

A COMMUNITY ACTION TOOLKIT:

*A Roadmap for Using Environmental
Rights to Fight Pollution*



WORLD
RESOURCES
INSTITUTE

The
Access
Initiative

WRI.ORG

Authors

Elizabeth Moses
Carole Excell

Coauthored and implemented by

INDONESIA: Rikah Fari, Dyah Paramita, and Margaretha Quina (ICEL);
Mujtaba Hamdi (MediaLink); Ode Rakhman (WALHI)

THAILAND: Somrudee Nicro and Wannipa Soda (TEI); Suthi Atchasai
(Eastern People's Network)

MONGOLIA: H. Baigalmaa and B. Enkhtsetseg (CHRD); Erdenechimeg
Dashdorj, Oyuna Jukov, Badamragchaa Purevdorj (Open Society Forum);
Bayarmaa Byambasuren (PKL); Dolgormaa Lodoisambuu (NEHC); and
Tserenjav Demberel (Transparency Foundation); Saruul Tovuusuren
(Publish What You Pay [PWYP] Mongolia)

JAMAICA: Danielle Andrade (JET) and Michael Schwartz (WRC)

MOROCCO: Abderrafi Samir (AESVT); Said Chakri, Abderrahim Kssiri
(AMCDD); Abdelaziz Janati, Oulhaj Mohammed (OPEMH)

TUNISIA: Samia Zayani (Dynamique l'Eau); Sonia Abdelhak, Sihem
Benabdallah, Latifa Bousselmi, Hela Hassairi, and Thouraya Mellah (La
Recherche en Action [REACT])

Layout

Billie Kanfer
billiekk13@gmail.com

ACKNOWLEDGMENTS

We are incredibly grateful to the Open Society Foundations for funding the development of this toolkit. We are pleased to acknowledge our institutional strategic partners, who provide core funding to WRI: Netherlands Ministry of Foreign Affairs, Royal Danish Ministry of Foreign Affairs, and Swedish International Development Cooperation Agency.

This toolkit would not be possible without the support of The Access Initiative (TAI) and other partner organizations that used and reviewed the toolkit. This includes the Thailand Environment Institute (TEI), Eastern People's Network Thailand, Open Society Forum (Ulaanbaatar, Mongolia), Patrons of Khuvsgul Lake (PKL), Nature Environment and Health Center (NEHC), Center for Human Rights and Development (CHRD), International Transparency Foundation (TF), Wahana Lingkungan Hidup Indonesia (Indonesian Forum for Environment, WALHI) / Friends of the Earth Indonesia, Tifa Foundation, Indonesian Center for Environmental Law (ICEL), MediaLink, Jamaica Environment Trust (JET), Windsor Research Center (WRC), Alliance Marocaine pour le Climat et le Développement Durable (Moroccan Alliance for Climate and Sustainable Development, AMCDD), Association des Enseignants des Sciences de la Vie et de la Terre (Association of Teachers of Life and Earth Sciences, AESVT), Observatoire de Protection de l'Environnement et des Monuments Historiques (Observatory for the Protection of the Environment and Historic Monuments, OPEMH), La Recherche en Action (Research in Action, REACT), Water Dynamic Organization, and Article 19. We would also like to thank our reviewers: Ratchada Arpornsilp, David Boyd, Kathleen Buckingham, Jonathan Fox, Robin King, Saad Filali Meknassi, Constance Nalegach, Uttara Narayan, Lily Odarno, Ugo Taddei, Stefanie Tye, Peter Veit, and Jesse Worker. Chen Shen provided critical support researching and developing the solid waste indicators used in this toolkit. Joseph Foti helped develop the air and water indicators.



TABLE OF CONTENTS

Acknowledgments.....	ii
Executive Summary	1
Introduction.....	5
Glossary	12
Overview of Modules	14
Part 1: Setting Up a Strong Foundation for Advocacy	14
Part 2: Finding Evidence through Research: Collecting and Analyzing Needed Information	14
Part 3: Developing Advocacy Campaigns.....	15
Why Environmental Rights Are Relevant to Demanding Accountability for Pollution.....	16
STRIPE Country Experiences Using the Toolkit.....	28
Reflections from STRIPE	35
References.....	37



EXECUTIVE SUMMARY

Pollution is a leading cause of death and disease all over the world. But the impacts of pollution are not evenly distributed. Poor and marginalized communities bear the brunt of the environmental, health, and socioeconomic impacts, especially in middle- and low-income countries. Children are especially vulnerable.

HIGHLIGHTS

- Poor and marginalized communities do not have enough support or resources to address the health, environmental, and socioeconomic impacts of industrial pollution. They often lack the political clout to demand change, despite bearing the brunt of the impacts. This environmental injustice often causes extensive human rights violations.
- The right to information and public participation provide local communities and civil society with powerful tools they can use to ensure compliance and enforcement of pollution control laws and regulations and hold government and private companies accountable.
- This toolkit provides a series of eight modules, filled with important concepts, research indicators, worksheets, and templates, which can be modified to fit a country's context. These modules build the skills and knowledge needed to wage pollution accountability advocacy campaigns.
- The methodology was built from practical experience and expertise from over five years of campaigning with local community activists, environmental defenders, and civil society partners in the STRIPE project. It was led by World Resources Institute, as secretariat of The Access Initiative, and civil society experts in Indonesia, Thailand, Mongolia, Jamaica, Morocco, and Tunisia.
- Evidence-based advocacy requires that community members and civil society partners work together to understand the needs of local communities and the legal standards for controlling pollution, as well as to identify which actors to target and the best forums for participation and accountability. Research into the gaps in policy and practice can provide critical evidence in campaigns.
- A well-informed and engaged community can help identify bad actors, document pollution hot spots, illuminate cumulative impacts, and provide political momentum and resources for enforcement of environmental laws and regulations. Empowered local communities can contribute deep historical knowledge and new ideas that can help reduce conflict and build productive relationships with government and private sector actors to address pollution impacts.

Contaminated air, water, and land limits the quality of life and livelihood opportunities of poor and marginalized communities, which often face multiple barriers to addressing the problem. Far removed from powerful decision-makers, they are often unaware of their rights to access information and participate in the policymaking process and lack access to strategic partnerships and advocacy skills needed to effectively engage government and private sector actors. Civil society organizations work to support these communities, but they often lack the needed tools, funding, or support to build evidence-based advocacy campaigns and analyze policy and implementation gaps to tackle such obstacles at scale.

To help ensure that those experiencing the impacts of pollution can create locally based and owned solutions, more must be done to support the ability of civil society and local communities to engage with decision-makers. Access to information, public participation, and access to justice are environmental rights fundamental to good environmental governance when properly implemented and enforced. They offer an important tool for improving the development, implementation, and enforcement of pollution control laws, norms, and guidelines. They provide essential mechanisms for achieving the right to a healthy environment and clean air and water for all people. Strategically applying these rights

can enable civil society and local community members to evaluate the environmental and social justice aspects of pollution, demand better compliance with laws and regulations, and help build a pollution accountability movement. As the space for civil society leadership (civic space) shrinks around the world, it is critical that these rights be strengthened to ensure that civil society can remain an essential sustainable development partner.

HOW THIS TOOLKIT WAS DEVELOPED

The toolkit was developed as part of the project Strengthening the Right to Information for People and the Environment (STRIPE). STRIPE seeks to highlight the challenges faced by communities in polluted areas around the world and empower them to utilize their legal rights to obtain and use environmental and public health information and participate in formal decision-making forums to demand accountability. The project enables policy reforms and builds the capacity of civil society and local communities to use their environmental rights to advocate for their pollution concerns. Launched in 2011, STRIPE projects have been carried out in Indonesia, Thailand, Mongolia, Jamaica, Morocco, and Tunisia. A team of partners in each country piloted the toolkit methods and used the elements in their pollution campaigns. Examples from their work are included throughout the document.

ABOUT THIS TOOLKIT

This toolkit offers civil society organizations and local community activists practical guidance on how to use their environmental rights to fight air, water, and solid waste pollution.

It is designed to support civil society, local community activists, and those concerned about pollution with the knowledge and tools needed to

- conduct policy research,
- collect and use pollution information in relevant decision-making forums,
- work together to develop advocacy campaigns, and
- use an environmental rights approach to engage government and the private sector about their concerns.

The toolkit provides background information on the regulatory concepts needed to address pollution, including government-based standard setting, environmental impact assessment (EIA), monitoring, and enforcement processes used to control pollution. It also explains environmental rights concepts and why they are relevant to people concerned about pollution. The section on country experiences highlights how the toolkit modules were applied in STRIPE campaigns and provides key lessons learned that should help toolkit users adapt the modules to their own country context and pollution priorities.

MODULE OVERVIEWS

The toolkit provides a series of eight modules, filled with important concepts, research indicators, worksheets, and templates. The modules are organized in three parts to help you create and implement a comprehensive pollution accountability advocacy campaign from start to finish. This includes modules to help set up a campaign, develop evidence to inform policy and practice, organize advocacy campaigns, and build the capacity of local community members.

PART 1. SETTING UP A STRONG FOUNDATION FOR ADVOCACY

MODULE 1: Strategically analyze a pollution problem using problem tree analysis to develop clear policy or political solutions that can be easily communicated to key stakeholders. Understand the broader sociopolitical context and change strategies that should shape advocacy choices.

MODULE 2: Use stakeholder mapping and community needs assessment techniques to better understand and engage local community members and outline the different actors who can help or hurt the ability to take action.

MODULE 3: Understand and assess environmental rights as well as the legal framework used to control pollution to better identify and evaluate gaps in policy implementation and enforcement.

PART 2. FINDING EVIDENCE THROUGH RESEARCH: COLLECTING AND ANALYZING NEEDED INFORMATION

MODULE 4: Evaluate the quality and accessibility of proactively disclosed air, water, and land pollution information publicly available from different government institutions without the submission of an information request.

MODULE 5: Develop, submit, and track information requests to collect needed information about pollution and evaluate how well your country's or state's right to information law is being implemented in practice.

MODULE 6: Support local community members' ability to use their right to know to collect government information about pollution, understand the pollution control regulatory process, and advocate for and organize around their concerns.

PART 3. DEVELOPING ADVOCACY CAMPAIGNS

MODULE 7: Identify, evaluate, and use formal participation mechanisms required under laws and regulations and create new informal opportunities to advocate for your concerns about pollution.

MODULE 8: Use the information, research, and other results from toolkit activities to develop and implement accountability advocacy campaigns.



INTRODUCTION:

WHY DO WE NEED A COMMUNITY ACTION TOOLKIT FOR POLLUTION?

Pollution is the largest environmental cause of disease, disability, and premature death in the world today (Landrigan et al. 2018). According to a 2017 *Lancet* report, “Diseases caused by pollution were responsible for nine million deaths, more than AIDS, malaria, and tuberculosis combined,” draining the world’s economies of \$4.6 trillion. With nearly 92 percent of these deaths occurring in low- and middle-income countries, it’s the world’s poorest and most vulnerable people who suffer the consequences.

Pollution has serious environmental and socioeconomic impacts when released by industrial facilities into the local environment. For example, 80 percent of wastewater in developing countries flows untreated into rivers, lakes, and highly productive coastal zones, threatening health, food security, and access to safe drinking and bathing water (UNESCO 2017). Outdoor air pollution not only results in life-threatening health impacts (WHO 2016) but also damages crops (Tai and Val Martin 2017) and can contribute to drought (Hwang et al. 2013), creating added livelihood burdens, including food insecurity. Solid waste, when not properly managed from landfills, can contaminate air, water, and land and pose a serious health threat and be a source of human disease (Alam and Ahmade 2013).

The human right to enjoy a healthy environment and to know if one's air, water, or land is polluted is recognized in most countries around the world (Knox and Boyd 2018). But unfortunately, this is not the reality for many people. In many developing countries, people experiencing the impacts of pollution in their local community are not aware of the specific sources or types of pollutants entering their environment (Excell and Moses 2017). Nor do they know what to do about the problem or how to participate in the decision-making processes around the control of pollution or mitigation of impacts on their health and livelihoods (Howes et al. 2017).

While the types and amounts of pollution released into the environment are typically controlled through national, state, and local

laws and regulations, environmental rights play an equally important role in protecting the environment and human health (Bruch and UNEP 2019). Substantive environmental rights, such as the right to clean air, access to safe water and adequate sanitation, and a healthy environment, as well as the right to information (RTI), participation, and justice, commonly referred to as procedural rights, are recognized in a number of international human rights treaties, constitutions, national laws, and legal precedents. To date, over 100 countries recognize a right to a healthy environment in their constitutions. Ninety-six countries have a constitutional protection for the right to information, and over 110 countries have the laws or policies that oblige the government to provide access to information or documents from government ministries and agencies (Bruch and UNEP 2019). In addition, two international agreements recognize environmental rights: the Aarhus Convention and the Escazú Convention in Latin America and the Caribbean. Principle 10 of the Rio Declaration (1992), adopted by over 120 governments, recognizes the importance of access to environmental information and participation in decision-making about pollution.

In practical terms, for civil society and local community representatives fighting pollution, these environmental rights mean the right to

- know the names of the specific companies discharging pollution into the environment, the specific pollutants being discharged, and where they are being released;



- understand the risks from these pollutants;
- know which government agency is responsible for regulating pollution and what it is doing to control pollution;
- have the meaningful opportunity to engage decision-makers about the pollution impacting the community and the local environment; and
- seek accountability and redress for any damage caused.

Yet despite these environmental rights, attempts to address concerns about pollution with government officials and company representatives are often unsuccessful in many countries, and local community members find themselves with nowhere to turn for support or guidance. Conflicts and protests often result. People are either unaware of their environmental rights or unsure how these rights can be practically used (Li et al. 2012; Knox and Boyd 2018). Environmental laws are often poorly implemented or enforced, and the mechanisms to hold governments and private companies accountable are not effective or easily accessible, especially to poor and marginalized community members who live far from country capitals and city centers (Bruch and UNEP 2019).

This toolkit was designed to help local communities and civil society develop practical skills and support to overcome these barriers by using their environmental right to participate in policymaking and project-level decisions to address pollution. While numerous toolkits and guidance papers address governance challenges

and specific sectors, few of them focus on using environmental rights as a targeted tool to protect the environment, public health, and the rights of people who defend the environment.

Although there is growing global awareness and concern about pollution impacts, solutions to pollution often have to be addressed locally. This toolkit offers an important resource for building the resilience and capacity of civil society and local communities to address local, often complex, pollution problems. It provides comprehensive guidance on how to define pollution problems and effectively work with local communities and other stakeholders. It also outlines research ideas and how to apply the information and analysis to identify and create participation forums and engage with government officials and other key decision-makers. This includes air, water, and land pollution indicators specifically designed to evaluate the quality and quantity of pollution information available to the public.

HOW THIS TOOLKIT WAS DEVELOPED

The need for the toolkit evolved from the long-standing work of The Access Initiative (TAI) on access to information, public participation, and access to justice, work that has found access to air and water quality data as well as enforcement data to be limited in national assessments around the world. TAI is a global civil society network dedicated to ensuring that citizens have the right and ability to influence decisions about the natural resources that sustain their communities.

In 2011 World Resources Institute (WRI) began working on STRIPE with TAI partners in Indonesia and Thailand, expanding the work to Mongolia in 2014, Jamaica in 2015, and Morocco and Tunisia in 2017. These countries have right to information laws and outline the right to a healthy environment in their constitutions. Over 13 partner organizations from these countries piloted the toolkit methodology to ensure that it both increased the knowledge and capacity of local residents to use information obtained through RTI laws and facilitated reforms to expand the public release of pollution information. Comprehensive input was given during development and implementation of the toolkit methodology as well as specific feedback after use.

WRI also commissioned an evaluation of the STRIPE project in Indonesia, Thailand, and Mongolia to better understand STRIPE project successes and challenges. The STRIPE toolkit was revised to reflect the evaluation's findings. Table 1 provides a summary of STRIPE projects. More information on how the STRIPE toolkit was used in each country can be found later in this background document, in the section "STRIPE Country Experiences Using the Toolkit."

Table 1 | STRIPE Project Summaries







COUNTRY	SPECIFIC LOCAL CONCERNS	PARTNERS	OUTPUTS AND OUTCOMES ACHIEVED
 Indonesia	Declining water quality in the Ciujung River, Serang area of Java, as a result of an industrial pulp and paper mill and textile discharges; negative impacts to fish and shrimp farmer livelihood and ability to use river water for daily cooking, cleaning, and bathing.	Indonesian Center for Environmental Law, MediaLink, Wahana Lingkungan Hidup Indonesia (Indonesian Forum for Environment, WALHI) / Friends of the Earth Indonesia, Tifa Foundation	<ul style="list-style-type: none"> ■ Passage of regulations that required over 110 environmental documents to be publicly released for the first time. ■ Stronger enforcement of water discharge permits, environmental impact assessment requirements in the community. ■ Audit of the pulp and paper mill, including implementation of 26 recommendations. ■ Expanded community use of right to information (RTI) laws. ■ Citizen-based pollution monitoring of the Ciujung River.
 Thailand	Water and air pollution from Map Ta Phut industrial estate impacting the community of Wat Nong Fab; community concerns over potential health impacts and use of contaminated water for farming and gardening.	Thailand Environment Institute, Eastern People's Network Thailand	<ul style="list-style-type: none"> ■ Expanded community use of RTI laws. ■ Release of an environmental rights policy assessment report. ■ Expanded engagement with government officials.
 Mongolia	Mining and mineral processing with health impacts from water scarcity, air pollution, and groundwater contamination, which is having negative economic and cultural impacts on herders and farmers.	Open Society Foundation Forum, Transparency Foundation, Patrons of Khuvsgul Lake, Nature Environment and Health Center, Publish What You Pay Mongolia	<ul style="list-style-type: none"> ■ Completion of official reviews by ministry enforcement agencies around poor implementation of EIAs for specific mining licenses. ■ Passage of multiple resolutions by the Petition Standing Committee on protection of the Tuul River, implementation of water fees law, banning of mining in the river. ■ Development of environmental and mining website and maps. ■ Increased and ongoing use of RTI laws as a regular tool for accessing information. ■ Formation of new community organizations and strengthened civil society capacity to effectively engage with government officials. ■ Stronger enforcement of mining and water laws and regulations and the revoking of mining licenses for repeat violators. ■ Funds from mining companies to support community development and protection of the environment.

Table 1 | STRIPE Project Summaries (Cont'd)

COUNTRY	SPECIFIC LOCAL CONCERNS	PARTNERS	OUTPUTS AND OUTCOMES ACHIEVED
 Jamaica	Negative social and environmental impacts associated with mining and quarrying, including dust, respiratory illnesses, and suspected water and soil contamination from sludge by-products stored in large lakes or ponds.	Jamaica Environment Trust, Windsor Research Center	<ul style="list-style-type: none"> Release of a legal assessment and stronger engagement with government officials over enforcement and reform of environmental information, rights to participation and justice.
 Morocco	Leachate from Tangier waste dump contaminating ground and surface water; lack of community voice around health and environmental impacts and siting of new landfill location; growing demand for civil society training to better address other air, water, and land pollution issues throughout the country.	Alliance Marocaine pour le Climat et le Développement Durable (Moroccan Alliance for Climate and Sustainable Development), Association des Enseignants des Sciences de la Vie et de la Terre (Association of Teachers of Life and Earth Sciences), Observatoire de Protection de l'Environnement et des Monuments Historiques (Observatory for the Protection of the Environment and Historic Monuments), Article 19 Middle East North Africa (MENA) office	<ul style="list-style-type: none"> Development of a civil society network working to address pollution across the country through access to environmental information. Hosting of multiple public workshops and seminars on waste management governance. Increased community participation around the Tangier landfill. Increased civil society engagement with government officials over implementation of newly passed RTI law. Inclusion of a commitment to create a governmental environmental information portal through the Open Government Partnership.
 Tunisia	Phosphate mining and processing and agriculture causing poor water quality and water scarcity; lack of monitoring of health and environmental impacts, poor enforcement in Gafsa.	Dynamique l'Eau (Water Dynamic), La Recherche en Action (Research in Action), Article 19 MENA office	<ul style="list-style-type: none"> Hosting of multiple community trainings on <ul style="list-style-type: none"> right to information access in the field of water, water governance in Gafsa, integrated water management, how to be a change actor, including communication and advocacy, water security, and development of five community-based Gafsa action groups able to continue working around their pollution concerns. Increased community participation in national water governance planning. Inclusion of a commitment to enhance water resource governance through the Open Government Partnership.

This toolkit outlines the STRIPE methodology for action developed through a series of trainings on how to research pollution laws, evaluate and access environmental information, identify and leverage participation forums, and develop coalitions and engagement strategies to effectively advocate for community rights. Technical experts from other international organizations and government agencies were also consulted. Indicators for the legal assessment module and for evaluating proactive disclosure of pollution information in environmental laws were created after reviewing

- technical guidance documents from the U.S. Environmental Protection Agency (EPA), the Organisation for Economic Co-operation and Development (OECD), and other multilateral institutions;
- national air, water, and solid waste resources, laws, and regulations; and
- guidance for accessing proactive release of information, including reports on tracking of water and air quality as well as indicators relevant to RTI laws.

HOW THIS TOOLKIT SHOULD BE USED

The *Community Action Toolkit* was designed for civil society groups and local community leaders looking for guidance on how to address the environmental, socioeconomic, and health impacts of air, water, or land (solid waste) pollution. Funders, multilateral institutions, and government officials with an interest in supporting the ability of civil society and local communities to engage in pollution control policymaking may also find the toolkit informative.

The toolkit provides guidance, tools, worksheets, and templates in a set of modules for

- **conducting research** to collect and analyze the quality of air, water, and land pollution laws and regulations and identify common barriers to communities' ability to access information and participate;
- **strategically using the right to information and participation** to address pollution by collecting, evaluating, and using direct evidence received from government sources (e.g., permits, monitoring data, environmental impact assessments [EIAs], compliance and enforcement data, and health information) as well as identifying key participation forums that give civil society and local communities a voice in pollution control decision-making;

- **creating and executing advocacy campaigns**, even with little or no formal experience, to help give communities a voice and participate and transform local realities of pollution; and
- **building capacity** to translate technical information into forms that are understandable and usable, thereby ensuring more robust and effective participation by local men and women in environmental decision-making.

The section “Why Environmental Rights Are Relevant to Demanding Accountability for Pollution” provides a foundational overview of regulatory concepts needed to fight pollution. This includes an outline of pollution control processes, the human right to a healthy environment, and the relevant dimensions of transparency, participation, and accountability concepts. The section “STRIPE Country Experiences Using the Toolkit” provides detailed descriptions not only of how the STRIPE toolkit modules were used in each STRIPE project but also of the outcomes and challenges faced. A summary of synthesized key lessons provides insights that should help you think through how to adapt the toolkit to your own country context and pollution challenges.

PRACTICAL GUIDANCE

To use the toolkit effectively it is important to have a general awareness of RTI and environmental laws relevant to air and water quality and pollution control. You should be familiar with relevant government agencies and ministries with jurisdiction over pollution control and be able to access relevant laws and regulations, either online or by obtaining paper copies. An understanding of the country's key industries, the type and categories of pollution typically released, and the location of specific facilities may also be helpful.

Given the multiple streams of activities, it is important to assemble a group of partners with the range of necessary skills and expertise who can function as project leaders and designate primary responsibility for each module. Data collection and recording processes are critical and will allow multiple people to share documents and analysis.

CAVEAT AND DISCLAIMER

This publication presents a methodology for using environmental rights, primarily procedural rights, to address pollution concerns. It focuses on ambient and point sources of pollution, directly released at industrial facilities, and does not address nonpoint sources of pollution. While the toolkit presents the complete process, modules can be used

individually. It was not applied in the same way in every country and was implemented by different partners with different capacities, budgets, and experience. The authors recognize the complexities of each country's political context and recommend that toolkit users adapt the approach to fit their specific situation and determine which modules will support their goals. This toolkit is intended to be used collaboratively with partners who have different levels of experience in advocacy. Some of the methodology builds upon a range of examples of best practices drawing from other authors' work that were integrated into the STRIPE project and provided as support resources. These cases are documented when used.

While the toolkit encourages the use of environmental rights, any action taken may result in significant risks to both community members and civil society organizations, as was demonstrated in some STRIPE projects. The toolkit highlights general risks in undertaking these strategies that should be examined at the start of any advocacy campaign. The methodology attempts to draw on literature to explain how it can be utilized strategically in different countries with different regulatory frameworks. However, the research was only used in countries that have RTI laws. World Resources Institute welcomes developments and suggestions to improve this toolkit.



GLOSSARY

AMBIENT AIR QUALITY: the quality of outdoor air in our surrounding environment. Also can refer to the allowable amount of chemicals as a concentration of pollutants allowed in the air.

AMBIENT WATER QUALITY: the quality of a specific body of water such as a lake, river, or underground aquifer. Also can refer to the allowable amount of chemicals, as a concentration of pollutants, in water.

BIOACCUMULATIVE: a type of toxic chemical that is taken up by an organism either directly from exposure to a contaminated medium or by consumption of food containing the chemical.

COMMON LAW: law created based on legal precedents established by judicial rulings.

DUMP: an unregulated hole in the ground used to store solid waste.

DUTY OF CARE: a legal obligation to avoid acts likely to cause injury to others.

ENVIRONMENTAL IMPACT ASSESSMENT (EIA): an analytical process undertaken by government agencies that systematically examines the possible environmental consequences of the implementation of projects, programs, and policies.

ENVIRONMENTAL INFORMATION: information about air, water, soil, land, plants and animals, energy, noise, waste, and emissions. It also includes information that has a clear link to the environmental decisions or activities affecting the environment.

ENVIRONMENTAL MEDIA: abiotic components of the natural environment, namely, air, water, and land.

ENVIRONMENTAL RIGHTS: substantive environmental rights include the right to clean air; a safe climate; access to safe water and adequate sanitation; healthy and sustainably produced food; a nontoxic environment in which to live, work, study, and play; and healthy biodiversity and ecosystems. Procedural rights include the right to access information and participate, as well as the right to accountability.

FORMAL ACCOUNTABILITY: legal procedures that are often statutory or constitutional requirements. They include specific regulatory required sanctions, rewards, and institutions.

LANDFILL: an engineered hole designed to hold solid waste. A landfill's siting, building, operation, and closing are regulated by the government, and pollution control measures are typically required.

LEACHATE: the liquid pollution that has seeped from solid waste in a landfill.

LEGAL EMPOWERMENT: approaches that help poor and marginalized people access justice by empowering them with information about their legal rights and helping them access available avenues to seek justice, sometimes with the help of legal intermediaries.

MACHINE-READABLE: in a format that can be easily understood by a computer. For example, a PDF document is digital but not machine-readable.

MUTE REFUSAL: failure, by a government agency, to respond to an information request, or even notify the requester that the information will not be provided.

NO_x: oxides of nitrogen, such as nitrogen dioxide, a common atmospheric pollutant.

NONPOINT-SOURCE: pollution that does not come from a single identifiable source (or point source).

O₃: ozone, a common atmospheric pollutant.

ONGOING MONITORING: the systematic, long-term assessment of pollutant levels by measuring the quantity and types of certain pollutants in the surrounding environment.

OPEN LICENSE: a license ensuring that anyone is allowed to freely use, reuse, or redistribute the data.

PM₁₀ OR PM_{2.5}: airborne pollution particles less than 10 micrometers in diameter or less than 2.5 micrometers in diameter that are small enough to be inhaled into lungs.

PERMIT: a legal document issued to a specific facility that controls the quantity and quality of specific pollutants released into the air or water environment.

POINT-SOURCE: pollution that comes from a localized and stationary source, such as a specific facility.

POLLUTANT RELEASE AND TRANSFER REGISTER (PRTR): a national or regional environmental database or inventory of potentially hazardous chemical substances and/or pollutants released to air, water, and soil and transferred off-site for treatment or disposal.

POLLUTION CONTROL: a variety of regulatory or technical actions taken to limit damage done to the environment by the discharge of harmful substances and energies.

PROACTIVE DISCLOSURE: a scenario where a government purposefully and anticipatorily causes the release of information, rather than simply responding to requests for information.

PROCEDURAL RIGHTS: the bundle of rights around access to information, public participation, and access to justice.

REACTIVE DISCLOSURE: information released following the submission of an information request.

REGULATORY PHASE: the system of legal requirements that control, monitor, and enforce the release of pollutants to the environment. Typically it involves numerous laws and regulations governing standards, EIAs, permits, monitoring, compliance, and enforcement.

RIGHT TO INFORMATION (RTI) LAWS: the legal requirements that allow the general public to access information and data held by governments. Also commonly referred to as freedom of information laws, RTI laws often have their basis in constitutional rights to information and freedom of expression.

SO_x: oxides of sulfur such as sulfur dioxide, a common atmospheric pollutant.

SOCIAL ACCOUNTABILITY: tools and approaches used by citizens or civil society to hold government accountable.

STANDARDS: legal requirements governing the maximum amount of pollutants that can be released into the environment. They are generally designed to achieve the pollutant levels needed to protect human health.

VOLATILE ORGANIC COMPOUNDS (VOCs): common organic chemicals that have a high vapor pressure at ordinary room temperature; they constitute a common atmospheric pollutant.

OVERVIEW OF MODULES

Fighting pollution requires a wide range of complementary knowledge, skills, and strategies. To help civil society and local community leaders navigate pollution challenges, this toolkit covers a variety of topics and provides a wide range of tools, resources, exercises, and tips, organized in a series of modules with additional resources provided in corresponding annexes. The modules have been ordered to help you implement a comprehensive pollution accountability advocacy campaign from start to finish. This includes activities that will help you prepare for your project, research methodologies you can use to document gaps in the law and in implementation, and how to use these inputs in your advocacy campaigns.

While each module is designed to build on the previous section, they can also be used independently to supplement an existing campaign or research activity. A simplified summary box highlighting the objectives and steps required for each activity is also provided in every module.

PART 1: SETTING UP A STRONG FOUNDATION FOR ADVOCACY

Module 1. Defining Your Problem for Action

This module helps you define your pollution problem and break it down into specific issues that can be strategically addressed. It offers an overview of the change strategies that should

be considered when developing advocacy campaigns and specifically outlines how to use a problem tree analysis to differentiate and outline the problem, causes, and impacts.

Module 2. Understanding Community Needs, Concerns, and Interests

This module provides directions for using stakeholder mapping and a community needs assessment to collect information on the people where you will be working, including their knowledge, interests, and previous experience attempting to address their pollution concerns. These exercises will help project leaders identify who has the power to help or hurt the ability to take action and community needs that will have to be addressed as part of the project.

Module 3. Conducting a Legal Assessment of Environmental Rights to Address Pollution

This module assists in the analysis of relevant laws that regulate human rights, transparency, and participation as well as relevant environmental laws that address pollution, including those relevant to control of air, water, or land pollution, including point-source discharges and ambient quality. The module offers guidance on how to investigate the whole cycle of the pollution control regulatory process, including standard setting, environmental impact assessments (EIAs), permitting, monitoring, and enforcement.

PART 2: FINDING EVIDENCE THROUGH RESEARCH: COLLECTING AND ANALYZING NEEDED INFORMATION

Module 4. Assessing Proactive Disclosure: Law versus Practice

This module is designed to help you evaluate the amount, quality, and accessibility of proactively disclosed environmental information in practice. It specifically focuses on helping investigate what air, water, and land pollution information is publicly available from different government institutions without the submission of an information request.

Two assessment options are provided: (1) specific air, water, or solid waste indicators to help determine whether or not information or data are proactively available and (2) a website information and data review and analysis process. These modules can be used separately or together, depending on your priorities.

Module 5. Using Your Rights to Request Pollution Information

This module provides guidance for the development, submission, and tracking of information requests made to appropriate government institutions about pollution. It also provides an analytical framework that allows you to evaluate how well the RTI law is being implemented.

Module 6. Helping Local Communities Collect and Use Environmental Information

This module helps you support and build the capacity of local community members to use their rights to collect government information about the pollution being released into their environment, understand the regulatory process and technical concepts, and use the information collected to advocate for and organize around their concerns.

PART 3: DEVELOPING ADVOCACY CAMPAIGNS

Module 7. Strengthening Participation: Identifying and Using the Right Forums to Address Pollution

This module provides specific strategies to help you identify and use formal participation mechanisms required under laws and regulations or create key informal participation forums you can use to advocate for your concerns about pollution. It will also help you evaluate the quality of legally mandated participation opportunities provided in practice.

Module 8. Bringing It All Together: Using Accountability and Advocacy to Tackle Pollution

This module will help you apply specific accountability tools and strategies when advocating for solutions to pollution. It also provides guidance on how to develop and



implement an advocacy campaign by bringing together all of the information, research, and tools developed from the toolkit modules. It provides suggestions for compiling an official report around specific legal and policy recommendations based on the results of the toolkit-based research and analysis.

BUILDING A STRATEGY AND TIMELINE FOR IMPLEMENTATION

Advocacy involves several interrelated activities strategically designed to effect change (see Figure 1). It requires you to make choices about goals, audiences, and tactics that consider the

values and the socioeconomic and political realities of your country. It also requires a long-term commitment, as the systemic drivers of pollution and environmental injustice will take time to overcome. The toolkit modules and STRIPE country examples will guide you in this process and help you determine the best approaches for your area of focus.

The methodology used in STRIPE projects and elements outlined in each of the modules was typically implemented over the course of three years (Figure 2).

WHY ENVIRONMENTAL RIGHTS ARE RELEVANT TO DEMANDING ACCOUNTABILITY FOR POLLUTION

In order to address pollution concerns, civil society and local communities need to understand the regulatory environment around pollution and their environmental rights to access information, participate in decision-making, and hold their government accountable for enforcing environmental laws. Background information on these rights and regulatory processes is provided below.

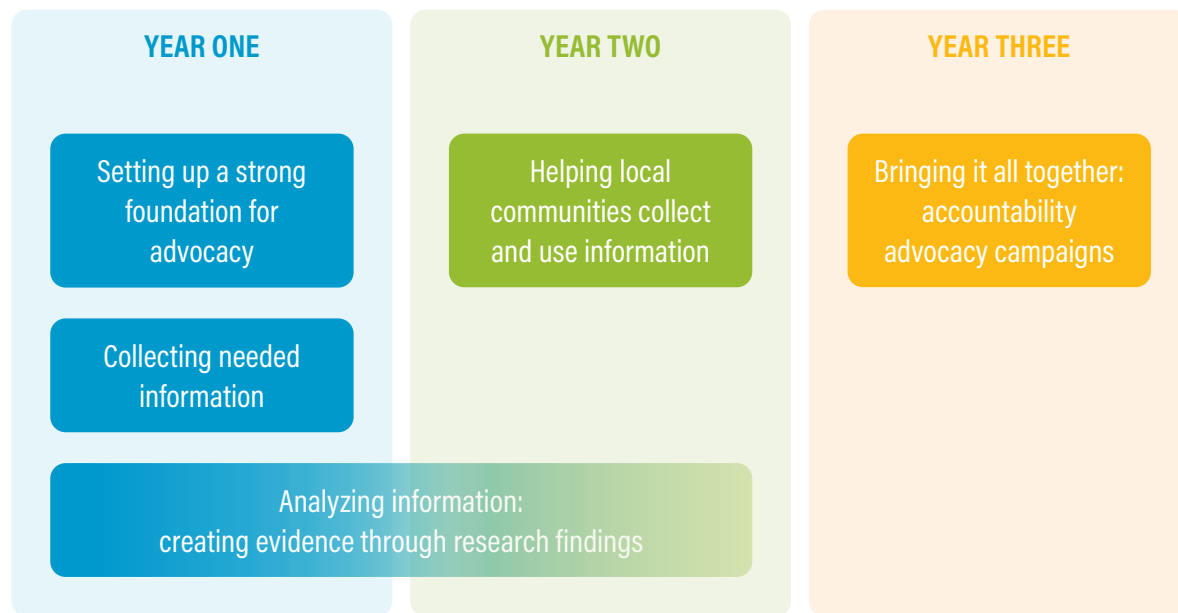
UNDERSTANDING ENVIRONMENTAL RIGHTS

Environmental rights include procedural and substantive rights (Jeffords and Gellers 2017). The right to access information, participate in government decision-making, and access justice are often referred to as procedural rights. The

Figure 1 | Choosing Advocacy Strategies



Figure 2 | Implementation Timeline



right to a healthy environment and the right to clean water are examples of substantive rights. Procedural rights prescribe the formal steps taken to enforce substantive rights. These procedural rights have a critical role to play in the implementation and enforcement of environmental laws and regulations (UNEP 2019). Where they exist in national legislation, both rights are enforceable before courts.

Understanding the right to a healthy environment

The right to a healthy environment has been held by courts to mean the right to clean air, safe drinking water, and adequate sanitation;

the right to live, work, and play in a nontoxic environment; the right to flourishing biodiversity; and the right to a safe climate to ensure healthy populations (Boyd 2012). While the right has not yet been recognized formally by the United Nations, it has been recognized in regional legal binding agreements and in national laws, including in the countries that undertook STRIPE projects. This type of constitutional right includes the governmental obligation or duty to ensure that no other law conflicts or is inconsistent with this right. It also includes an obligation to set clear standards for pollutants, ensure planning for the prevention of pollution, and fairly enforce environmental

laws (Boyd 2012). Many of the elements of this right have been identified within human rights and environment mechanisms (Boyd 2012). Table 2 summarizes some important elements.

Procedural Rights: Understanding the right to information

Access to information is the foundation of participation and accountability. Information can be released by governments through reactive and proactive disclosure. Reactive disclosure refers to the process of obtaining environmental information through requests for information to the government. Proactive disclosure is defined as information made public at the initiative of the public body without a request being filed. The lack of meaningful access to pollution information is a significant problem for local communities and civil society (Excell and Moses 2017).

In most countries, the right to request information is outlined in constitutional guarantees, directly enforceable by the courts or RTI laws (Banisar 2006). Administrative or sector laws such as mining or water laws and regulations often contain information-disclosure requirements as well. Governmental requirements to collect pollution information have been found to have a positive effect on private company actions to voluntarily reduce emissions (UNEP 2019). There is also evidence that countries that recognize the right to information are more likely to

Table 2 | Key Elements of Environmental Rights

KEY ELEMENT / BEST PRACTICE	DESCRIPTION
Enforceable right	The right to a healthy environment must be enforceable by citizens against government and private sector actors and be reviewable by a court of law.
Ensure minimum substantive standards	The right can be used to ensure that adopted pollutant standards will not cause harm to people.
Protection of people at risk or who are most vulnerable	The right can be used to enforce the government's duty or obligation to ensure that people at risk are not harmed by or discriminated against in environmental decision-making.
Ensure rights to information, participation, and remedies	A right to a healthy environment also implicitly includes rights to information, including environmental impacts, participation, and ensuring remedy for public harm.
Ensure environmental defenders' rights of association and protest	A right to a healthy environment also includes a recognition of the rights of those who speak out about protecting the environment.

facilitate the attainment of environmental justice (Gellers and Jeffords 2015).

Requests for information provide a strategic tool for communities and civil society to search for answers about why pollution control or prevention and enforcement mechanisms may not be protecting local communities and the environment. Information collected through a request can be used to assess

- the amount of pollution being released into local air, water, or land as well as the health and environmental impacts;
- local companies' record of compliance with national pollution control standards;

- gaps in pollution control laws, policies, and practice; and
- the extent to which governments collect, retain, and publicly share relevant and accurate data and information on pollution as required under laws and regulations.

Governments need to be open and accountable about the process of regulating polluting facilities so that the public can engage in decision-making related to their health and livelihoods. Companies may never be held accountable by communities for breaches of the law if environmental information is not made public. Government decisions are improved by the involvement of the public (Fischer 2000). National agencies regulating

emissions or discharges into air, water, and land should identify stakeholders who are likely to be significantly impacted by pollution and provide them with the information in the forums needed to ensure that just and healthy decisions are made. Communities that may be affected by a facility need to be involved in all stages of the regulatory process to decrease the risk that pollutants will enter their communities (Narayan and Scandrett 2014). Best practice in the release of environmental information has also been outlined in international and national laws and policies (see Table 3).

Procedural Rights: Understanding the right to public participation

If local people want a voice in protecting their environment and health, communities must understand their right to participate and know when and how to use it strategically. Public participation includes a range of activities and actions that allow people to engage in environmental decision-making around issues that affect them (Reed 2008). Participation is not a single event but a process or mechanism that allows local communities to learn about, provide input, and potentially influence government regulatory decisions (see Box 1).

Formal opportunities to participate in policymaking are outlined in laws and regulations such as constitutional guarantees, sector law requirements, as well as provisions in EIAs and public notification laws. Participation processes are included in different levels of decision-making, including for legislation

Table 3 | Key Elements of the Right to Information

KEY ELEMENT/ BEST PRACTICE	DESCRIPTION
Clear legal framework	Legal framework should provide a clear, broad presumption of openness and maximum disclosure of information.
Exemptions are limited	Exemptions should be exceptional, have legitimate objectives, and be necessary and proportional.
Proactive disclosure	Information on pollution should be released without citizens having to request the information, and the types of information to be proactively released should be clearly outlined in the law.
Timelines and cost	Timelines to respond to requests should be reasonable and information should be provided, as much as possible without cost, except when making copies of the materials.
Public interest test	Exemptions should be subject to a public interest test to weigh the public's interest in release of the information against the government's interest in maintaining confidentiality.
Right of independent appeal	Requesters should have a right to appeal a denial of a request by a government agency to an independent office or institution.
Capacity and information about right	Meaningful awareness should be mandated to enable people to understand and use their rights.

and national strategic planning processes, programmatic and policy implementation, and specific project proposals. Often the public is afforded opportunities to become involved throughout the entire regulatory process. Common participation opportunities related to pollution control include

- submitting comments on standard setting for ambient pollution limits, wastewater and air discharge permits, and enforcement and cleanup actions;
- attending public hearings;
- sitting on formal citizen planning committees;
- submitting petitions;
- citizen monitoring of air and water pollution with low-cost sensors; and
- sharing input through surveys or focus group discussions.

Box 1 | People and the Government Benefit from Public Participation

Although the type, goal, and conditions of citizen engagement influence its effectiveness, public participation can lead to better decisions for a variety of reasons (IAP2 International Federation 2014). It can bring together a range of stakeholders with different interests and lead to a deeper understanding of the problem and potential solutions. It gives decision-makers a more comprehensive idea of the facts, values, and perspectives, which they can use to direct resources to specific issues and tailor solutions to local sociocultural and environmental conditions. Participation can build trust between government and citizen stakeholders and increase a sense of public ownership over the process and outcomes. This legitimacy can help mitigate concerns before they turn into full-blown conflicts and increase the likelihood of effective implementation.

Sources: IAP2 International Federation (2014); Luyet et al. (2012); Interpeace-IPAT (2015).

Participation can take a variety of forms depending on the regulatory requirement, type of decision, time and resources available, or political circumstances. The International Association for Public Participation (IAP2 International Federation 2014) has outlined a hierarchy of participation levels to help stakeholders understand the different levels of participation and degree of influence over outcomes (Table 4).

Informal participation

In addition to the formal, legally mandated forms of participation, civil society and local communities can also create their own informal opportunities for participation and build them into the broader range of mobilization and advocacy strategies. Organizing events or protests, asking to meet with private companies or government officials over concerns, or carrying out citizen water quality monitoring and then sharing results with journalists or other interested stakeholders are all examples of informal participation mechanisms used by partners. The ease with which civil society and communities can participate in decision-making will also be influenced by their ability to provide input without fear, threats, or hindrance by official state actors. Regions with less “open civic space” will likely face additional barriers to participation that must be considered when executing informal participation activities. An expanded discussion of this challenge is included throughout the toolkit modules.

What is good public participation?

Many multilateral, government, civil society, and academic institutions have attempted to define good public participation. Best practice has also been outlined in international and national laws and policies. Table 5 includes key elements of successful and fair participation.

But not all participation opportunities are guaranteed to be successful or properly executed in practice. Real participation requires implementation of a process that enables stakeholders to fairly and effectively shape decisions.

Understanding accountability

Accountability can focus on both the process of decision-making as well as the outcomes of those decisions. It can focus on the government actions that provide accountability (“supply-side accountability”) or citizen-led actions that elicit a response from government (“demand-side accountability”) (Fox 2014).

Holding decision-makers accountable for their actions can encompass a wide variety of tools, tactics, and many different overlapping approaches. It is also important to consider the

Table 4 | IAP2 Hierarchy of Participation

PARTICIPATION LEVEL	DEFINITION	OUTCOME	EXAMPLES
Inform	To provide balanced and objective information to the public to help them understand the problems, alternatives, and/or solutions.	Community members receive information.	Fact sheets, websites, social media
Consult	To obtain public feedback on analysis, alternatives, and/or decisions.	Community members can share input with decision-makers for consideration.	Public hearings, public comments, focus group discussions
Involve	To work directly with the public throughout the process to ensure that public concerns are consistently understood and considered.	Throughout the process, community members engage and share input with decision-makers.	Workshops, polls
Collaborate	To partner with the public on each aspect of the decision, including the development of alternatives and the identification of the preferred solution.	Decision-makers bring together a group of stakeholders to address the problem and seek consensus.	Citizen advisory committees
Empower	To place final decision-making in the hands of the public.	Community members have a say in the final decisions made in the process.	Citizen juries, ballots, or petitions

broader campaign goals as well as the political and socioeconomic environment, including the safety of civic space and the types of change strategies that could be used to realistically and effectively effect change. Here are some examples of pollution accountability:

- Organizing campaigns that test the availability of pollution information and participation requirements in environmental laws and regulations.
- Creating report cards that highlight the amount of pollution released by specific companies.
- Monitoring EIA processes to ensure that companies comply with plans to mitigate environmental impacts and provide required public consultation forums.
- Holding workshops or public events to educate local communities about the problems of pollution and help them advocate for specific policy solutions.



Table 5 | Key Elements of Public Participation

KEY ELEMENT/ BEST PRACTICE	DESCRIPTION
Clear legal framework	Engagement follows the procedures and processes outlined in laws, policies, and regulations in practice.
Inclusiveness and equity	All relevant stakeholders are made aware of the engagement forum and provided the opportunity to participate. Steps are taken to proactively identify and reach out to relevant stakeholders; inclusion based on gender, cultural groups, and age balance is addressed.
Early participation	Participation opportunities are provided from the beginning of the process. Notification about opportunities is proactively provided.
Clarity of goals, transparency, and accountability	Steps are taken to ensure that decision-making processes and objectives and use of stakeholder opinions are clear, including the degree to which input will influence the final decision.
Safe space	Stakeholders are free to express their opinion without fear of intimidation, threat, or attack. Safeguards are put in place to ensure the right of freedom of expression and protest.
Capacity and information	Meaningful access to information and proper financial and human resources are provided throughout the process.
Efficiency and effectiveness	The quality of the process and outcomes are assessed and adjusted to consider the objectives, type of participant, and level of engagement.
Grievance mechanisms	The ability to address conflict and resolve disputes is incorporated into the process.
Local and scientific knowledge	Opportunities are provided to incorporate local and scientific knowledge into the process; respect of community values and cultural, political, and historical context are integrated. Support is provided to ensure that technical and scientific concepts and terms are understood by all participants.

Sources: Author adaptation from OECD (2015), EPA (2014), and Reed (2008).



- Meeting with government officials responsible for enforcement of pollution control laws to discuss lack of compliance by specific polluting companies.
- Working freely with local journalists to share stories about the impact of pollution and the lack of compliance with environmental laws.
- Monitoring water pollution levels to ensure that companies comply with standards or use required pollution control technologies in practice.
- Bringing lawsuits to compel compliance with the law (citizen suits).

Although definitions of accountability can vary, the following three general categories of accountability provide a good overview:

FORMAL ACCOUNTABILITY: Formal accountability processes include legal procedures that are often statutory or constitutional requirements. They include specific regulatory required sanctions, rewards, and institutions. Powerholders are obliged to adhere to these formal accountability procedures as part of their electoral mandate (Nuesiri 2016). Court cases or administrative tribunals, government issuance of fines to companies for failure to comply with environmental laws, project-specific grievance procedures, and actions taken by corruption-control agencies or ombudspersons' offices are all typical examples of formal accountability mechanisms.

Legal empowerment: Legal empowerment approaches help poor and marginalized people access justice by empowering them with information about their legal rights and avenues, and sometimes with the help of legal intermediaries (Joshi 2017). Common examples of legal empowerment include

- providing legal training and working with paralegals,
- community-supported documentation of violations,
- mediation, and
- assistance in filing civil and administrative complaints.

SOCIAL ACCOUNTABILITY: Social accountability includes the tools and approaches used by citizens or civil society to hold government accountable. This can include activities promoting or pressuring government directly or working with civil society, the media, and other actors to use formal accountability mechanisms. Traditionally these strategies rely upon creating public pressure through public demonstrations, advocacy campaigns, or media investigations. But, as Table 6 shows, social accountability can also include more narrowly defined tools that leverage access to information or participation, such as

- submitting information requests and communicating the results in reports or media campaigns,

- developing citizen report cards,
- participatory budgeting initiatives, and
- organizing public hearings.

The different accountability approaches are complementary. Table 7 presents a brief overview of the similarities and differences that distinguish the accountability approaches.

Although it must be executed carefully and is not always 100 percent successful, social accountability has been documented to be a good approach for advocacy around pollution because it relies on transparency, citizen participation, and civic engagement and ensures that civil society organizations and local communities can directly demand accountability (Fox 2016; Isaac et al. 2018). It can allow for

more constructive engagement (beyond protest) and increase the likelihood of positive change, although advocates must be careful to consider the political context and shrinking civil space (see Figure 3). Social accountability campaigns provide civil society and local communities with the opportunity to create campaigns around their concerns, including the political, legal, sociocultural, and economic drivers

Table 6 | Social Accountability Tools

TRANSPARENCY	ACCOUNTABILITY	PARTICIPATION
<p>Transparency and information</p> <ul style="list-style-type: none"> ■ Information campaigns ■ Citizen charters ■ Citizen service centers <p>Budget transparency</p> <ul style="list-style-type: none"> ■ Public reporting of revenues and expenditures ■ Citizens' budget ■ Budget literacy campaigns ■ Public expenditure tracking ■ Independent budget analysis 	<p>Monitoring by nonstate actors</p> <ul style="list-style-type: none"> ■ Community scorecard ■ Social audit ■ Citizen report card ■ Citizen satisfaction survey <p>Grievance redress</p> <ul style="list-style-type: none"> ■ Formal grievance redress mechanism ■ Citizens' jury 	<p>Consultations</p> <ul style="list-style-type: none"> ■ Public hearings ■ Focus group discussions ■ Advisory body/committee <p>Participatory planning, management and decision-making</p> <ul style="list-style-type: none"> ■ Participatory planning ■ Community management ■ Community contracting ■ Citizen/user membership in decision-making bodies ■ Citizens' jury <p>Participatory procurement and financial management</p> <ul style="list-style-type: none"> ■ Procurement monitoring ■ Public expenditure tracking ■ Integrity pacts ■ Participatory budgeting

Source: Agarwal and Van (2011).



Table 7 | Similarities and Differences

	FORMAL ACCOUNTABILITY	LEGAL EMPOWERMENT	SOCIAL ACCOUNTABILITY
Raises awareness of rights		✓	✓
Helps mobilize coalitions and alliances, including media		✓	✓
Complements other participation and access-to-information strategies	✓	✓	✓
Requires use of legal frameworks as a basis for action after violations or lack of enforcement	✓	✓	
Can focus on policy reform	✓	✓	✓
Requires legal expertise	✓	✓	
Uses informal mechanisms of public pressure and advocacy			✓
Focuses on individual grievances	✓	✓	

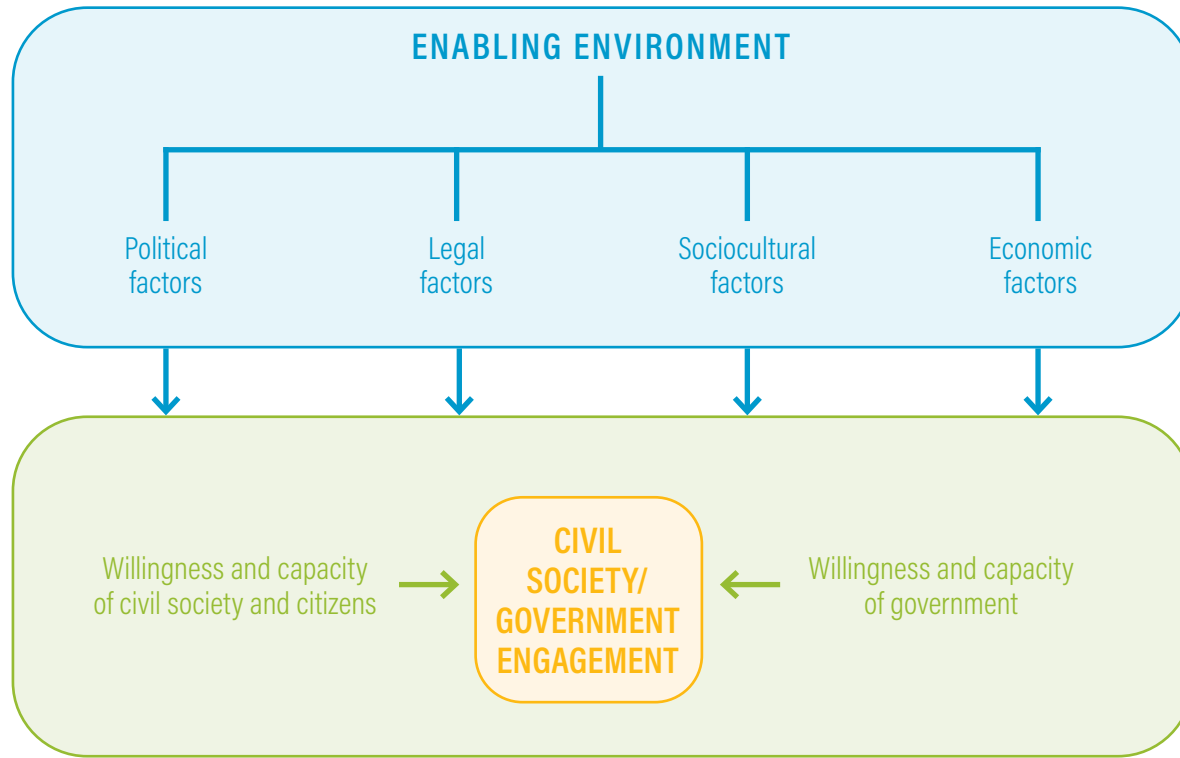
of pollution, and use a wide range of tools in combination with advocacy strategies to ensure that their voices are heard (see Box 2).

Each approach has strengths and weaknesses and needs to be adapted to fit the local context. Understanding different accountability tools and strategies will allow you to design your advocacy and engagement activities based on the best options for achieving the community’s pollution control goals.

More recently, researchers have been investigating the need to move away from

implementation of specific tools and develop a wider range of accountability approaches that also address challenges of scale (Aceron and Isaac 2016). This includes coordinating engagement of government and civil society actors across the national, regional, and local levels and using multiple strategies, such as policy advocacy, grassroots campaigns, and coalition building, at the same time. In many cases these kinds of comprehensive strategies have created stronger social movements and led to greater impact (Aceron and Isaac 2016).

Figure 3 | Social Accountability Drivers



Source: Malena et al. (2004).



BOX 2
Why Is STRIPE a Social Accountability Project?

- Citizens and civil society are the key drivers of change (bottom-up accountability).
- STRIPE focuses on using tools such as information requests, public consultation hearings, and the media to help drive formal accountability.
- STRIPE engages with government officials to accelerate and improve policies (top-down accountability).

STRIPE partners have achieved important social accountability outcomes:

- Increased use of right to information laws and participation in water governance forums.
- Improved use of pollution information in advocacy and public education campaigns.
- Strengthened coalitions and networks, including partnerships with media.
- Expanded government disclosure of environmental information.
- Better enforcement of existing permits through government actions taken in response to partner advocacy.

UNDERSTANDING ENVIRONMENTAL JUSTICE

In many countries there are high-risk communities that bear a greater burden of pollution because of the number of facilities clustered in the same area. Environmental justice has been defined by the U.S.

Environmental Protection Agency as

Fair treatment of people of all races, cultures, incomes, and educational levels with respect to the development and enforcement of environmental laws, regulations, and policies. Fair treatment implies that no population should be forced to shoulder a disproportionate share of exposure to the negative effects of pollution due to lack of political or economic strength (EPA 2015b).

Other approaches to describe environmental justice have included the explicit recognition of equity in the distribution of environmental risk, the diversity of the participants and experiences in affected communities, and participation in political decision-making on pollution (Schlosberg 2004). An environmental justice movement has grown in many countries around the world based on this principle.

In many documented cases, heavily polluted areas are in low-income or minority-majority neighborhoods with no or little political voice (Walker 2012). In these circumstances,

there is a greater need to ensure the fair application of environmental laws and rules as a mechanism to ensure environmental justice. Environmental justice thus addresses four key elements (Bullard 1994):

- Distributive injustice arising from disproportionate exposure to environmental hazards and limited access to environmental amenities
- Procedural unfairness caused by exclusion from environmental decision-making
- Corrective injustice due to inadequate enforcement of environmental legislation
- Social injustice because environmental degradation is inextricably intertwined with deeper structural ills, such as poverty and racism

It is impossible to discuss pollution without acknowledging the reality of differences in power between government or private industries that release pollution and the people who suffer the socioeconomic, health, and environmental impacts. An environmental justice approach (Gonzalez 2015) to address pollution focuses on redressing imbalances through

- a focus on pollution prevention,
- ensuring fair and transparent enforcement measures, and
- collaborative approaches rooted in the involvement of local communities and their right to self-determination.

Procedural rights have been found to be a means to deliver “corrective justice” to marginalized groups, enabling them to use legal tools to influence relevant decision-making outcomes (Sangiuliano 2013). Civil society can support local communities’ ability to address environmental injustices by acknowledging the existence of differential impacts and advocating for different outcomes. When communities understand their rights, they can strengthen their ability to ensure changes in company or government behavior (Huq and Wheeler 1993).

STRIPE projects have all included a recognition of environmental justice and sought to help communities use the legal right of transparency and participation to hold governments and facilities accountable for pollution. Many of the elements of an environmental justice approach have been integrated into this toolkit.

UNDERSTANDING POLLUTION CONTROL

Understanding environment rights and justice doesn’t just include identifying the standalone laws or constitutional provisions, it also requires understanding the pollution control regulatory process. This is because procedural rights are often imbedded in laws and regulations controlling pollution, such as in rules that allow people to submit comments about potential environmental impacts before new projects are developed or when facilities are issued new pollution discharge permits.

Environmental laws are the mechanism by which governments regulate discharges and emissions from facilities and create national

standards to monitor the quality of air, water, and land. Many countries recognize that governments have a general duty of care in managing and monitoring the environment to ensure that the public is not harmed by pollution (Gunningham 2017). Duty of care is defined as a legal obligation to avoid acts likely to cause injury to others. This responsibility can also be recognized in country constitutions through explicit requirements to ensure that citizens have a right to live in a healthy environment. It also is found in common law created from judicial rulings preventing harm to people or property (Jeffords and Gellers 2017).

In general, most countries regulate pollution using a matrix of control requiring different technologies, limits, or processes depending on

- the amount and type of specific chemical pollutant being discharged,
- where or how the pollutant is released into the environment, for example through a pipe or from a farm or vehicle, and
- the medium of discharge—to air, water, or land.

This toolkit focuses on two categories of pollution commonly used in regulatory provisions: ambient and point-source pollution. Ambient pollution refers to the type and amount of pollution found in the natural environment—air, water, or land (Holmes 1996). Ambient monitoring is the systematic, long-term assessment of pollutant levels by measuring the

quantity and types of certain pollutants in the surrounding outdoor environment (EPA 2015a).

Point-source pollution comes from a specific source. It is usually defined as “a single, identifiable source of pollution,” such as a pipe or a smokestack. Industrial wastes commonly discharged to rivers or the air are important examples of point-source pollution. Point-source pollution can be contrasted with nonpoint sources of pollution that do not have a single identifiable source. Fertilizer or pesticide runoff from farms that enters a river or waterway is a common nonpoint-source example, as is exhaust from cars and trucks.

Although the details vary by country, air, water, and land, point-source pollution is usually regulated through a set of similar stages. Figure 4 outlines the simplified stages used by STRIPE partners in their research and advocacy.

Standard setting: Governments typically allow a specific amount of pollution to be released into the air, water, or land after considering acceptable levels of environmental protection (Goulden et al. 2019). The standard-setting phase of pollution control determines these amounts for specific pollutants. The government process of standard setting is important to evaluate as it will let you understand key concepts like

- the level of different pollutants allowed to be discharged,
- the type of pollution allowed into the environment, and

- the probability and severity of potential adverse effects on the environment and health caused by specific regulated pollutants.

The adequacy of pollution standard setting processes will affect the treatment of air, water, or land pollution control required by a facility. It will allow you to analyze whether the standards meet international best practices or include technology or other requirements to prevent pollution, for both ambient conditions and point-source discharges.

Figure 4 | Regulatory Stages of Pollution Control



Source: Authors.

ENVIRONMENTAL IMPACT ASSESSMENTS:

Environmental impact assessments (EIAs) are used by most governments to evaluate the likely environmental impacts of proposed projects (UNEP 2019). The rules governing EIAs are important to examine because they contain information provided to the regulator that outlines the anticipated environmental effects of a proposed project and the activities that will be used for pollution control. This can include suggestions related to the approval of the siting of the facility and its impact on human health and the environment, the amount and type of the discharge of emissions, the monitoring frequency of specific pollutants in the ambient environment, specific discharges, the frequency of monitoring, as well as rules in emergencies. EIAs also typically include opportunities for public participation. These opportunities and how to use them are discussed in Module 7, “Strengthening Participation: Identifying and Using the Right Forums to Address Pollution.”

PERMITTING: Governments grant specific industrial facilities permission to release certain pollutants into the environment at certain amount levels (Zhou et al. 2019). This permission is contained in a discharge permit. Often there are separate permits for air, water, and land, but the process varies by country.

The government process for the granting of permits to operate facilities that release pollution is important to assess. It contains many important elements, such as

- obligations to notify the public of intent to issue or renew a permit,
- obligations to make available all documents that form the basis of the decision to approve the permit,
- obligations to obtain or allow for public comments, and
- rules related to public hearings.

These are prerequisites for a fair permitting process.

MONITORING: Government “pre-enforcement” activities usually include monitoring and compliance assurance. There are often legal requirements for ongoing monitoring of discharges from facilities, including identification of the discharge location point, where pollution enters the air or water body. Public access to monitoring reports can often provide important clues regarding the sources of pollution as well as the actual amounts released (compared to the permit, which often only provides the allowable limit) (Boldbaatar et al. 2019).

ENFORCEMENT AND CLEANUP: The governmental enforcement process is outlined in legislation. A clear analysis of the enforcement powers invested in each relevant agency allows you to understand and demand required governmental action. This could include requirements that the police take enforcement action or, in some countries, the possibility that citizens can bring citizen suits before a court or administrative body (UNEP 2019). Citizen actions can include demanding

compliance with regulatory provisions relevant to a targeted facility or requiring an audit or cleanup of the facility based on a history of violations.

CIVIL AND CRIMINAL PENALTIES, AND OTHER MECHANISMS FOR RESTITUTION:

A civil fine is a financial penalty payable by a company for breaching a legal requirement to ensure restitution for the wrong, while a criminal penalty for a wrongdoing simply seeks to punish the conduct (El-Khoury 2011). Polluting the environment without authorization can result in a company’s being liable for criminal or civil penalties. Examining penalties in different jurisdictions gives you an understanding of potential avenues for restitution of damages. Knowledge of these requirements can help determine accountability approaches, as companies often take quicker action when penalties are involved.

STRIPE COUNTRY EXPERIENCES USING THE TOOLKIT

STRIPE projects were carried out in six countries between 2011 and 2019. In each country the general methodology was adapted to address specific pollution problems based on the expertise and priorities of partners, local community concerns, and each country’s sociopolitical context. Designed to foster flexibility, the methodology does not predetermine the research and advocacy strategies developed. As a result, different project teams in each country emphasized different elements of the methodology. Partner examples have been included in relevant toolkit modules.

INDONESIA



Civil society partners worked with local communities living along the Cijung River in the Serang Regency (or district) in Indonesia's Banten Province on the island of Java between 2011 and 2016. Beginning in the 1990s, rapid industrial development brought pulp and paper and textile mills to the region, and the communities witnessed a rapid decline in river water quality. This pollution jeopardized the traditional livelihood of fish and shrimp farmers and the ability of local community members to use river water for bathing, cooking, and cleaning. Suspecting the poor water quality was a result of the wastewater discharges from the local industries, community members spent many years trying to get basic information about the pollution and fighting to clean up the river, including engaging government officials to enforce the wastewater permit requirements and bringing formal complaints and lawsuits.

The STRIPE project objective was, on the one hand, to build the capacity of villagers living along the river to collect and use environmental information to advocate for better enforcement of water discharge permits and, on the other, to support development of community-based advocacy campaigns that increase public awareness of the problem and of proposed solutions. One civil society partner, the Indonesian Center for Environmental Law (ICEL), took the lead in coordinating the entire project and engaging with government officials at the national and local levels, while the other two lead partners, the Indonesian Forum for Environment (WALHI) and MediaLink, focused on supporting local communities.

The first phase of the project focused on trainings and workshops to help local community members understand Indonesia's public information disclosure law and submit information requests to collect information about river water quality and compliance with pollution control laws. Civil society partners also conducted a legal assessment, which identified some important gaps, including the lack of a control limit on the discharge of organochlorine toxic chemicals from pulp and paper mills. The findings of both the

information request exercise and assessment were captured in a report used to engage ministry officials. A right to information request revealed that the PT IKPP mill was the largest polluting source in the river, which galvanized local action. As a result of this targeted engagement and community advocacy, Indonesia's Representative Council (DPR RI) ordered the Ministry of Environment to conduct an environmental audit of the PT IKPP pulp and paper mill. The results of this audit, published in 2013, included more than 26 recommendations for the company to improve its environmental performance and compliance. These recommendations were implemented by the company and monitored by the community.

Civil society partners also conducted a survey of community needs and concerns in three communities, which was coupled with a comprehensive proactive disclosure analysis and published in two reports directed at both the national Ministry of Environment and Forestry and the Serang Local Environmental Agency (BLHD Serang). With input from numerous meetings and focus group discussions with government and stakeholders from nongovernmental organizations (NGOs), these policy papers documented the community concern and demand for better environmental information and made specific recommendations regarding how the ministries could expand the public disclosure of monitoring, permit, and enforcement information through the ministry's environment information system. As a direct result of this engagement, the Ministry of Environment and Forestry passed a new List of Public Information regulation that required over 111 documents, maps, and reports to be made proactively available. BLHD Serang also agreed to expand the national Environmental Information System at the local level through establishment of an improved website.

At the community level, partners led training sessions on information analysis, EIA and permitting processes, industrial wastewater compliance, and water quality monitoring. They worked with local community members to collect and analyze samples of river

water and used the findings to document the levels of pollutants beyond the legal limits. They also held workshops on information visualization. As a result, numerous infographics, comics, and other materials were created by local community members to strengthen the campaign and help educate and support local outreach and engagement. These materials were also used in media briefings and engagement with other national stakeholders. In addition, partners and local community members built Riung Hijau, a space to create and post local information about the Cijung River and the STRIPE campaign. Riung Hijau also was established as a central forum for ongoing community meetings and skill trainings. Partners worked with local community members to organize public cultural events to energize local communities, raise awareness, and build greater support for addressing water pollution in the river.

Despite these important accomplishments, the project faced a number of challenges. After decades of fighting for clean water and protection of livelihoods, the pessimism and apathy of local residents resulted in many just accepting and adapting to the polluted conditions, which constrained involvement; sustaining advocacy required constant outside support. The limited capacity of BLHD Serang inhibited implementation of a local website with expanded proactively disclosed information. And the lack of political will to enforce environmental laws limited follow-through on promised ongoing government engagement.

Civil society efforts to connect with other communities and NGOs outside of Serang and form a viable river water quality coalition across Indonesia were started late in the campaign, making it difficult to scale advocacy. Overall the project was successful in getting the agreement of local authorities and the community to a written long-term plan to clean up the river, but disputes over jurisdiction with other authorities and poor implementation slowed progress.

THAILAND



MONGOLIA

The STRIPE project led by WRI, the Thailand Environment Institute (TEI), and the Eastern People's Network Thailand focused on the Map Ta Phut industrial zone from 2011 to 2013. Established in 1988, the Map Ta Phut zone houses five industrial estates, one deep-sea port, and 151 major factories, including petrochemical plants, oil refineries, coal-fired power stations, and iron and steel facilities. The estate occupies 8,000 acres in Rayong Province. It was built around approximately 30 agricultural and residential communities with more than 49,000 residents. During decades of protests, lawsuits, and campaigning, local residents expressed concern about the pollution from the estate, including elevated levels of arsenic in local wells, ongoing health problems such as cancer in the local population, and poor compliance with environmental laws.

The STRIPE project worked with residents from multiple villages to identify their specific pollution concerns. It focused on expanding access to information about the specific pollutants entering the villages, potential health impacts, the safety of drinking water, and compliance and enforcement records of industries operating inside the estate. The project also prioritized building villagers' capacity to engage with government officials. TEI and the Eastern People's Network developed new training materials in local languages on Thailand's Official Information Act specifically designed to teach communities about their rights, then worked with communities to submit 49 information requests.

With support from WRI, and as part of a U.S.-based study tour, Thai government officials were trained in the importance of incorporating transparency goals into regulatory programs through the proactive release of information. Specific tools needed to achieve these goals were provided, as well as

connections to government professionals working on proactive disclosure in the United States. Finally, a comprehensive legal assessment of pollution control laws with an analysis of both proactive disclosure and the information request process was published. Key findings and recommendations, highlighted in Module 3, were presented to key stakeholders, the media, and government officials. Key findings were also shared at international events in Germany, Brazil, Indonesia, and Abu Dhabi.

The STRIPE project ended, however, before an advocacy campaign based on the research and information collection could be implemented. The 2013 political crisis in Thailand began a period of political instability in the country. At the same time, TEI went through significant organizational change and lost the internal capacity to continue working on the STRIPE project. Finally, Sutthi Atchasai, the leader of Eastern People's Network Thailand and the main community activist in the project, died in July 2014 under suspicious circumstances, making it difficult to continue work in the area (Laohong 2014). The activist's family called on the Human Rights Commission to investigate discrepancies between police reports and the autopsy determination of suicide (Laohong 2014).

Nevertheless the project helped identify gaps in law and practice and improved the capacity and knowledge of government officials and local communities. A 2018 follow-up evaluation highlighted the development of a civil society network, the "People's Network for Sustainable Development," which adopted the STRIPE approach as one of the tools to obtain environmental information. Partners also documented that the Pollution Control Department in Thailand published real-time pollution information in certain areas of its website and published a report in part as a result of STRIPE engagement.

Between 2014 and 2019 WRI worked with multiple partners and communities to address the air, water, land, and water-scarcity impacts of mining. The project began work in the Tuul River basin with residents of Khoroo #13 village, located outside the capital, Ulaanbaatar, who were concerned about the impacts from gravel mining and in two gold-mining communities in Zaamar Province. More recently, STRIPE partners began working with new communities in the Erdenetsagaan *soum* (or village) of Sukhbaatar in the far eastern province of Mongolia and in the Airag *soum* in Umnugobi using the STRIPE approach.

As in other countries, responsibilities for different STRIPE project elements were divided among the partners, with the Open Society Forum leading project management and coordination, the Center for Environment and Health engaging with national government officials, Patrons of Khuvsgul Lake leading community training and advocacy support, Transparency Foundation (TF) focusing on data collection and visualization, and Publish What You Pay Mongolia (TAN Coalition) focusing on supporting local communities and national coalitions. This division of responsibility was especially important given the number of STRIPE communities.

At the beginning of the project, a community needs assessment; a legal assessment, including an evaluation of environmental information proactively available in practice; and community-based information request exercises with training were conducted. The findings highlighted the lack of local information about Tuul River pollution, mining companies and their environmental practices, as well as a lack of public consultation during the licensing process. To address the significant lack of local, company-specific information, partners collected relevant documents such as EIAs and licenses and created a



website to serve as a central repository for information needed by the community. TF mapped exploration and exploitation licenses along with critical water bodies, cultural sites, and settlement areas to provide more detailed information for local community members to use in their advocacy and engagement in both Khoroo #13 and in Zaamar. Community members have documented that these maps are also used by government officials as an alternative to the government cadaster maps. The findings were shared with multiple national and local ministry officials in a series of meetings to address poor compliance with environmental and mining laws. Partners also used these findings to engage a larger group of officials to develop a broader national strategy around water use based on international best practices and water governance principles, including inclusive and participative decision-making. A national water governance strategy incorporating these principals has been developed as a result.

At the same time, a number of workshops and meetings were held with local community members to strengthen their knowledge of water and environmental laws, the mining license allocation process, as well as key steps in the process where public consultation and local government input is required under the law. In addition to producing a wide range of communication materials, the information and trainings were used to develop the following advocacy strategies:

- The submission of hundreds of petitions and consistent engagement with the Tuul River Basin Water Authority, which resulted in passage of multiple resolutions by the Petitions Standing Committee on protection of the Tuul River, implementation of the water fees law, and the banning of mining in the river.

- A juried competition to produce stories about the Tuul River environment, with prizes for video, website, and newsprint stories, which engaged journalists and led to the formation of the Environmental Journalist Network.
- Creation of community-based NGOs in local STRIPE communities and formal representation in national Publish What You Pay (PWYP) and the Extractive Industries Transparency Initiative (EITI) networks and local EITI working groups.
- Submission of administrative court challenges in Zaamar centered on the country's new Gold Phase II plan and the demand that the government halt the issuing of a large number of new exploration licenses because the local engagement requirements under the law were not followed.
- Development of a Community Development Agreement in Zaamar, a formal agreement between companies and communities affected by mining that defines benefits intended to be shared with local communities, as well as formation of the Zaamar Foundation as the community-involved mechanism for distributing funds received from mining companies to support development in the soum.

However, ongoing lack of enforcement of and compliance with environmental and mining laws by many companies continues to pose significant challenges for local communities. The lack of political will to hold mining companies accountable is compounded by local officials' limited capacity to monitor air and water quality, issue fines for recorded violations, or create effective participatory forums for ongoing dialogue with local community members. Many Mongolian political leaders at the national and local levels benefit directly from mining

activities through ownership in state companies or indirectly through family connections, and they often use their position to influence oversight. Threats and intimidation of local advocates has been increasing in some of the STRIPE communities as well. Mongolia's geographic size and the fact that many mining communities are located far from the capital makes it difficult for partners to sustain regular capacity-building support or help build in-person peer learning opportunities across communities.

Local communities have succeeded in getting some licenses revoked and engaged national ministry officials and national NGO coalitions, but local accomplishments have not yet translated into sustained action at the national level by government and private sector actors to improve national mining governance and address community concerns about mining's impacts.

JAMAICA



In Jamaica, between 2013 and 2016, the STRIPE project, led by the Jamaica Environmental Trust and Windsor Research Center, supported five communities and one community-based organization in 10 Mile, Bull Bay, in the parish of St. Andrew; Hayes and New Town in the parish of Clarendon; Nine Miles in the parish of St. Ann; and the Cockpit Country Local Forest Management Committees in the parish of Trelawny. These communities had been marginalized or displaced by mining and quarrying activities, including denial of access to fertile land, environmental degradation, loss of biodiversity, negative air and water quality impacts, and other adverse effects. The project sought to improve awareness of mining and quarrying laws and of rights to obtain information and participate in decisions regarding mining and quarrying. The project recognized that these communities generally lacked awareness or access to information. They also lacked the means to enforce their rights to compensation for impacts on the environment and were not adequately engaged in the decision-making process for mining and quarrying activities. Training was conducted on identification of environmental problems in the community. Community members also learned how to test and monitor air, water, and soil pollution as part of this training. They also monitored and participated in the assessment of mining and quarrying operations and used the information and process to target their advocacy work. The community participated in the implementation of the advocacy strategy, including campaign and stakeholder meetings. Communities also received legal support.

The project included community meetings; trainings (including on working with the media); the issuance of access-to-information requests, including by community members; a legal assessment of the Mining and Quarry Act; an assessment of proactive disclosure and reactive disclosure of specific information; the adoption of advocacy strategies; and the

production of videos. Both air and water indicator assessments were completed.

Researchers found it difficult to find the required information about companies, which was located in multiple reports online in very technical formats. Communities in rural areas found it difficult to make requests and to follow up. Challenges in accessing environmental information included limited proactive release and dissemination of information and limited access because information was only found in centralized places outside community areas or only available electronically. There were also costs to search for and obtain copies of information, and the availability of information in understandable, nontechnical formats was limited.

The STRIPE assessment findings documented comparatively greater proactive disclosure of environmental information for mining operations compared to quarries. It found that for both industries, there is secrecy around water pollution information in comparison to air releases. Recommendations were directed to the government on transparency and access to information, including the quality of information, and needed community capacity building. A publication on best practices was published as well as a community guide on how to use the Jamaican right to information law for mining communities. While the project's efforts attracted significant media attention and communities became more empowered, some community members involved in the project who worked in or near the companies were threatened, and difficulties in following up on enforcement and monitoring were evident. Clear recommendations have led civil society to propose reforms of the RTI law, mining and quarrying laws, and EIA provisions. Some have been accepted by the Jamaican government, while others are still under consideration in draft bills and regulations.



MOROCCO



In an effort to scale our STRIPE work to new regions and explore the effectiveness of our methodology in new sociopolitical contexts, WRI began working in Tunisia and Morocco in 2017. In Morocco, the STRIPE partners, the Association des Enseignants des Sciences de la Vie et de la Terre (Association of Teachers of Life and Earth Sciences, AESVT), the Alliance Marocaine pour le Climat et le Développement Durable (Moroccan Alliance for Climate and Sustainable Development, AMCDD), and the Observatoire de Protection de l'Environnement et des Monuments Historiques (Observatory for the Protection of the Environment and Historic Monuments, OPEMH), in partnership with the Middle East North Africa (MENA) office of the British human rights organization Article 19, focused on the environmental, health, and socioeconomic impacts of solid waste management, with specific activities centered on using the new RTI law (*Dahir No. 1-18-15 du 5 jourmada II 1439 (22 février 2018) portant promulgation de la loi no. 31-13 relative au droit d'accès à l'information*) to expand publicly available information and to address specific challenges surrounding the Tangier waste dump. Leachate from this site is contaminating ground and surface water, including the Mediterranean. Ensuring that civil society and local communities understand and use their right to information to address health and environmental impacts and organize around the closing and siting of new landfills, especially as part of the EIA process, was the STRIPE project's primary goal.

Partners conducted a baseline legal assessment of Morocco's new RTI law and the waste management regulatory framework, organized focus group discussions on the Tangier landfill, and hosted training sessions for civil society and local community members. They documented the range of ministries and institutions that govern access to environmental information and waste management.

To mobilize stakeholders around STRIPE goals and objectives, STRIPE partners organized multiple roundtables and workshops on a variety of waste management, sustainable development, and access to information topics. In some cases, these events were organized with other organizations to better connect access to information to a new model of waste management in Morocco. For the community needs assessment, partners held interviews and focus group discussions with key stakeholders in Tangier and at the national level. They also distributed questionnaires on available sources of environmental information and on waste management. The results were used along with a legal analysis of waste management and transparency laws to produce a report on the state of play regarding citizen access to waste and environmental information. The report highlighted that despite the public will and the efforts made by local and national institutions, existing environmental information is difficult for ordinary citizens to access, and the tools and mechanisms in place to address environmental and sustainable development are limited, especially at the level of citizen participation. The partners also found that information and decisions about the process to close the Tangier landfill and open a new site have not been well-shared. There is disagreement among experts over the best practices to address the accumulation of waste, the rehabilitation needed, and other technical issues surrounding the closing of the old landfill. There is also a low presence of women and young people in the offices of certain environmental associations and limited commitment to their environmental concerns. A lack of trust dominates relationships between different actors. In fact, the majority of citizens prefer to communicate with civil society and want research institutions, universities, and media organizations to put more effort into helping citizens develop skills. While there were no reports of threats to national partners, community members recognized

that their efforts to ensure change could result in threats and surveillance, and many were not willing to be actively involved in campaigns.

In March 2019, WRI and partners organized a workshop to help create a community of trainers capable of conducting policy research and supporting local actors as they address their pollution and environmental concerns. Designed to increase the capacity of participants to advocate for better enforcement of environmental laws and new solutions to pollution problems, the workshop mobilized 11 trainers from Morocco, the United States, India, Mongolia, and Tunisia, as well as 18 participants, including civil society representatives, academic researchers, and journalists. As a follow-up to this successful event, STRIPE partners are now creating an Arabic adaptation of the STRIPE modules, including an advocacy outreach guide, and organizing a series of three-day train-the-trainers regional workshops. The last day of each workshop provides participants (from NGOs, media, academia, and community-based organizations) with dedicated time to develop an advocacy plan to address the specific problem identified on the first day, based on the STRIPE methodology. Participants also must agree to share learning outcomes with members of their organization and work on common actions and field research to help strengthen a broader network.

In Tangier, OPEMH organized a series of roundtables to discuss local water governance and the Tangier Waste Management Center, as well as a training session on access to environmental information. Partners are coordinating citizen and civil society engagement on the EIA process for closing the old site and preparing the new landfill and waste recovery center, including linking local citizens with technical experts and advocating for development of a participatory regional solid waste management plan that also focuses on reducing the creation of waste.

TUNISIA

In Tunisia, WRI and STRIPE partners Water Dynamic (Dynamique l'Eau) and Research in Action (La Recherche en Action, REACT), with assistance from the Article 19 MENA office, worked with local community members in the Gafsa region on water impacts caused by both the surrounding agricultural industry and phosphate mining and processing. This included addressing the local communities' intersecting concerns about poor water quality and growing water scarcity; insufficient monitoring of environmental, social, and health impacts; and the lack of systematic assessment and enforcement of existing laws and regulations. Expanding access to relevant information and strengthening constructive engagement with government and private sector actors were the key goals of the STRIPE project in Tunisia.

During the kickoff meeting, partners developed a problem tree around water in the region. This analysis highlighted the intersecting water users and complex impacts that make it difficult to identify a single path forward. Partners solicited community access to information needs and input on the problem tree at a series of public meetings with residents in Gafsa. The results of this feedback, presented in Module 1, were used to research priority issues.

The consultation of civil society in Gafsa during the kickoff meeting was conducted in three parts: (1) a presentation of the STRIPE project and partners, (2) an expression of needs with respect to information access by participants and interaction with present stakeholders, and (3) prioritization of needs according to STRIPE project objectives. Main needs were classified into three groups: water, environment, and health. Most of the needs were related to mining activity impacts and conflicts around water uses in the arid environment.

Using this input, a series of trainings (two in Gafsa and a third in Tunis) were organized for local community members on water regulation and access to information, water governance, water

territory and stakeholder perception, research methodology and information gathering, water integrity, the monitoring of action plans, standards and control of water pollution, strengthening citizen participation, and conflict management. The third training was designed to showcase how to use proactively disclosed data from private and public actors, including the Ministry of Health, the national water supply authority (the Société Nationale d'Exploitation et de Distribution des Eaux, or SONEDE), and the institute responsible for standardization and certification of private industry water systems (the Institut National de la Normalisation et de la Propriété Industrielle, or INNORPI). Public health data and the knowledge and skills needed to evaluate pollution control and environmental monitoring, including water quality standards and sampling techniques, were highlighted during the sessions. Water Dynamic also organized a training on storytelling with data and message development for advocacy.

REACT and Article 19 organized a training for public actors in Gafsa focusing on access to information, governance of water resources, a diagnosis of the Tunisian example in Gafsa, and integrity and management of resources.

REACT organized a boot camp to reinforce many of the training topics and build a strong core of active Gafsa citizen leaders. At the end of the training, representatives were able to draw up action plans, translate this knowledge to other regional issues, and work as a team so that the actions undertaken could have the desired impact. With support of STRIPE partners, community members formed working groups to focus on different concerns, including

- distribution and access to drinking water in the rural region of Bayadha;
- equitable distribution of water resources in the agricultural sector in the southern region of Gafsa;

- building a safe and healthy drinking water distribution network in the city of Zohour Om Larayes, Gafsa; and
- connecting sewage lines and nontreatment of wastewater in the area of Ras El Kaf, Gafsa.

Partners created an access-to-information guide and worked with community members from these working groups to submit a total of 63 access-to-information requests but only received four responses. They also created an online database form for recording results.

Partners worked with local communities to develop two lines of advocacy for policy change and expansion of access to information. The first was to be part of the civil society coalition in the Open Government Partnership, a multilateral initiative to secure concrete commitments from national and subnational governments to promote open government. By ensuring inclusion of a governmental commitment to improve water resources governance that aligns with the STRIPE project goals in the third 2018–20 National Action Planning process, partners were able to connect their local water concerns to an existing national forum and leverage action to improve data disclosure, develop participatory approaches to water distribution and consumption decisions, and meet the country's Sustainable Development Goals.

Water Dynamic also worked with local community members to adapt the proactive disclosure indicators to the Gafsa context as a social accountability tool, the Water and Environmental Accountability Barometer. The vision, designed but not yet implemented, is to assess quarterly 54 indicators of the availability and quality of information on water quality, distribution, and exploitation, industrial wastewater discharges, and extractive company social responsibility activities and share the results on an online accountability platform.



During all the STRIPE activities undertaken, REACT participated in the effort to build coalitions and engage local civil society by sharing advice, lessons, and expertise. Results obtained during the application of the STRIPE methodology in Gafsa were presented during the National Days of Tunisia–European Union Cooperation on Research and Innovation (September 9–10, 2019) and during the Festival of Science (October 30–31, 2019).

At the end of the project, REACT proposed a workshop, “Facilitating the Interaction between Civil Society and Public Actors: Coaching and Mentoring Sessions.” The objective of this workshop was to capitalize on the training sessions carried out within the framework of the STRIPE project and to support the effective implementation of the action plans proposed by members of Gafsa civil society during the boot-camp training in Tunis (February 2019). The workshop was held in January 2020.

The Tunisia STRIPE project faced a number of challenges. Community members had little trust in local government institutions, which limited effective engagement around solutions. It was difficult for community members to effectively differentiate and address the complex impacts caused by the agricultural and phosphate company water use as well as each sector’s contribution to the growing water scarcity in the region. The multiple working group approach created many moving parts that were difficult to coordinate and support. As a major employer and state enterprise, the phosphate company had significant influence in the community, making accountability difficult. Enforcement by local government authorities remained weak. Finally, although in the end the project’s objectives were achieved, the project’s design was not agreed to by partners before starting, which led to a lack of coordination and contributed to communication challenges.

REFLECTIONS FROM STRIPE

The experiences of our partners using the STRIPE methodology highlight the complexity of addressing the sources and impacts of pollution at the local level.

Unpacking and prioritizing pollution problems can be complex and time-consuming.

Pollution control is challenging. It can take many years to negotiate solutions between communities and other actors. Multiple sources typically contribute to problems, and impacts can vary. Many governments fail to address health impacts or the cumulative effects of historic pollution. Local community members often have different priorities they want to focus on. Simple-sounding solutions, like better enforcement of wastewater permits, can involve a range of national and local ministries, sectors, and actors. This environment makes it difficult to envision the best path forward. While the problem tree, stakeholder mapping, and community needs assessment tools provide guidance on how to address these complexities, it can take a lot of time to determine locally agreed-upon priorities. Trying to address multiple problems in multiple communities, such as in Mongolia and Tunisia, added a layer of complexity and required more time and a greater focus on coordination and support mechanisms. Multiple messages and policy demands also made advocacy campaigns and coalition development harder. Decentralization also made it difficult to determine government authority or obtain answers from local authorities, which added a layer of complexity in Tunisia, Mongolia,

and Indonesia, where weak local government capacity and authority made it more difficult to influence compliance and enforcement.

STRIPE provided a flexible approach that can adapt to specific regulatory environment challenges and opportunities.

The flexibility of the STRIPE methodology allowed partners to adapt the different components to each country’s government context to leverage the most promising opportunities and prioritize the activities most needed. For example, partners in Indonesia leveraged the Ministry of Environment and Forestry’s effort to develop new open data platforms and helped support the capacity of government actors to proactively provide new environmental information. Thai and Jamaican partners focused on legal analysis to highlight regulatory gaps. In Mongolia, partners targeted the regional Tuul River Basin Water Authority for joint community advocacy to address compliance and enforcement concerns. With passage of a new law, partners in Morocco focused more on building public and government awareness of how the right to information could support solid waste management. Mongolian partners also used engagement with journalists to raise public awareness. Tunisian partners focused their efforts on refining community actions and the lack of trust between actors into more strategic advocacy demands.

Fighting pollution is dangerous.

Environmental defenders face real danger, which has been documented to include

threats, intimidation, loss of livelihood, and death (Global Witness 2019). Partners and local community leaders in Thailand, Mongolia, and Jamaica faced backlash and threats when fighting pollution. In Morocco and Tunisia, local activists admitted that they were fearful of taking action because of the harm that could be done to them and their families. Conflicts can arise between community members, between community members and the government, and between community members and companies. Unclear conflicts of interest were also often found.

Before beginning a project, it is critical to determine safeguards for partners using environmental rights. Pollution activists should also consider personal risks, conduct formal risk-relevant assessments, and adopt security plans. Digital security and safeguards also need to be considered when community activists engage the media and other public participation forums to voice their opinions. Ensuring a long-term system of protection for activists is crucial; formal institutions that can take action to support defenders may need to be involved, as government and private sector actors can have conflicts of interest in direct opposition to environmental activists.

A strong group of project leaders is needed to be effective.

Conducting a STRIPE project involves research, capacity building, advocacy, and outreach and engagement. Each element is important, but how they come together is greatly dependent on the local leaders and project partners. In Morocco and Tunisia the STRIPE project was an opportunity to link and create synergies between civil society groups working on access to information and environmental groups. But when project partners have trouble working together or don't regularly communicate or coordinate, the ability to achieve outcomes is weakened.

Independent citizen monitoring of water and air pollution directly provides needed information and opportunities for advocacy and engagement.

Community members independently collected monitoring results of air and water pollution in most of the STRIPE projects. The results provided critically needed information that was shared with the media and used in advocacy and outreach materials to document poor compliance with and enforcement of environmental laws. In some of the projects, particularly in Indonesia and Mongolia, it had a clear impact on local officials. In the Jamaica project, community monitoring was

not completed in a way sufficiently rigorous to move national authorities, and there were difficulties in continuous monitoring of air quality. Community monitoring did allow a dialogue about the rigor of the government monitoring process and discussions on the need for ensuring compliance with standards, as well as a discussion on the impact of numerous facilities in one country.

There are limits to transparency, participation, and accountability tools.

Local STRIPE communities have spent a long time, often decades, expressing their pollution concerns and trying to engage government officials and private companies on impacts. Thanks to the dedicated work of partners and community members, STRIPE projects made significant progress in expanding access to information, improving the voice of local communities, strengthening policies, building coalitions, and holding government and private companies accountable.

But poor implementation of RTI, EIA, and permit laws remains a significant barrier in each STRIPE project. Ultimately, the entrenched lack of political will to enforce pollution control laws and regulations impacted the outcomes achieved when using transparency, participation, and

accountability tools. There is a lack of regional and subregional frameworks to strengthen collaboration and knowledge exchange among civil society groups (Houdret et al. 2018). This limitation is not uncommon in accountability campaigns (Waddington et al. 2019).

Seeking to improve the environment and public health is a long-term effort.

Fighting pollution in each country didn't start or end with the STRIPE projects. It's unrealistic to think a single campaign can solve such intractable challenges. But the STRIPE approach did move the needle in all countries. It showcases the lasting positive change that can happen when local communities are supported. More time, champions, and resources are needed to leverage local initiatives into larger movements capable of mobilizing incentives for systematic change at the national level. It also requires development of stronger mechanisms that incorporate local voices into decision-making in international forums.

Investing in communities is a prerequisite for a healthy environment and worth the time and energy required.

The STRIPE projects, more than anything else, revealed the need to support local communities to understand their right to a healthy

environment and demand accountability, and the positive change that can be achieved with this investment. Across the different STRIPE projects, very few local community members wanted to completely stop the industrial activities causing pollution. They understood the economic benefits that come from these sectors but wanted the social and environmental impacts to be appropriately addressed.

A well-informed and engaged community can help identify bad actors, document pollution hot spots, illuminate cumulative impacts, and provide political momentum and resources for enforcement of environmental laws and regulations. They can bring deep, historical knowledge and new ideas to projects that can help reduce conflict and build productive relationships with government and private sector actors. This work should be mainstreamed into clear duties and obligations of national and local authorities, including local politics and making clear connections between pollution and environmental health. STRIPE projects clearly identified a gap between national policies and local enforcement and compliance action that must be prioritized by governments, funders, and multilateral institutions working toward sustainable development.

REFERENCES

- Aceron, Joy, and Francis Isaac. 2016. *Going Vertical: Citizen-Led Reform Campaigns in the Philippines*. Making All Voices Count. <https://www.makingallvoicescount.org/publication/going-vertical-citizen-led-reform-campaigns-philippines/>.
- Agarwal, Sanjay, and Warren A. Van. 2011. "How, When, and Why to Use Demand-Side Governance Approaches in Projects." World Bank, Governance and Anti-corruption. <http://documents.worldbank.org/curated/en/823571468331836996/pdf/639040BRI0Dema00Box0361531B0PUBLIC0.pdf>.
- Alam, Pervez, and Kafeel Ahmade. 2013. "Impact of Solid Waste on Health and the Environment." *International Journal of Sustainable Development and Green Economics* 2: 165–68.
- Banisar, David. 2006. *Freedom of Information around the World 2006: A Global Survey of Access to Government Information Law*. London: Privacy International.
- Boldbaatar, D., N.C. Kunz, and E. Werker. 2019. "Improved Resource Governance through Transparency: Evidence from Mongolia." *Extractive Industries and Society* 6 (3): 775–87. <https://doi.org/10.1016/j.exis.2018.12.007>.
- Boyd, David R. 2012. "The Constitutional Right to a Healthy Environment." *Environment: Science and Policy for Sustainable Development* 54 (4): 3–15. <https://doi.org/10.1080/00139157.2012.691392>.
- Bruch, Carl, and UNEP (UN Environment Programme). 2019. *Environmental Rule of Law: First Global Report*.
- Bullard, Robert D. 1994. "Overcoming Racism in Environmental Decisionmaking." *Environment: Science and Policy for Sustainable Development* 36 (4): 10–44. <https://doi.org/10.1080/00139157.1994.929997>.

- El-Khoury, Janane. 2011. "Environmental Criminality Field and Legal Study." In *Impact of Integrated Clean Energy on the Future of the Mediterranean Environment?*, special issue of *Energy Procedia* 6 (January): 704–10. <https://doi.org/10.1016/j.egypro.2011.05.080>.
- EPA (U.S. Environmental Protection Agency). 2014. "Public Participation Guide." Overviews and Factsheets, February 24. <https://www.epa.gov/international-cooperation/public-participation-guide>.
- EPA. 2015a. "Managing Air Quality: Ambient Air Monitoring." Overviews and Factsheets, September 15. <https://www.epa.gov/air-quality-management-process/managing-air-quality-ambient-air-monitoring>.
- EPA. 2015b. "Learn about Environmental Justice." Overviews and Factsheets, February 13. <https://www.epa.gov/environmentaljustice/learn-about-environmental-justice>.
- Excell, Carole, and Elizabeth Moses. 2017. *Thirsting for Justice: Transparency and Poor People's Struggle for Clean Water in Indonesia, Mongolia, and Thailand*. Washington, DC: The Access Initiative and World Resources Institute.
- Fischer, Frank. 2000. *Citizens, Experts, and the Environment: The Politics of Local Knowledge*. Durham, NC: Duke University Press.
- Fox, J. 2014. "Social Accountability: What Does the Evidence Really Say?" Global Partnership for Social Accountability Working Paper 1. Washington, DC: World Bank.
- Fox, Jonathan A. 2016. "Scaling Accountability through Vertically Integrated Civil Society Policy Monitoring and Advocacy." Institute of Development Studies. https://accountabilityresearch.org/wp-content/uploads/2017/08/ScalingAccountability_Online4.pdf.
- Gellers, Joshua Chad, and Christopher Jeffords. 2015. "Procedural Environmental Rights and Environmental Justice: Assessing the Impact of Environmental Constitutionalism." *SSRN*, August 18. <https://doi.org/10.2139/ssrn.2646739>.
- Global Witness. 2019. *Enemies of the State?* Report, July 30. <https://www.globalwitness.org/fr/campaigns/environmental-activists/enemies-state/>.
- Gonzalez, Carmen G. 2015. "Environmental Justice, Human Rights, and the Global South." *Santa Clara Journal of International Law* 31.
- Goulden, Shula, Maya Negev, Shay Reicher, and Tamar Berman. 2019. "Implications of Standards in Setting Environmental Policy." *Environmental Science & Policy* 98 (August): 39–46. <https://doi.org/10.1016/j.envsci.2019.05.002>.
- Gunningham, Neil. 2017. "Should a General 'Duty of Care' for the Environment Become a Centerpiece of a 'Next Generation' Environment Protection Statute?" *Environmental and Planning Law Journal* 34 (May): 198–208.
- Holmes, Paul R. 1996. "Measuring Success in Water Pollution Control." In "Water Quality International '96," special issue of *Water Science and Technology* 34 (12): 155–64. [https://doi.org/10.1016/S0273-1223\(96\)00865-7](https://doi.org/10.1016/S0273-1223(96)00865-7).
- Houdret, Annabelle, Irene Pasqua, and Saad Filali Meknassi. 2018. "Access to Environmental Information: A Driver of Accountable Governance in Morocco and Tunisia?" German Development Institute. https://www.die-gdi.de/uploads/media/BP_10.2018.pdf.
- Howes, Michael, Liana Wortley, Ruth Potts, Aysin Dedekorkut-Howes, Silvia Serrao-Neumann, Julie Davidson, Timothy Smith, and Patrick Nunn. 2017. "Environmental Sustainability: A Case of Policy Implementation Failure?" *Sustainability* 9 (2): 165. <https://doi.org/10.3390/su9020165>.
- Huq, Mainul, and David Wheeler. 1993. "Pollution Reduction without Formal Regulation: Evidence from Bangladesh." World Bank Environment Department Divisional Working Paper no. 1993-3916. January. <http://documents.worldbank.org/curated/en/330841468768626234/pdf/410460BD0Pollution0Reduction01PU0BLIC1.pdf>.
- Hwang, Yen-Ting, Dargan M.W. Frierson, and Sarah M. Kang. 2013. "Anthropogenic Sulfate Aerosol and the Southward Shift of Tropical Precipitation in the Late 20th Century." *Geophysical Research Letters* 40. <https://agupubs.onlinelibrary.wiley.com/doi/full/10.1002/grl.50502>.
- IAP2 (International Association for Public Participation) International Federation. 2014. "Public Participation Pillars: Internationally Recognized Principles for Making Better Decisions Together." https://cdn.ymaws.com/www.iap2.org/resource/resmgr/Communications/A3_P2_Pillars_brochure.pdf.
- Interpeace-IPAT (International Peacebuilding Advisory Team). 2015. "Public Participation and Citizen Engagement." Effective Advising in Statebuilding and Peacebuilding Contexts: How. https://www.interpeace.org/wp-content/uploads/2015/10/2015_10_12_Effective_Advising_How-Public_participation.pdf.
- Isaac, Francis, Jonathan A. Fox, Danilo Carranza, Benedict Nisperos, Marlon Lara Cornelio, Federick Vincent Marcelo, Rhia Muhi, and Romeo Saliga. 2018. *Going Vertical: Citizen-Led Reform Campaigns in the Philippines*. Edited by Joy Aceron. https://www.academia.edu/37709192/Going_Vertical_Citizen-led_Reform_Campaigns_in_the_Philippines_Joy_Aceron_Editor_.
- Jeffords, Chris, and Joshua C. Gellers. 2017. "Constitutionalizing Environmental Rights: A Practical Guide." *Journal of Human Rights Practice* 9 (1): 136–45. <https://doi.org/10.1093/jhuman/hux001>.

- Joshi, Anuradha. 2017. "Legal Empowerment and Social Accountability: Complementary Strategies toward Rights-Based Development in Health?" *World Development* 99 (November): 160–72. <https://doi.org/10.1016/j.worlddev.2017.07.008>.
- Knox, John, and David Boyd. 2018. *Report of the Special Rapporteur on the Issue of Human Rights Obligations Relating to the Enjoyment of a Safe, Clean, Healthy and Sustainable Environment*. <http://srenvironment.org/sites/default/files/Reports/2018/Boyd%20Knox%20UNGA%20report%202018.pdf>.
- Landrigan, Philip J., Richard Fuller, Nereus J.R. Acosta, Olusoji Adeyi, Robert Arnold, Niladri (Nil) Basu, Abdoulaye Bibi Baldé, et al. 2018. "The Lancet Commission on Pollution and Health." *Lancet* 391 (10119): 462–512. [https://doi.org/10.1016/S0140-6736\(17\)32345-0](https://doi.org/10.1016/S0140-6736(17)32345-0).
- Laohong, King-Oua. 2014. "Autopsy on Sutthi Rules Out Murder." *Bangkok Post*, July 23. <https://www.bangkokpost.com/thailand/general/421857/autopsy-on-sutthi-rules-out-murder>.
- Li, Wanxin, Jieyan Liu, and Duoduo Li. 2012. "Getting Their Voices Heard: Three Cases of Public Participation in Environmental Protection in China." *Journal of Environmental Management* 98 (May): 65–72. <https://doi.org/10.1016/j.jenvman.2011.12.019>.
- Luyet, Vincent, Rodolphe Schlaepfer, Marc B. Parlange, and Alexandre Buttler. 2012. "A Framework to Implement Stakeholder Participation in Environmental Projects." *Journal of Environmental Management* 111 (November): 213–19. <https://doi.org/10.1016/j.jenvman.2012.06.026>.
- Malena, Carmen, Reiner Forster, and Janmejaj Singh. 2004. "Social Accountability: An Introduction to the Concept and Emerging Practice." World Bank. <http://documents.worldbank.org/curated/en/327691468779445304/Social-accountability-an-introduction-to-the-concept-and-emerging-practice>.
- Narayan, Shweta, and Eurig Scandrett. 2014. "Science in Community Environmental Struggles: Lessons from Community Environmental Monitors, Cuddalore, Tamil Nadu." *Community Development Journal* 49 (4): 557–72. <https://doi.org/10.1093/cdj/bst084>.
- Nuesiri, Emmanuel. 2016. "Accountability of Powerful Actors for Social and Environmental Outcomes." IUCN (International Union for Conservation of Nature) Natural Resources Governance Framework (NRGF) Conceptual Paper. <https://doi.org/10.13140/RG.2.2.15254.96329>.
- OECD (Organisation for Economic Co-operation and Development). 2015. "Stakeholder Engagement for Inclusive Water Governance." https://read.oecd-ilibrary.org/governance/stakeholder-engagement-for-inclusive-water-governance_9789264231122-en#page1.
- Reed, Mark S. 2008. "Stakeholder Participation for Environmental Management: A Literature Review." *Biological Conservation* 141 (10): 2417–31. <https://doi.org/10.1016/j.biocon.2008.07.014>.
- Sangiuliano, Anthony R. 2013. "Book Notes: Corrective Justice, by Ernest J. Weinrib." *Osgoode Hall Law Journal* 51 (1): 4.
- Schlosberg, David. 2004. "Reconceiving Environmental Justice: Global Movements and Political Theories." *Environmental Politics* 13 (3): 517–40. <https://doi.org/10.1080/0964401042000229025>.
- Tai, A.P.K., and M. Val Martin. 2017. "Impacts of Ozone Air Pollution and Temperature Extremes on Crop Yields: Spatial Variability, Adaptation and Implications for Future Food Security." *Atmospheric Environment* 169: 11–21.
- UNEP (UN Environment Programme). 2019. "Environmental Rule of Law: First Global Report." January 24. <http://www.unenvironment.org/resources/assessment/environmental-rule-law-first-global-report>.
- UNESCO (UN Educational, Scientific, and Cultural Organization), ed. 2017. *Wastewater: The Untapped Resource*. United Nations World Water Development Report 2017. Paris: UNESCO.
- United Nations. 1992. "Rio Declaration on Environment and Development." https://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A_CONF.151_26_Vol.I_Declaration.pdf.
- Waddington, Hugh, Ada Sonnenfeld, Juliette Finetti, Marie Gaarder, and Jennifer Stevenson. 2019. *Does Incorporating Participation and Accountability Improve Development Outcomes? Meta-analysis and Framework Synthesis*. Systematic Review 43 (May). International Initiative for Impact Evaluation (3ie). <https://doi.org/10.23846/SR00043>.
- Walker, Gordon. 2012. "Environmental Justice: Concepts, Evidence and Politics." *Environmental Justice: Concepts, Evidence and Politics*, January, 1–256. <https://doi.org/10.4324/9780203610671>.
- WHO (World Health Organization). 2016. "Ambient Air Pollution: A Global Assessment of Exposure and Burden of Disease." <https://apps.who.int/iris/bitstream/handle/10665/250141/9789241511353-eng.pdf?sequence=1>.
- Zhou, Jia, Jinnan Wang, Hongqiang Jiang, Dong Cao, Rensheng Tian, Jun Bi, Jing Zhang, and Xi Cheng. 2019. "A Review of Development and Reform of Emission Permit System in China." *Journal of Environmental Management* 247 (October): 561–69. <https://doi.org/10.1016/j.jenvman.2019.06.104>.

ABOUT THE AUTHORS

Elizabeth Moses is an Environmental Rights and Justice Associate II with WRI's Environmental Democracy Practice and Manager of the Strengthening the Right to Information for People and the Environment (STRIPE) project. She is a natural resource governance expert with more than a decade of international and US-based experience leading technical research, policy analysis, and civil society capacity building.

Carole Excell is Director of World Resources Institute's Environmental Democracy Practice and the Project Director for The Access Initiative. She is an environmental rights and legal expert with more than 15 years of professional experience promoting human rights protection, inclusive and equitable development, and advocating for increasing civic space and protection of environmental defenders.

ABOUT WRI

World Resources Institute is a global research organization that turns big ideas into action at the nexus of environment, economic opportunity, and human well-being.

Our Challenge

Natural resources are at the foundation of economic opportunity and human well-being. But today, we are depleting Earth's resources at rates that are not sustainable, endangering economies and people's lives. People depend on clean water, fertile land, healthy forests, and a stable climate. Livable cities and clean energy are essential for a sustainable planet. We must address these urgent, global challenges this decade.

Our Vision

We envision an equitable and prosperous planet driven by the wise management of natural resources. We aspire to create a world where the actions of government, business, and communities combine to eliminate poverty and sustain the natural environment for all people.

Our Approach

COUNT IT

We start with data. We conduct independent research and draw on the latest technology to develop new insights and recommendations. Our rigorous analysis identifies risks, unveils opportunities, and informs smart strategies. We focus our efforts on influential and emerging economies where the future of sustainability will be determined.

CHANGE IT

We use our research to influence government policies, business strategies, and civil society action. We test projects with communities, companies, and government agencies to build a strong evidence base. Then, we work with partners to deliver change on the ground that alleviates poverty and strengthens society. We hold ourselves accountable to ensure our outcomes will be bold and enduring.

SCALE IT

We don't think small. Once tested, we work with partners to adopt and expand our efforts regionally and globally. We engage with decision-makers to carry out our ideas and elevate our impact. We measure success through government and business actions that improve people's lives and sustain a healthy environment.

PHOTO CREDITS:

Cover, Zolbayar Bayasgalan; ii, iii, iv, Laura Villadiego; pg 3, Indonesian Center for Environmental Law (ICEL); pg 6, Asian Development Bank; pg 11, 15, 21, 22, 24, Munkhgerel Baterdene.

Each World Resources Institute report represents a timely, scholarly treatment of a subject of public concern. WRI takes responsibility for choosing the study topics and guaranteeing its authors and researchers freedom of inquiry. It also solicits and responds to the guidance of advisory panels and expert reviewers. Unless otherwise stated, however, all the interpretation and findings set forth in WRI publications are those of the authors.

Maps are for illustrative purposes and do not imply the expression of any opinion on the part of WRI, concerning the legal status of any country or territory or concerning the delimitation of frontiers or boundaries.





WORLD
RESOURCES
INSTITUTE

10 G STREET NE
SUITE 800
WASHINGTON, DC 20002, USA
+1 (202) 729-7600
WWW.WRI.ORG