrative or environmental tribunals, under EIA codes or more general environmental provisions.[187] This figure includes a number of general environmental provisions that broadly provide standing to raise environmental objections to an agency's determination to grant an EIA or a developer's violation of the terms of an EIA.[188]

The trend in access to justice to enforce environmental protections in general appears more promising, providing additional means to access justice to redress environmental harm.[189] At least 35 of 48 Sub-Saharan African countries provide recourse either through complaints to administrative bodies or through direct claims against the violator in court or before an administrative body. Of those 35 countries, at least 33 countries appear to provide standing to bring an action in court or an administrative body against the polluter or violator itself to enforce environmental provisions, prevent foreseeable harm, or obtain specific damages arising out of environmental violations.[190] This figure

183. *See*, *e.g.*, South Sudan Land Act (2009) (recognizing legal mechanisms to assert customary land rights, including through customary law, court proceedings, and arbitration to county land authority, the Payam Land Council, or traditional authority); Tanzania Land Act (1999) (vesting authority in courts, district land and housing tribunals, ward tribunals, and village land councils); Uganda Land Acquisition Act (as amended 2010) (directing disputes regarding customary land tenure rights, including land dispossessions, to district land tribunals, with authority to appeal a compensation award to the High Court or traditional authorities to exercise customary approaches to dispute resolution).

184. This figure recognizes what appear to be clear rights to assert artisanal mining rights and other provisions that appear broad enough to include customary tenure claims in general dispute provisions.

185. *See*, *e.g.*, Benin Mining Code (2006) (providing for administrative court trial); Burundi Mining Code (2013) (providing for administrative review prior to judicial appeal); Cameroon Mining Code (2016) (providing for disputes arising under the code to be resolved through conciliation, mediation, or arbitration); Chad Mining Code (1995) (providing for judicial review); Congo-Brazzaville Mining Code (2005) (providing for arbitration of any dispute along with access to national courts); Equatorial Guinea Mining Law (2019) (providing for administrative remedy); Eritrea Mining Proclamation (1995) (providing for administrative redress with right to appeal to court); Gabon Mining Code (2019) (providing for arbitration); Gambia Mines and Quarries Act (2005) (providing for administrative remedy with right to appeal in court); Ghana Minerals and Mining Act (2006) (providing for arbitration); Guinea Mining Code (as amended 2013) (providing for court review of any administrative act); Mining Act, No. 12 (2016) Kenya Gazette Supplement No. 71 (providing for several avenues of recourse through Cabinet Secretary, arbitration, or court of law); Malawi Mines and Minerals Act (2018) (providing recourse to the commissioner of mining, with ultimate review by the High Court); Mauritania Mining Code (2008) (providing for arbitration and court review under certain circumstances); Nigeria Minerals and Mining Regulations (2011) (providing parties denied small-scale mining permit right to object to the minister with additional right to appeal to Federal High Court); Sierra Leone Mines and Minerals Act (2009) (providing that parties denied small-scale permit by minister may appeal to court); Mineral and Petroleum Resources Development Act 28 of 2002 (S. Afr.) (providing for court review after exhausting administrative remedies); South Sudan Mining Act (2012) (allowing for ministry review of administrative decisions but no court review); Tanzania Mining Act (2010) (providing for court appeal of decisions of minister relating to artisanal/small-scale mining permits); Mines and Minerals Development Act No. 11 (2015) (Zam.) (providing for initial administrative appeal before the minister and then a subsequent appeal to the Mining Appeals Tribunal).

186. *See*, *e.g.*, Benin Mining Code (2006) (providing for administrative court review of disputes); Democratic Republic of the Congo Mining Code (2002, as amended 2018) (providing for judicial remedy); Gambia Mines and Quarries Act (2005) (providing access to court to appeal an administrative decision affecting a landowner's interests); Ghana Minerals and Mining Act (2006) (providing for arbitration of disputes relating to mining interference with a landowner's rights); Mining Act, No. 12 (2016) Kenya Gazette Supplement No. 71 (including a broad provision providing that any dispute arising out of a mineral right to be resolved by the Cabinet Secretary, arbitration, or a relevant court of law); Liberia Constitution (1986)/Minerals and Mining Law (2000) (together, providing for access to a court of law to address mining disturbances to land); Madagascar Mining Code (1999) (providing for dispute resolution by provincial mining authority with further provision for court review); Malawi Mines and Minerals Act (2018) (providing for administrative hearing with access to court appeal); Namibia Minerals Act (1992); Mineral and Petroleum Resources Development Act 28 of 2002 (S. Afr.) (providing for administrative review with access to appeal decision through arbitration or competent court); South Sudan Land Act (2009) (providing broad provisions for recourse to resolve "any disputes relating to land" in court proceedings); Tanzania Mining Act (2010) (providing authority of minister of mining to resolve disputes) and Environmental Management Act (2004) (providing recourse for any individual for breach of the Act); Mines and Minerals Development Act No. 11 (2015) (Zam.) (providing that disputes shall be determined by arbitration).

187. This figure includes actions seeking enforcement by an agency and, to a more limited extent, actions against violators. *See*, *e.g.*, Botswana Environmental Assessment Act (2011) (providing for individual recourse where ministry allegedly failed to conduct acceptable EIA); Ethiopia EIA Proclamation No. 299 (2002) (providing for a grievance mechanism before regional environmental agency); Guinea-Bissau Environmental Impact Assessment Act (2017) (providing for administrative appeal or judicial recourse); Environmental Management and Co-ordination Act, No. 8 (1999) Kenya Gazette Supplement No. 62 (providing for fully independent review of administrative claims in National Environmental Tribunal); Malawi Environment Management Act (2017) (providing authority of Environmental Tribunal to hear claims); Mauritius Environment Protection Act (2002) (providing action before Environmental Appeal Tribunal in context of electric siting); Namibia Environmental Impact Assessment Regulations (2012) (providing that an individual aggrieved by decision concerning EIA can seek administrative review); Tanzania Environmental Management Act (2004) (providing that any person aggrieved by minister to approve or disapprove an EIA may appear before the Environmental Appeals Tribunal); Zimbabwe Environmental Management (Control of Alluvial Mining) Regulations (2014) (providing for administrative appeal by those aggrieved concerning agency EIA decision).

188. *See*, *e.g.*, Central African Republic Environmental Code (2007); Eswatini (Swaziland) Environmental Management Act (2002); Lesotho Environment Act (2008); Liberia Environmental Protection and Management Act (2002); Environmental Management Act No. 12 (2011) (Zam.).

189. It should be noted that a litigant may have access to recourse for specific environmental damages under other provisions, regulations, or judicial decisions, outside the scope of this study, or (in common-law countries) under other traditional tort principles.

190. *See*, *e.g.*, Côte d'Ivoire Constitution (2016) and Environment Code (1996); Djibouti Environmental Code (1992); Eswatini (Swaziland) Environmental Management Act (2002) (providing individuals with standing to bring a

also includes constitutional provisions that provide standing to enforce constitutional rights to a clean environment under provisions that provide a litigant broad standing to enforce the constitutional right in general, including private actors.[191] Of the 35 countries, at least two countries provide that an individual may request an investigation or bring a complaint before a minister or administrative body charged with oversight, rather than a cause of action directly against the polluter.[192]

Explicit access to justice to enforce regulatory requirements, such as benefit-sharing rules (especially in the case of revenue sharing) or community development plans, is far less common. The vast majority of countries have no provisions that specifically facilitate access to justice to enforce benefit-sharing requirements developed as part of the licensing process: five of 48 countries arguably give individual standing to enforce binding community development plans under broad catchall dispute provisions.[193]

An additional five countries appear to authorize ministries or agencies—not individuals or communities—to enforce various benefit-sharing provisions through administrative proceedings to penalize or fine violators, to seek to recover royalties or local taxes, or to enforce community development promises.[194] Broader access-to-justice provisions (that 35 Sub-Saharan African countries have in their constitutions and/or framework environmental laws) can also open doors to communities to enforce benefit-sharing provisions.

III. Observations and Recommendations

Countries across Sub-Saharan Africa have adopted many legal approaches that are broadly recognized as crucial to reducing the historical drivers of conflict over land and minerals—a critical measure that can help to prevent and mitigate a green resource curse. Among the most noteworthy trends, the vast majority of countries have (1) recognized customary land tenure rights, (2) incorporated environmental protections through EIAs in major development decisions, and (3) guaranteed access to information. Many of these legislative enactments are based on internationally recognized principles that have laid the foundation of environmental rule of law, advanced by the United Nations Environment Programme and others,[195] and offer promise in reducing green resource conflicts.[196] This section details recommendations for bolstering these protections and requirements.

On the issue of protecting customary rights to land and other natural resources, most countries in Sub-Saharan Africa recognize some form of customary land tenure, and many further protect customary land tenure by providing mechanisms to register customary interests. Balancing traditional land claims with formalization of land rights, formal recording systems may establish proof of customary tenure needed to reduce conflicting land claims, especially by government or developers who otherwise seek to disregard those who live on and own lands at issue.[197]

In many instances, registration systems provide additional protections for women's land rights by eliminating gender biases that may have been in customary systems.[198] To bolster registration systems and their ability to protect land held under customary tenure, investments in technology, efforts to modernize and computerize land cadastres or registries, and outreach to landowners to assist in registration, especially in rural areas, are needed to advance these tenure protections. Investments in trusted, accessible databases in turn reduce corruption and increase security of land title.[199]

The analysis of Sub-Saharan African countries' legislation has also revealed the growing acceptance and impor-

civil action, including attorney fees, whether or not the individual will suffer harms in violation of environmental provisions); Ethiopia Environmental Pollution Control Proclamation (2002) (providing right to lodge administrative complaint against polluter with right to appeal in court); Guinea-Bissau Environmental Law (2011) (providing access to court for violations or threatened violations of environmental law); Lesotho Environment Act (2008); Liberia Constitution (1986); Mauritius Environment Protection Act (2002) (providing individual right of action against polluter for environmental damages before Environmental Appeal Tribunal); Mozambique Environment Law (2014) (providing standing to sue in court for damages or injunctions); São Tomé e Príncipe Environmental Law (1999) (providing access to justice for losses or damages arising out of violations of environmental law); National Environmental Management Act 107 of 1998 (S. Afr.) (providing legal standing in court for any breach of the Act, including private right of action on behalf of a class of people or on behalf of the public interest with provision for attorney fees to enforce EIA requirements or environmental and social protections in law); Tanzania Environmental Management Act (2004) (providing right to sue to protect own interest, public interest, interest of environment); Uganda Environmental Management Act (2018) (providing that court may impose restoration order for proceedings brought by any individual for environmental harm or likely harm); Environmental Management Act No. 12 (2011) (Zam.) (providing for civil action for damages, including attorney fees, where administrative director who declined to prosecute/pursue investigation or claim); *see also* Angola Environmental Damages Decree (2011).

191. *See*, *e.g.*, Benin Constitution (1990); Burkina Faso Constitution (1991, as amended 2015); Cabo Verde Constitution (1992); Cameroon Constitution (2008); Côte d'Ivoire Constitution (2016); Democratic Republic of the Congo Constitution (2005, as amended 2011); Kenya Constitution (2010); Mali Constitution (1992); Somalia Constitution (2012); South Sudan Constitution (2011); *see also* United Nations Environment Programme, *supra* note 15, at 154.

192. *See*, *e.g.*, Nigeria Minerals and Mines Regulations (2011); Zimbabwe Environmental Management Act (2005).

193. There are a few instances of potential recourse before mining ministers. *See*, *e.g.*, Guinea Mining Code (as amended 2013) (providing access to courts for all disputes arising out of administrative disputes, arguably covering community development agreement); Malawi Mines and Minerals Act (2018) (providing broad authority to the mining commissioner to resolve disputes that arguably would cover the required community development plan); Sierra Leone Mines and Minerals Act (2009) (providing that the minister and local council work to resolve disputes concerning community development plans and his or her decision regarding community development plans is binding). There may also be other avenues to enforce binding community development plans under contract or other laws not captured by this study.

194. *See*, *e.g.*, Ghana Minerals and Mining Act (2006); Mining Act, No. 12 (2016) Kenya Gazette Supplement No. 71; Mines and Minerals Act No. (20) (2007) (Nigeria); South Sudan Mining Act (2012); Tanzania Mining Act (2010).

195. United Nations Environment Programme, *supra* note 15.

196. Carl Bruch & Isabelle Morley, *Environmental Peacebuilding and Environmental Rule of Law: Linkages, Lessons, and Looking Forward*, *in* Research Handbook on International Law and Environmental Peacebuilding (Daniëlla Dam-de Jong & Britta Sjöstedt eds., Edward Elgar Publishing forthcoming Aug. 2023).

197. World Bank, Senegal Rural Land Policy: Modernizing the Rural Land Sector (2019).

198. *Id.*

199. Byamugisha, *supra* note 172.

tance of general access to information legislation to cover a wide breadth of government and regulatory actions. These measures have become crucial in elevating the public in development decisions and the permitting process—a critical factor in reducing conflict. Even so, a significant number of countries have not enacted broad access to information acts, often providing ad hoc and unclear protection to accessing vital information throughout both the mining and renewable energy permitting processes and later site activities.

Consistent with international principles (and particularly Rio Principle 10 and accompanying regional protections), broad access to information acts should be a priority as a means to promote civic engagement and counter corruption, cronyism, and ineffective governance.[200] The other key recommendation on access to information is to support implementation of existing provisions. Governments must also invest in guaranteeing actual and effective access, especially in remote areas, through computerized or online access to information networks, simplified procedures and lower costs for requesting information, appropriate language translations, and other technology investments and steps to improve access to information.

Another important finding is that the now near-universal requirement of EIAs in most mining and electric projects, including renewable energy projects, provides strong, well-recognized protections available to most substantial development initiatives.[201] In addition to the environmental protections provided by EIA requirements, EIAs typically provide the most critical—and sometimes sole—opportunity for advising communities of the risks and benefits of development projects and providing an opportunity for them to participate in development decisions.[202]

While EIA requirements have become standard, the analysis of Sub-Saharan African countries reveals a wide spectrum of EIA requirements, and not all are equal in their ability to elevate the public's role in assessing environmental and social impacts of development decisions. To promote accountability and transparency, governments should be encouraged to enact strong legislative protections that provide for open, interactive EIA processes, guarantee information to those impacted, and include meaningful opportunities for public participation throughout the entire EIA process (including development, approval, enforcement, and compliance).[203] To be most effective, EIA requirements should provide for processes that are accessible, available, and comprehensible to the public.[204]

The analysis also highlights the importance of more common and strong mechanisms to promote benefit sharing. Most countries include some type of benefit sharing with impacted communities, often through revenues, taxes, or community investments. Yet revenue-sharing schemes do not always get to those most severely impacted, and vague recommendations for investing in jobs or training do not always benefit those on the ground. Increasingly accepted, community development agreements promise vital benefit-sharing platforms, providing meaningful investment in local jobs, training, infrastructure, and other community benefits. The agreements also elevate the community in identifying the most appropriate benefit-sharing measures. To be effective, engagement should involve all stakeholders in the community of varying socioeconomic levels and vulnerabilities to prioritize those community investments most likely to benefit a broad swath of the community.[205]

Finally, the analysis shows that while general provisions on access to justice are critically important to preventing the green resource conflict, accessing justice is the least developed legal protection in Sub-Saharan Africa. While most countries provide standing to someone whose land is taken, standing to bring actions to enforce EIAs, environmental rights, and worker protections are more limited.[206] Civil society plays a crucial role in finding creative ways to bring actions under constitutional and legal protections to a clean environment. As such, many countries still need to develop general access-to-justice provisions. Moreover, investments in training judges will help expand knowledge and skills needed to enforce the substantive and procedural protections provided by law.[207]

The best outcomes are most likely to arise where a country's laws provide both substantive protections (such as environmental protections and benefit-sharing provisions) and procedural rights (to access to information, participation, and justice).[208] Even though permitting processes and EIAs are near-universal protections, the standard procedural rights are less consistent across Sub-Saharan Africa and should be a priority to provide both the substantive and procedural protections underpinning environmental rule of law.

IV. Conclusion

This Article highlights four key points. First, there are real risks of rent-seeking, conflict, and the resource curse in Africa associated with the transition to a carbon-neutral economy. The risks are both exogenous (with global demand for certain minerals) and endogenous (with African countries rapidly developing renewable energy facilities). Second, good governance can reduce the risks of conflict arising from contestation over minerals and land for the renewable energy transition. Third, Sub-Saharan African countries have adopted many of the necessary provisions in their constitutions, statutes, codes, and regulations. Fourth, it is necessary to implement and enforce these provisions.

200. United Nations Environment Programme, *supra* note 15, at 31.
201. *See also id.* at 105 (detailing the growth and acceptance of EIAs).
202. Andrews et al., *supra* note 23, at 56-57.
203. *Id.* at 57-58.
204. *See*, *e.g.*, John O. Kakonge, *Environmental Impact Assessment in Sub-Saharan Africa: The Gambian Experience*, 24 Impact Assessment & Project Appraisal 63 (2006).
205. International Finance Corporation, *supra* note 86, at 11.
206. *See*, *e.g.*, United Nations Environment Programme, *supra* note 15, at 149.
207. *Id.* at 64.
208. *Id.* at 89.

Climate change is a cause of profound concern for countries, communities, and individuals. Increasingly, the implications of a global transition to a carbon-neutral economy are driving concerns of the resource curse and a just transition. This is a particular issue in Sub-Saharan Africa, where many countries have a history of conflicts over land and minerals.

The past need not be prologue, though. Due to the history of conflicts over land and minerals, many Sub-Saharan African countries have adopted and started to implement substantive and procedural legal protections to prevent and peacefully resolve disputes over land and minerals.

In order for these legislative developments to protect against a green resource curse, though, it is necessary to implement and enforce the provisions. Effective implementation and enforcement depend on effective institutions, civic engagement, environmental rights, and access to justice—on the books *and* in practice.

Over the past 30 years, the history of environmental law globally has revealed a lag between the adoption of environmental laws and their implementation and enforcement.[209] This has been the case for Sub-Saharan Africa, as for other regions—both developed and developing.

There are many measures essential to implementation and enforcement. Public interest litigation and civil society advocacy are necessary, including to mobilize political will and exercise the various rights provided. In a growing number of instances, innovative and courageous government officials, community advocates, and judges have been critical to the success of first measures to implement and enforce the provisions.

This Article is important for two primary reasons. First, it highlights that many of the necessary provisions are already in place. Where the laws are in place, priority should be placed on implementation and enforcement. There are usually ways that the laws could be improved, so this is not to say that there should be no further legal development; but the primary focus needs to be on making the laws work in practice.

Second, the analysis highlights a few instances where the necessary legal provisions are largely undeveloped or underdeveloped, and priority should be placed on legislative development. These provisions are generally procedural (such as ensuring access to justice). Legislative development may be informed by experiences of other African countries that have already adopted those provisions.

Avoiding the green resource curse depends on developing, implementing, and enforcing a suite of legal provisions. Innovative lawyers and committed governments have already started to use existing provisions to protect communities' rights to land and minerals. Ultimately, the arc of history shows that if the capacity and will of government institutions, civil society, and communities to enact and enforce these provisions is strengthened, a green resource curse is not inevitable.

209. *See generally* United Nations Environment Programme, *supra* note 15.

Annex

Table 2 provides an overview of specific legislative provisions that could prevent or peacefully resolve disputes arising from the extraction of minerals and siting of renewable energy facilities in 48 Sub-Saharan African countries. The full table comprises 40 indicators in six clusters (recognition of resource rights, reducing environmental and social impacts, compensation and benefit sharing, access to information, participation, and access to justice). For readability, each cluster is presented separately.

The study applied certain criteria in determining whether a country's indicator merited a "yes," "no," or "partial." Given the complexity of the research and developing criteria for a country's laws, the following highlights a number of standards used in assessing each indicator.

In general, where an indicator notes "partial (mining)" or "partial (RE)," the legal requirement exists only in the listed industry (mining or renewable energy), not for both. In certain cases, an indicator is listed as "partial" where the text of a given law is arguably broad enough to provide protection, but not expressly provided for under specific law. An indicator may also be listed as "partial" where it includes limitations or uncertainty over the scope of the right. For example, in the context of access to information, a number of countries recognized that certain mining information had a measure of confidentiality for a certain period of time or subject to the consent of the permit holder.

As part of the analysis, the tallies provided throughout the Article include both "partial" and "yes" indicators where a minimal level of protection is found under law. In a few limited instances, "partial" indicators from the table are not included in the tally provided in the Article. Where that is the case, an explanatory footnote is provided.

As noted in the Article, the access-to-justice findings appear to provide the least clarity or consistency. We note that other procedural laws that were not considered in this study may provide standing to sue for individual harms; the trends for access to justice must therefore be considered within the limitations of the specific mining, electric, and environmental acts. In the context of enforcing EIAs and environmental protections, a country received a "partial" marking where it provides access to bring a complaint in front of an administrative body without standing to assert an administrative or judicial claim directly against the electric or mining permit holder. In addition, a country may be listed as "no" where a country's regulatory authority has enforcement capacity (including criminal punishments and fines), without providing the individual harmed an avenue to bring either a regulatory or judicial action.

Finally, in some cases, an indicator is marked "no" where either the law clearly does not provide a given protection or no law was located or available through research. As mentioned above, we recognize that other protections may exist, including unavailable legislation or judicial decisions or regulations that were beyond the study's scope, and therefore the study does not guarantee that a country has not provided a given protection through other legislation or nonlegislative means or diminish a country's efforts to provide other protections.

Table 2: Overview of Legislative Provisions That Could Prevent or Address the Green Resource Curse in Sub-Saharan Africa

A. Recognition of resource rights				
	Customary land tenure	Customary resource rights	Recognition of artisanal and small-scale mining	Surface rights
Angola	Partial	No	Yes	Yes
Benin	Yes	Partial	Partial	Yes
Botswana	Yes	Partial	Yes	Yes
Burkina Faso	Yes	Partial	Yes	Yes
Burundi	Yes	Partial	Yes	Yes
Cameroon	Partial	Partial	Yes	Yes
Cabo Verde	Yes	Partial	No	Yes
Central African Republic	Partial	Partial	Yes	Yes
Chad	Yes	Partial	Yes	Yes
Comoros	Yes	Partial	No	No
Congo- Brazzaville	Yes	Partial	Yes	Yes
Djibouti	Partial	No	Yes	Yes
DRC	Yes	Partial	Partial	Yes
Ethiopia	Yes	Partial	Yes	Yes
Equatorial Guinea	Yes	Partial	Yes	Partial
Eritrea	No	No	Yes	Yes
Eswatini (Swaziland)	Partial	No	Yes	Yes
Gabon	No	Partial	Yes	Partial
Gambia	Yes	Partial	Yes	Yes
Ghana	Yes	No	Yes	Partial
Guinea	Partial	Partial	Yes	Yes
Guinea-Bissau	Yes	Partial	Yes	Yes
Ivory Coast	Yes	Partial	Yes	Yes
Kenya	Yes	Partial	Yes	Yes
Lesotho	Partial	Partial	Yes	Yes
Liberia		Partial	Partial	Yes
Madagascar	Yes	Partial	Yes	Yes
Malawi	Yes	Partial	Yes	Yes
Mali	Yes	Partial	Yes	Yes
Mauritania	Partial	Partial	Yes	Yes
Mauritius	No	No	No	Partial
Mozambique	Yes	Partial	Yes	Yes
Namibia	Yes	Partial	Partial	Yes
Niger	Yes	Partial	Yes	Yes
Nigeria	Yes	Partial	Yes	Yes
Rwanda	No	No	Yes	Yes
São Tomé and Príncipe	No	No	No	No
Seychelles	No	No	No	Yes
Senegal	Partial	Partial	Yes	Yes
Sierra Leone	Yes	Partial	Yes	Yes
Somalia	No	No	No	Yes
South Africa	Yes	Partial	Partial	Yes
South Sudan	Yes	No	Yes	Yes
Tanzania	Yes	Partial	Yes	Yes
Togo	Yes	Partial	Yes	Yes
Uganda	Yes	Partial	Yes	Yes
Zambia	Yes	Partial	Yes	Yes
Zimbabwe	Yes	Partial	No	Yes

B. Reducing environmental and social impacts							
	Permit requirement (mining)	Permit requirement (electric)	EIA—mining	EIA—electric	Environmental protections	Worker protections	Site remediation
Angola	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Benin	Yes	No	Yes	No	Yes	Yes	Yes
Botswana	Yes	Yes	Yes	Yes	Partial	Partial	Yes
Burkina Faso	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Burundi	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cameroon	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cabo Verde	Yes	Yes	Yes	Yes	Yes	Yes	Partial
Central African Republic	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Chad	Yes	Yes	Yes	Yes	Yes	Yes	No
Comoros	Yes	No	Yes	Partial	Yes	Yes	Yes
Congo-Brazzaville	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Djibouti	Yes	Yes	Yes	Yes	Yes	Yes	No
DRC	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ethiopia	Yes	Yes	Yes	Yes	Yes	Yes	Partial
Equatorial Guinea	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Eritrea	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Eswatini (Swaziland)	Yes	No	Yes	Yes	Yes	Yes	Yes
Gabon	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Gambia	Yes	Yes	Yes	Yes	Yes	Partial	Yes
Ghana	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Guinea	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Guinea-Bissau	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ivory Coast	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Kenya	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lesotho	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Liberia	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Madagascar	Yes	Yes	Yes	Yes	Yes	Partial	Yes
Malawi	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mali	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mauritania	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mauritius	No	Yes	No	Yes	Yes	No	No
Mozambique	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Namibia	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Niger	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Nigeria	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Rwanda	Yes	Yes	Yes	Yes	Yes	Yes	Yes
São Tomé and Príncipe	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Seychelles	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Senegal	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sierra Leone	Yes	No	Yes	Yes	Yes	Yes	Yes
Somalia	Yes	No	No	No	Yes	Yes	Partial
South Africa	Yes	Yes	Yes	Yes	Yes	Yes	Yes
South Sudan	Yes	No	Yes	Partial	Partial	Yes	Yes
Tanzania	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Togo	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Uganda	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Zambia	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Zimbabwe	Yes	Yes	Yes	Yes	Yes	No	Yes

C. Compensation and benefit sharing						
	Adequate compensation	Prompt compensation	Compensation for loss of access	Compensation for damages	Benefit sharing—mining	Benefit sharing—electric siting
Angola	Yes	Yes	Yes	Yes	Yes	No
Benin	Yes	Yes	Yes	Yes	No	No
Botswana	Yes	Yes	Partial (mining)	Yes	No	No
Burkina Faso	Yes	Yes	Yes	Yes	Yes	No
Burundi	Yes	Yes	Yes	Yes	Yes	No
Cameroon	Yes	Yes	Partial (mining)	Partial (mining)	Yes	No
Cabo Verde	Yes	Yes	Partial (mining)	Partial (mining)	No	No
Central African Republic	Yes	Partial	Yes	Yes	Yes	No
Chad	Yes	Yes	Yes	Yes	No	Partial
Comoros	No	No	No	No	No	No
Congo-Brazzaville	Yes	Yes	Yes	Partial (mining)	Yes	Partial
Djibouti	Yes	Yes	Partial (mining)	Yes	No	No
DRC	Yes	Yes	Yes	Yes	Yes	No
Ethiopia	Yes	Partial (mining)	Yes	Yes	Yes	No
Equatorial Guinea	Yes	No	No	Yes	Yes	No
Eritrea	Yes	No	No	Yes	Yes	No
Eswatini (Swaziland)	Yes	Yes	Partial	Yes	Yes	No
Gabon	Yes	Yes	Partial (mining)	Partial (mining)	Yes	No
Gambia	Yes	Yes	Partial (mining)	Yes	No	Partial
Ghana	Yes	Yes	Yes	Partial (mining)	Yes	No
Guinea	Yes	Yes	Partial (mining)	Yes	Yes	No
Guinea-Bissau	Yes	Partial	Yes	Yes	Yes	Yes
Ivory Coast	Yes	No	Partial (mining)	Partial (mining)	Yes	No
Kenya	Yes	Yes	Yes	Yes	Yes	Partial
Lesotho	Yes	Yes	Partial (mining)	Yes	No	No
Liberia	Yes	Yes	No	Partial (mining)	Yes	No
Madagascar	Yes	Yes	Partial	Yes	No	No
Malawi	Yes	No	Yes	Yes	Yes	No
Mali	Yes	Yes	Yes	Yes	Yes	No
Mauritania	Yes	No	Partial (RE)	Partial (mining)	No	No
Mauritius	Yes	No	Partial (mining)	Yes	No	No
Mozambique	Yes	No	Yes	Yes	Yes	No
Namibia	Yes	Yes	Partial (mining)	Yes	No	No
Niger	Yes	Yes	Yes	Yes	Yes	No
Nigeria	Yes	Yes	Partial (mining)	Yes	Yes	No
Rwanda	Yes	Yes	Partial (mining)	Yes	Yes	Partial
São Tomé and Príncipe	Yes	No	No	Yes	No	No
Seychelles	Yes	Yes	No	Yes	Yes	No
Senegal	Yes	Yes	Yes	Yes	Yes	Yes
Sierra Leone	Yes	Yes	Partial (mining)	Partial (mining)	Yes	No
Somalia	Yes	Yes	No	Partial (mining)	No	No
South Africa	Yes	Yes	Partial (mining)	Yes	Yes	Yes
South Sudan	Yes	Yes	Yes	Yes	Yes	No
Tanzania	Yes	Yes	Yes	Yes	Yes	No
Togo	Yes	Yes	No	Yes	Yes	No
Uganda	Yes	Yes	Partial (mining)	Yes	Yes	Partial
Zambia	Yes	Yes	Partial (mining)	Yes	Yes	No
Zimbabwe	Yes	Partial	Partial (mining)	Partial (mining)	Yes	No

D. Access to information (A2I)									
	General A2I law	A2I—project activities	A2I—mining permit process	A2I—electric siting permit process	A2I—contracts/permits	A2I—mining revenues	A2I—environmental impact	A2I—social impact	A2I—benefit sharing
Angola	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No
Benin	Yes	Partial	Yes	Yes	Yes	No	Yes	No	No
Botswana	No	No	Partial	No	No	No	Yes	No	No
Burkina Faso	Yes	Partial	Partial	Yes	Partial	Partial	Yes	Yes	No
Burundi	No	Partial	No	No	No	No	Yes	Yes	No
Cameroon	No	Partial	Partial	Yes	Yes	Yes	Yes	Yes	Partial (mining)
Cabo Verde	No	Yes	Partial	Partial	Yes	No	Yes	Yes	No
Central African Republic	No	Yes	Yes	No	Partial (mining only)	No	Yes	Yes	No
Chad	No	Partial	Yes	No	No	No	Yes	No	No
Comoros	No	No	No	No	No	No	Partial	Partial	No
Congo-Brazzaville	No	No	Yes	Partial	No	Yes	Yes	Yes	No
Djibouti	No	Partial (RE)	No	No	Partial (RE)	No	Yes	Yes	No
DRC	No	Partial	Yes	Yes	No	No	Yes	Yes	No
Ethiopia	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Equatorial Guinea	Yes	Yes	Partial	No	Partial (mining)	No	Yes	Yes	No
Eritrea	No	No	Yes	No	Partial (mining)	No	Partial	No	No
Eswatini (Swaziland)	No	Partial (mining)	Yes	No	Partial (mining)	No	Yes	No	No
Gabon	No	No	Yes	Partial	Partial	No	Yes	Yes	Partial (mining)
Gambia	Yes	Partial (RE)	No	No	Partial (RE)	No	Yes	Yes	No
Ghana	Yes	Partial	Yes	Yes	Yes	Yes	Yes	Yes	No
Guinea	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Guinea-Bissau	Yes	Partial	Partial	Partial	Partial	Yes	Yes	Yes	No
Ivory Coast	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Kenya	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lesotho	No	Partial	Yes	No	Yes	No	Yes	Yes	No
Liberia	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Madagascar	No	Yes	Partial	Partial	No	No	Yes	No	No
Malawi	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mali	Yes	Partial	Partial	Partial	Partial	Partial	Yes	Yes	Yes
Mauritania	No	Partial	Partial	Yes	Partial	Partial	Yes	No	No
Mauritius	No	No	No	Partial	Yes	No	Partial (RE)	No	No
Mozambique	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Namibia	Proposed (passed in legislature/need president signature)	No	Partial	Partial	No	No	Yes	No	No
Niger	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Nigeria	Yes	Yes	Partial	Yes	Partial (mining)	Yes	Yes	Yes	No
Rwanda	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
São Tomé and Príncipe	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Seychelles	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Senegal	Proposed	Partial	Partial	Yes	Partial	Partial	Yes	Yes	No
Sierra Leone	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Partial (mining)
Somalia	No	No	No	No	No	No	No	No	No
South Africa	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
South Sudan	Yes	Partial (mining)	Yes	No	Partial (mining)	Yes	Partial (mining)	Partial (mining)	Partial (mining)
Tanzania	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Togo	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Uganda	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Zambia	Yes	Partial	Yes	Yes	Yes	Yes	Yes	No	No
Zimbabwe	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No

E. Participation						
	Participation—electric siting process	Participation—mining permit process	Participation—EIA	Participation—community agreement	FPIC—electric siting	FPIC—mining
Angola	No	Yes	Yes	No	No	No
Benin	Yes	Partial	Yes	No	No	No
Botswana	No	No	Yes	No	No	No
Burkina Faso	No	No	Yes	No	No	No
Burundi	No	No	Yes	No	No	No
Cameroon	No	Yes	Yes	No	No	No
Cabo Verde	No	No	Yes	No	No	No
Central African Republic	Yes	Yes	Yes	No	No	No
Chad	No	Partial	Yes	No	No	No
Comoros	No	No	No	No	No	No
Congo-Brazzaville	No	Yes	Yes	No	No	No
Djibouti	No	No	Yes	No	No	No
DRC	Partial	Partial	Yes	No	No	No
Ethiopia	Partial	No	Yes	No	No	No
Equatorial Guinea	No	No	Partial	No	No	No
Eritrea	No	Yes	Partial	No	No	No
Eswatini (Swaziland)	Yes	Yes	Yes	No	No	No
Gabon	No	No	Yes	Partial	No	No
Gambia	No	No	Yes	No	No	No
Ghana	No	No	Yes	No	No	No
Guinea	No	Yes	Yes	Yes	No	No
Guinea-Bissau	Yes	Yes	Yes	Yes	Yes	Yes
Ivory Coast	Yes	Yes	Yes	No	No	No
Kenya	Yes	Yes	Yes	Yes	No	No
Lesotho	No	No	Yes	No	No	No
Liberia	Partial	No	Yes	No	Partial	Partial
Madagascar	No	No	Yes	No	No	No
Malawi	No	Partial	Partial	Partial (mining)	No	No
Mali	No	No	Yes	Yes	No	No
Mauritania	No	No	Yes	No	No	No
Mauritius	No	No	Partial (RE)	No	No	No
Mozambique	No	Yes	Yes	No	No	No
Namibia	Yes	No	Yes	No	No	No
Niger	No	Yes	Yes	No	No	No
Nigeria	No	Partial	Yes	Partial (mining)	Partial	No
Rwanda	No	No	Yes	No	No	No
São Tomé and Príncipe	No	Yes	Yes	No	No	No
Seychelles	No	No	Partial	Partial	No	No
Senegal	Yes	Partial	Yes	No	No	No
Sierra Leone	Partial	Yes	Yes	Partial (mining)	No	No
Somalia	No	No	No	No	No	No
South Africa	Partial	Yes	Yes	No	No	No
South Sudan	No	No	No	Partial	No	No
Tanzania	No	Yes	Yes	Partial	No	No
Togo	Yes	Yes	Yes	No	No	No
Uganda	Partial	No	Yes	No	No	No
Zambia	Partial	No	Yes	No	No	No
Zimbabwe	No	Yes	Yes	No	No	No

F. Access to justice								
	Assert ASM rights	**Assert tenure rights**	**Dispute land dispossession**	**Dispute land valuation**	**Challenge mining interference with land rights**	**Enforce benefit sharing**	**Enforce EIA requirements**	**Enforce environmental/ social licensing**
Angola	No	Yes	Yes	Yes	Yes	No	Yes	No
Benin	Yes	Yes	Yes	Yes	Yes	No	No	Yes
Botswana	Yes	Yes	Yes	Yes	No	No	Partial	Partial
Burkina Faso	No	No	Yes	Yes	Yes	No	No	No
Burundi	No	No	Yes	Yes	No	No	Yes	Yes
Cameroon	No	No	Yes	Yes	No	No	Partial	Yes
Cabo Verde	No	No	Yes	Yes	Yes	No	Partial	Yes
Central African Republic	Yes	Yes	Yes	Yes	Partial	Yes	No	No
Chad	No	No	Yes	Yes	Partial	No	No	Yes
Comoros	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
Congo-Brazzaville	Yes	Yes	Yes	Yes	Partial	No	No	Yes
Djibouti	Yes	Yes	Yes	Yes	Partial	No	Yes	Yes
DRC	No	Yes	Yes	Yes	No	No	No	Yes
Ethiopia	Yes	Yes	Yes	Yes	No	No	No	Yes
Equatorial Guinea	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
Eritrea	Partial	No	Yes	Yes	Yes	No	Partial	Partial
Eswatini (Swaziland)	No	Yes	Yes	Yes	Yes	No	Yes	No
Gabon	Yes	Yes	Yes	Yes	Yes	No	No	Yes
Gambia	Yes	Yes	Yes	Yes	No	No	Partial	Partial
Ghana	No	No	Yes	Yes	Yes	No	No	No
Guinea	No	No	Yes	Yes	No	No	Yes	Yes
Guinea-Bissau	No	No	Yes	Yes	No	No	Partial	Yes
Ivory Coast	No	No	Yes	Yes	Yes	No	Partial	Yes
Kenya	Yes	Yes	Yes	Yes	Partial	Yes	No	No
Lesotho	No	No	Yes	Yes	Partial	No	No	Yes
Liberia	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
Madagascar	Yes	Yes	Yes	Yes	Partial	No	No	Yes
Malawi	Yes	Yes	Yes	Yes	Partial	No	Yes	Yes
Mali	No	Yes	Yes	Yes	No	No	No	Yes
Mauritania	Yes	Yes	Yes	Yes	No	No	No	Yes
Mauritius	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
Mozambique	Partial	No	Yes	Yes	Yes	No	Partial	Partial
Namibia	No	Yes	Yes	Yes	Yes	No	Yes	No
Niger	Yes	Yes	Yes	Yes	Yes	No	No	Yes
Nigeria	Yes	Yes	Yes	Yes	No	No	Partial	Partial
Rwanda	No	No	Yes	Yes	Yes	No	No	No
São Tomé and Príncipe	No	No	Yes	Yes	No	No	Yes	Yes
Seychelles	No	No	Yes	Yes	No	No	Partial	Yes
Senegal	No	No	Yes	Yes	Yes	No	Partial	Yes
Sierra Leone	Yes	Yes	Yes	Yes	Partial	Yes	No	No
Somalia	No	No	Yes	Yes	Partial	No	No	Yes
South Africa	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
South Sudan	Yes	Yes	Yes	Yes	Partial	No	No	Yes
Tanzania	Yes	Yes	Yes	Yes	Partial	No	Yes	Yes
Togo	No	Yes	Yes	Yes	No	No	No	Yes
Uganda	Yes	Yes	Yes	Yes	No	No	No	Yes
Zambia	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
Zimbabwe	Partial	No	Yes	Yes	Yes	No	Partial	Partial