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Recent policy and media coverage initiatives have provided much needed attention to the protection and support of environmental defenders, but there has so far been little systematic analysis of patterns and determinants of repression at multiple scales. Building on available databases, this chapter identifies patterns of repression and potential determinants of killings. Globally, about a third of socio-environmental conflicts involve mass mobilization, arrests and direct forms of violence. These ‘high intensity’ conflicts are more frequent in Asia and Latin America. At least 1945 environmental and land defenders were killed in 57 countries between 2002-2019, most of them occurring in Brazil, the Philippines, Colombia, Honduras, Mexico and Peru. Killings are more likely in countries with high levels of foreign direct investment, dependent on mineral extraction, large Indigenous populations or frequent protests. There are also more killings in countries that are neither strong democracies or autocracies. More systematic reporting and analysis of repression – including at sub-national level – can help protect and support defenders, notably through conflict-sensitive investment policies and greater accountability for abuses.

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Environmental defenders: Killings, perpetrators, and drivers of violence

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Abstract

Recent policy and media coverage initiatives have provided much needed attention to the protection and support of environmental defenders, but there has so far been little systematic analysis of patterns and determinants of repression at multiple scales. Building on available databases, this chapter identifies patterns of repression and potential determinants of killings. Globally, about a third of socio-environmental conflicts involve mass mobilization, arrests and direct forms of violence. These ‘high intensity’ conflicts are more frequent in Asia and Latin America. At least 1945 environmental and land defenders were killed in 57 countries between 2002-2019, most of them occurring in Brazil, the Philippines, Colombia, Honduras, Mexico and Peru. Killings are more likely in countries with high levels of foreign direct investment, dependent on mineral extraction, large Indigenous populations or frequent protests. There are also more killings in countries that are neither strong democracies or autocracies. More systematic reporting and analysis of repression – including at sub-national level – can help protect and support defenders, notably through conflict-sensitive investment policies and greater accountability for abuses.

A growing body of scholarly literature is studying socio-environmental conflicts and the persecution of environmental defenders to better understand risk factors (Butt et al. 2019; Clark 2009; Jeffords and Thompson 2016; Middeldorp and Le Billon 2019; Scheidel et al. 2020). The case study literature suggests that killings of environmental and land defenders are particularly prominent in countries experiencing high levels of inequality and corruption, historical marginalization of Indigenous and peasant communities, liberalization of foreign and private investment into land-based sectors, weak rule of law and recent reversals in partial democratization processes, with many of these killings taking place within a broader context of high homicidal violence and high impunity rates for perpetrators (Middeldorp and Le Billon 2019).

In this chapter, we examine global patterns of repression across socio-environmental conflicts and determinants of killings of environmental defenders, using the Global Atlas of Environmental Justice on socio-environmental conflicts and the Global Witness dataset of environmental and land defenders killings. Following this introduction, we briefly discuss the different categories of defenders and then outline patterns of socio-environmental conflicts, defenders killed, perpetrators, and determinants of killings. We conclude by stressing the need for greater protection of defenders and stricter investment vetting processes in countries with high risks of killings including the respect for Indigenous consent rights, and outline further research to identify high risk sectors, areas, and authorities to prevent killings and increase accountability.

Environmental and land defenders

Environmental and land defenders are defined as “people who take peaceful action to protect environmental or land rights, whether in their own personal capacity or professionally” (Global Witness 2017: 43). The term environmental and land defenders encompasses a broad range of people, including Indigenous people threatened by large-scale resource extractions, dams, agribusiness, and illegal logging, mining or land settling (Lynch et al. 2018), landless peasants (re)claiming farmlands or long-established rural communities facing large-scale ‘land grabs’ by multinationals (Borras and Franco 2013), and grassroots and professional environmental advocates. The term covers people that may have very different understandings of their relationship with the environment and legitimate land entitlement. Many rural communities, for example, seek to defend their access to land for the sake of securing agrarian livelihoods. In doing so, they come to defend ways of life that can involve forest clearings to create farmland and assert *de facto* land rights in ways that may seem environmentally destructive and legally tenuous (Ghazoul and Kleinschroth 2018), even if such processes can (re)create forested and highly biodiverse anthropic rural landscapes (Hecht 2010). In contrast, park wardens seek to protect particular species and habitats, often through the militarized enforcement of human exclusion rules – ‘fortress conservation’ – that have evicted rural communities, undermined traditional livelihoods, and historically ‘re-wilded’ the environment in the name of protecting game and ‘natural’ biodiversity (Duffy 2016).

The case study literature suggests that defenders fall within five main categories according to their social identities and main motivations (Table 1). These categories are not exclusive, with many defenders being associated with several ones (e.g. Indigenous environmental activist serving as community forest patroller). Defenders in these categories often face similar threats, although there can be specific ones due to their profile and activities. Some defenders are well-connected, organized and have high public profile, including as recipient of international environmental prizes (e.g. Goldman Prize), while others are largely anonymous outside their area of residence and may be isolated within their own community due to their environmental activities (Grant and Le Billon 2019).

Table 7.1. Main categories of environmental and land defenders

| Categories | Main motivations | Main threats |
|---|--|---|
| <i>Indigenous people</i> | Protect territory, culture, and ecology | Colonization and land encroachment, large-scale resource projects, logging and mining |
| <i>Rural community members, farmworkers, landless peasants</i> | Access and sustain land and livelihoods | Agri-businesses and large-scale resource projects |
| <i>Environmental activists, social movement activists, artists and public intellectuals</i> | Prevent environmentally destructive activities, promote environmental and social justice | Large-scale resource projects, government crackdown on opposition |

| | | |
|--|---|---|
| <i>Lawyers, journalists, judges</i> | Report and defend environmental and social rights, especially those of marginalized communities | Broad economic and political interests of ruling elites, business owners, and organized crime |
| <i>Conservation, forestry, and police officers</i> | Enforce environmental and forestry laws | Poaching, illegal logging, mining, land settling, and organized crime |

The term ‘defender’ tends to emphasize the individual over the broader communities and organizations involved in environmental and land struggles. While such individualization can help raise public awareness by literally ‘giving a face’ to socio-environmental struggles,¹ it can also make individualized defenders a more likely target as perpetrators seek to intimidate communities and deter leadership, as well as create tensions within affected communities by singling out particular individuals or their families. The focus placed by many advocacy and media reports on killings, rather than the broad range of pressure exercised on communities, can also exacerbate such individuation. As such, a focus on individual killings and individuals killed risks both misrepresenting and rendering less visible the communities to which the defenders belong. Some academic and policy reports on environmental and land defenders have been cautious in this respect, with for example UNEP (2018) specifically mentioning ‘groups of people’ in its definition of defenders, but the logics and practices of advocacy and media often individualize these struggles.

Overall, the concept of environmental and land defenders is best applied to people tying together community, territory, environmental protection, and livelihoods. These people are generally aspiring to maintain or (re)create land-use practices that help to sustain anthropogenic yet often highly biodiverse ecosystems that are generally more benign for the environment than agro-industrial practices, hydro-power or irrigation dams, and extractive activities such as industrial mining or clear-cut logging (Ghazoul and Kleinschroth 2018).²

Patterns of socio-environmental conflicts and killings of defenders

In many cases, defenders resist environmentally destructive projects that would drastically undermine biodiversity and ecosystem services. The Institute of Environmental Science and Technology (ICTA) at the Universitat Autònoma de Barcelona together with ‘activist partners’ including socio-environmental activists and researchers have systematically documented cases of socio-environmental conflict (Temper et al. 2015; Scheidel et al. 2020). The resulting EJAtlas defines socio-environmental conflicts as “mobilizations by local communities, social movements, which might also include support of national or international networks against particular economic activities, infrastructure construction or waste disposal/pollution whereby environmental impacts are a key element of their grievances”.³ Out of the 2957 EJAtlas reported cases, 1279 cases (43%) were categorized as ‘medium intensity’ conflicts, including visible mobilization and street protests, while 847 (29%) cases were categorized as ‘high intensity’ conflicts involving mass mobilization, arrests and direct forms of violence. Different forms of repression occurred, with a criminalization or biased use of the law against defenders in 20% of all cases, violent targeting of activists in 18% of all cases, and killings in 12% of all cases. Killings were even more frequent when Indigenous people were involved (19% compared to 8%, see Scheidel et al. 2020).

A regional breakdown identifies greater rates of high intensity conflicts in Asia (39%) and Latin America (31%), with more frequent violent targeting of activists (24%) and deaths

(19%) in Latin America than in Asia (22% and 13%, respectively). Sub-Saharan Africa and Western countries (Europe, US, Canada, Australia, New Zealand) have lower reported high intensity conflicts, repression, violent targeting and deaths. However, in contrast to Western countries, Sub-Saharan Africa saw the lowest level of ‘success’ for environmental and land defenders, along with the Middle East and North Africa region, while Island States (Caribbean, West Indian Ocean, South Pacific), Western Countries, and Latin America saw the highest. Looking at the main sectors involved, the percentage of high intensity conflicts was lowest in the fossil fuels and climate justice sector (25%) and highest in extraction (33%), while biomass and land conflicts (21%) were the most deadly.

Defenders killed

A second database, by Global Witness, collates information about killings of defenders from local media, national-level organizations such as that of the *Comissão Pastoral da Terra* (CPT) in Brazil, as well as global human rights databases such as HuriSearch. The objectives of such databases are to raise awareness of the killings, honour the memory of the defenders, support their struggles, enhance their protection, promote corporate and government policy change and pursue accountability. Comprehensively identifying killings of environmental and land defenders across the world, however, is a major challenge, notably as a result of lack of local monitoring, investigation and reporting, suppression of information by authorities, difficulties to reach local reporting organizations and contexts of broader conflicts making it challenging to identify specific cases of defenders killings. Furthermore, killings only represent the ‘tip of the iceberg’ in terms of the harms of repression and other forms of violence associated with resource extraction and land dispossession (Butt et al. 2019). In 2018, former UN Special Rapporteur on Human Rights and the Environment John Knox estimated that “for every 1 killed, there are 20 to 100 others harassed, unlawfully and lawfully arrested, and sued for defamation, amongst other intimidations” (UNEP 2018). A review of violence linked to 34 large-scale mining projects and activities by Canadian mining companies in 14 Latin America between 2000 and 2015 documented 44 deaths, 4 disappearances, 15 sexual assaults, 403 injuries, 537 arrests, detentions and charges, and 195 warrants and legal complaints (Imai et al. 2016). Thus, for every death or disappearance, nine people were physically injured or sexually assaulted, and 17 people faced judicial measures or ‘criminalization.’ Looking at landless peasant struggles in Brazil between 1986 and 2006, there were three reported death threats and a murder attempt for every person assassinated (Girardi 2008). As Rasch (2017: 132) observed, growing resistance within natural resource conflicts “goes hand in hand with an increased use of penal law and anti-terrorist legislation as a way of disqualifying social protest as well as an intensification of the use of violence and the surge of human rights violations”.

To sum-up, killings represent only a small proportion of coercive actions against environmental and land defenders, and they should only be considered as a partial indicator of the level of repression. Furthermore, the physical and psychological effects of repression are only two forms of harms experienced by communities affected by resource-based projects, others including exposure to pollutants, loss of land and livelihoods or socio-cultural conflicts (see Butt et al. 2019; Watts 2005).

The Global Witness dataset identifies 1945 reported killings of environmental and land defenders that took place in a total of 56 countries between 2002-2019. This conservative estimate points to a sharp rise in annual killings between 2009 and 2015, coinciding with the primary commodity boom but possibly in part related to increased reporting. Six countries

accounted for 77% of reported killings: Brazil (n=643), Colombia (n=260), Philippines (n=259), Honduras (n=156), Mexico (n=99), and Peru (n= 80). The five most deadly countries in terms of killings per capita were Honduras, Nicaragua, Colombia, Guatemala, and Brazil. Honduras was an extreme outlier, with per capita killings four times higher than Nicaragua, the second deadliest country for defenders (see Middeldorp and Le Billon 2019). Regionally, 80% of reported killings were concentrated in Latin America, 20% in Southeast and South Asia, and 5% in Africa, suggesting even sharper regional differences than those reported through EJAtlas.

The number of women defenders killed over the 2002-2018 period represents 9% of the total killings (n=150), with a growing proportion of women defenders killed since 2010. Women defenders were mostly killed in Brazil (30%), the Philippines (19%), Colombia (15%) and Honduras (9%), and correlate closely with the number of males killed. 276 Indigenous defenders were killed during the 2014-2018 period, representing 32% of total defenders killed in that period; with most of the killings of Indigenous defenders taking place in the Philippines (25%), Colombia (22%), Mexico (10%), Nicaragua (10%) and Brazil (9%). Based on reported killings in 2014 and 2015, the age of defenders killed varied between 11 and 75 years old, with the vast majority of killed defenders being in the 35-65 age bracket (65%) rather than being youths (32%) or elders (3%), thus pointing at a likely targeting of active social leaders.

Perpetrators

While defenders killed are generally well-identified once reported by the media or human rights organizations, people behind the killings are frequently not. Partly because of that, the perpetrators are rarely prosecuted. Global Witness (2014) documented only ten convictions for the murders of seven defenders, out of 908 cases identified between 2002 and 2013, with a further 34 perpetrators under arrest and facing charges. In Colombia, out of 122 defenders killed between July 2010 and June 2016, 102 killings were investigated, nine led to a verdict and only eight in a conviction (Global Witness 2018).

The anonymity and impunity of perpetrators often result from the *modus operandi* of killings (e.g. hired gunmen), participation or complicity and cover-ups by authorities and local elites in the killings (e.g. direct responsibility in killings), corruption or pressure on the judicial system (e.g. bribes, clientelism), fears of reprisal against potential whistle-blowers, and a lack of investigations (e.g. social marginality of defenders, remoteness of location, limited means of police and prosecutors). Killings generally either result from shootings or beatings by government armed forces, police, corporate security personnel or mobs and thugs during public events such as mass protests, occupation, and blockades; or from targeted murders by ‘hitmen’ and taking place at the home of the defender or in the street. Some targeted killings also take place during or shortly after protests, for example, to kill leaders who otherwise benefit from community-level protection. If individual killers, and the people who hire them, are rarely formally identified, there is generally more information on the category of perpetrators and sectors involved, including in the GW dataset.

Many studies point to patterns of repression associated with resource-based sectors (DeMeritt and Young 2013; Vadlamannati et al. 2019). Killings generally occur as part of escalating processes of disputed resource exploitation, social mobilization, and repression (Bebbington and Bury 2013; Dunlap 2019), with direct physical forms of violence being widely documented as part of land control strategies (Peluso and Lund 2011; Grajales 2011). Out of the 859 killings reported by GW during 2014-2018, 31% involved land conflicts, including those with landless peasants making claims on disputed lands controlled by established farmers and

land speculators. Agribusinesses were associated with 14% of the killings, mining and extractive activities with 20%, logging in 9%, water and dams with 7%, poaching with 8% and other sectors (e.g. fishing, wind farms) with 5%.⁴

Based on 346 killings for which the GW dataset reported the category of perpetrators (identified for killings in 2015, 2017 and 2018), about a third were directly perpetrated by government authorities (police n=59, army n=58, government officials n=8), to which can be often be added paramilitaries (n=31), armed militias (n=17), mobs supporting incumbent party (n=2), and private security guards (n=11). Militarized opposition forces – guerrillas – were associated for 9 killings. Many killings were carried out by ‘hitmen’ (n=52) or criminal gangs/organized crime (n=46), as well as people directly involved in environmental or land exploitation (i.e. landowners/speculators (n=30), poachers (n=26), land settlers (n=11), loggers (n=4), and miners (n=1)). This suggests that environmental and land exploiters relatively rarely directly perpetrate killings. Rather, exploiters pursuing land-based projects in the face of local resistance not only mobilize state security forces and private security firms, but also criminal organizations, paramilitaries and vigilante groups – especially in areas where the state lacks or outsources territorial control – in order to repress defenders (Cruz 2011). In Brazil, syndicates of local landowners and land speculators have hired assassins (e.g. murder of Sister Dorothy Stang, see Campbell 2015), and are part of larger political forces, such as the Ruralist Democratic Union, opposing landless peasant movements through legal reforms and paramilitary groups (Hammond 2009; Mendes 2018).

Whereas some governments and corporations use their own security personnel to exert deadly repression, notably in the context of public street protests and blockades, more insidious forms of repression – including targeted killings – are generally subcontracted through middlemen to hired gunmen or criminal gangs (Global Witness 2014), making it more difficult to identify the full network and trace the chain of command. Criminal organizations and illegal business entrepreneurs also commit murders to advance their own interests, notably among poaching gangs, illegal loggers and miners. Killings among (neighbouring) communities occur in the context of local land conflicts, including between traditional residents – especially Indigenous populations – and newly settled populations (e.g. *colonos* or *mestizo* in Nicaragua, see Sylvander 2018). This can give way to complex situations involving ‘cycles of violence’ – including feuds and revenge killings – in which land settlers, Indigenous populations, and large-scale agribusinesses confront each other. These situations can be further complicated, and become deadlier, when narcotics production and trafficking and (counter)insurgency are also involved (e.g. in Colombia, Honduras, Myanmar, and the Philippines). Finally, there are many degrees of responsibility and forms of complicity involved, from carrying-out the killing itself, to recruiting the killer(s), ordering and paying for the killing, knowingly promoting and/or investing in a resource project that could possibly result in a killing, and benefiting from the project without having taken part in the decision (e.g. pension fund holders; commodity consumers).

Determinants of killings

Contemporary killings of environmental and land defenders are part of a long history of colonialization and resource exploitation (Butt et al. 2019; Lynch et al. 2018; Totten et al. 2002;). Propelled by accumulative economic regimes (Moore 2015) and often underpinned by racial and socio-economic hierarchies (Virdee 2019), resource exploitation drastically accelerated after the onset of the Second World War (Krausman et al. 2009). The globalization of mass consumption and economic emergence of China in the late 1990s further increased

global commercial demand for land and natural resources, thereby pushing extraction frontiers and exacerbating conditions for socio-environmental conflicts, especially in resource-rich countries with populations resisting the burdens of pollution, displacement, cultural and livelihood loss, and social inequalities (Escobar 2006; Muradian et al. 2012). In this context, many local communities seek to assert and defend their rights in the face of powerful political and commercial alliances between government authorities, local economic elites, and primary commodity companies (Temper et al. 2015). The frequent absence of effective conflict prevention and resolution processes (e.g. Free, Prior and Informed Consent by Indigenous groups) and the use of deceptive and coercive tactics by project proponents are often leading to further resistance and conflict escalation (Conde and Le Billon 2017). As a communication revolution enabled many defenders to become more connected and their struggles more visible (Kirsch 2014), the perceived need of resource extraction proponents to ‘silence’ defenders and deter their supporters can increase, but so can the potential for backlash and even greater mobilization (Aytaç et al. 2018; Bob and Nepstad 2007).

Killings are in part facilitated by patterns of impunity for perpetrators, generally associated with the lack of independent and effective judiciary and media reporting, tight and unaccountable networks between political, economic and military elites, social ‘habituation’ to homicides on the part of authorities – including as a result of recent wars, and state tolerated/encouraged vigilante activity (Cruz 2011; Hill and Jones 2014). Deadly conflict escalation also often results from high uncertainty in the capacity and behavioral norms among protesters, corporate actors, and security forces in a context of contentious politics (Leitner et al. 2008), a situation characterizing intermediary political regimes falling between ‘full’ autocracies and democracies (Davenport 2007; Pierskalla 2010). In such contexts, government authorities and corporations are frequently unwilling to follow the praxis of negotiated conflict settlement, while some defenders and their movements refuse to back down on the premise that sustained contestation will further erode abuses of power, even if at the cost of deadly repression. The case study literature suggests that likelihood of killings of environmental and land defenders thus seem particularly acute in middle-income countries with semi-authoritarian regimes, a recent history of armed conflicts and/or high homicides rates, and a high prevalence of conflicts around resource exploitation projects, as seen in Latin America (see Bebbington and Bury 2013; Jeffords and Thompson 2016; McNeish 2018; Middeldorp and Le Billon 2019; Temper et al. 2015). Butt et al. (2019) have shown that weak rule of law – based on the World Justice Project index – correlates with higher rates of environmental and land defender killings, echoing more general findings that the most significant factor increasing political killings besides civil war is a lack of judicial independence (Hill and Jones 2014).

In Le Billon and Lujala (2020), we studied the factors the previous literature has linked environmental and land defender killings using multivariate negative binomial regressions. In our country-level analysis, we found that among economic factors higher levels of incoming foreign direct investment (FDI) and extraction of minerals are associated with a higher number of killings. We also found strong evidence that the poorest countries have the lowest number of killings and the number of killings increases with per capita income levels, although this impact diminishes for the richest countries. When it comes to political factors, we found that there is a curvilinear relationship between regime type and the number of environmental and land defender killings: there are more killings in countries that are neither strong democracies or autocracies. We also found that defender killings are more likely in countries with many protests related to political processes. When it comes to demographic factors, we found that higher shares of

Indigenous population in a country are positively related to a higher number of killings. There are also more killings in countries with larger populations, and possibly also in countries with high share of young males, population density or homicide rates. Our results were inconclusive when it comes to the association between the killings of defenders and armed conflict or corruption.

Conclusion

Environmental and resource governance emphasizes the importance of local community and civil society participation to achieve social equity and environmental sustainability goals. Yet repression often undermines such participation, including through the assassination of prominent defenders and members of their community and support network. This persecution is now more systematically reported, which allows for the identification of possible determinants of conflicts and killings. Among these, EJAtlas and Global Witness stand among the most comprehensive efforts, yet both suffer from limitations and possible biases in reporting. Any conclusions within this chapter should thus be treated with caution as the overall numbers of conflicts and killings are not necessarily representative of the actual numbers in a particular country or region, while the association between a defender being killed and a specific sector is not always evidence of a direct connection.

With these caveats in mind, our findings suggest that conflicts are more frequently of ‘high intensity’ in Asia and Latin America than in the rest of the world, with the violent targeting of activists, including killings, being more frequent in this latter region. About a third of conflicts across the main sectors were of high intensity, especially mineral ores and building materials extraction, with biomass and land conflicts being the ones most frequently deadly. According to the Global Witness database, Indigenous peoples constitute the group most at risk of killings, a result supported by a recent quantitative study (Le Billon and Lujala 2020). Threatened by large-scale resource extractions, dams, agribusiness, and land settling (Lynch et al. 2018), they represent nearly a third of reported environmental and land defenders killed. About a third of killings are perpetrated by government or corporate security personnel, while much of the rest is sub-contracted to paramilitaries and hired hitmen. These findings call for tighter controls on investments taking place in countries with high-risk characteristics, as well as respect for the consent rights of Indigenous communities and stronger protection measures for defenders.

Further research is needed in a number of areas. In terms of documenting repression, potential ‘blind spots’ with under-reporting should be further investigated, through increased communication with local human rights and civil society organizations in countries with suspected low reporting, as well as extending the range of repression covered beyond killings (e.g. criminalization, threats, injuries) and levels of impunity for perpetrators. Quantitative and spatially disaggregated studies are needed (see Le Billon and Lujala 2020) to infer root causes of killings, uncover causal linkages and better identify high-risk places in which protection measures should be deployed to safeguard environmental and land defenders. Predictive models could be refined and tested as more information, especially geo-referenced ones, is added in estimations. Finally, additional research is needed to assess the impacts of repression on environmental and land struggles in terms of social mobilization and project outcomes, as well as the effectiveness of policy reforms on investment criteria and the protection of affected communities.

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¹ See for example, the series of reports in *The Guardian*,

<https://www.theguardian.com/environment/series/the-defenders>

² Even this characterization can be problematic, however, as the impacts of ‘traditional’ activities depend on their scale, local contexts, and modes of operation. A large number of ‘artisanal’ miners operating in riverine areas and using mercury, for example, can harm the environment and human health (see Kitula 2006).

³ The EJAtlas documents “social conflict related to claims against perceived negative social or environmental impacts with the following criteria: 1) Economic activity or legislation with actual or potential negative environmental and social outcomes; 2) Claim and mobilization by environmental justice organization (s) that such harm occurred or is likely to occur as a result of that activity; 3) Reporting of that particular conflict in one or more media stories”, see <https://ejatlas.org/about>.

⁴ Some conflicts are only associated with ‘Indigenous peoples’ (i.e. not with any specific sector), and several sectors can be involved in one killing.