



WORLD  
RESOURCES  
INSTITUTE

# THIRSTING FOR JUSTICE

*Transparency and Poor  
People's Struggle for  
Clean Water in Indonesia,  
Mongolia, and Thailand*

The  
**Access**  
Initiative

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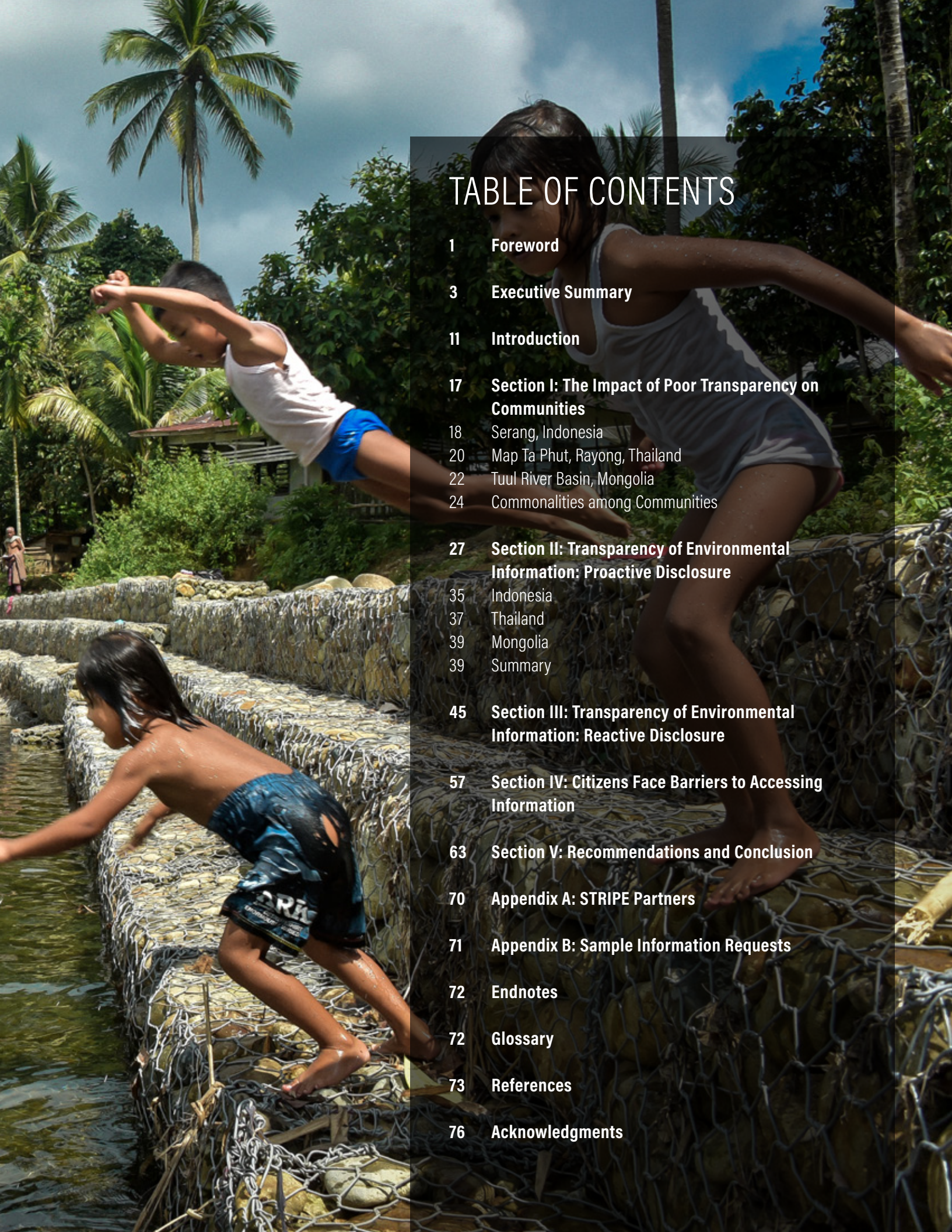
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# FOREWORD

Contaminated water is a root cause of death, disease, and disability across the world, with more than 2 billion people still using polluted water for domestic purposes and livelihood activities. Over 80 percent of global wastewater is discharged back into the environment without treatment, while 300 million–400 million tons of heavy metals, solvents, toxic sludge, and other waste from industrial facilities alone are dumped into the world’s waters each year.

Many developing economies suffer economic losses equivalent to 2–4 percent of gross domestic product (GDP) from deaths and illnesses due to environmental degradation caused by pollution. Yet, secrecy about the type and amount of industrial pollutants discharged in these countries is still the norm. With industrial wastewater volumes set to double by 2025 (from 2007 levels), continuing business as usual is not an option.

Poor, rural communities rely on natural water sources for bathing, cooking, and other livelihood needs like fishing, herding, and farming. These communities are disproportionately affected by diseases caused by polluted water. Access to adequate water pollution information can empower these communities to determine whether their water is safe to use, participate meaningfully in decision-making about the waterways that sustain their communities, and hold those responsible for unlawful pollution to account.

*Thirsting for Justice: Transparency and Poor People’s Struggle for Clean Water in Indonesia, Mongolia, and Thailand* examines access to water pollution information in vulnerable communities in these three countries. It finds that disclosure of facility-specific information, information on overall water quality, environmental impact assessments, and compliance data are poor. Mechanisms used to release information do not provide easy access for rural communities. Although the Indonesian, Mongolian, and Thai governments have made important progress in developing laws and regulations that mandate the release of environmental information, in practice, rural and marginalized communities are still

not receiving the information they want. Poor implementation of existing pollution control laws and a lack of available wastewater data—both major governance challenges—impede efforts to curb water pollution and meet the growing demand for clean water.

These findings serve as a wake-up call for governments, civil society, international donors, and other institutions working to provide meaningful access to information. Resolving this environmental injustice will require governments to rethink the approach they take to releasing water pollution data, and environmental information more broadly, to the public.

Many governments around the world are exploring new ways to share information with citizens. The recommendations provided in this report, as well as these models of good practice, can inform future research and innovative policy action. They can help the governments of Indonesia, Mongolia, and Thailand build on their existing efforts. Priorities include tracking the specific information needs of community members, creating centralized information technology platforms for synthesizing and releasing local, facility-specific environmental data, and providing information that is accessible offline and in forms easily understood by communities. Such measures could help provide people with the information they need to protect themselves from using contaminated water that could harm their health and economic livelihoods.

For the world’s poorest people, access to clean water means fewer outbreaks of deadly diseases, less time spent away from the classroom by children collecting water, and greater economic opportunities for women. Reducing water pollution and extending clean water access to the billions of people drinking dirty water will take political will, trust, and collective action. Success can be built on a foundation of strong transparency. Everyone must have access to the information they need to have a voice in the movement for water justice.



**Andrew Steer**  
*President, World Resources Institute*



# EXECUTIVE SUMMARY

**Around the world, millions of people struggle to obtain clean water for drinking, bathing, and livelihood needs.**

Yet, despite the well-documented connection between environmental pollution and public health, policymakers continue to grapple with implementing effective policies and actions that address the environmental, socioeconomic, and health consequences of increasing water pollution. At the same time, communities often struggle to obtain the information they need to articulate their concerns about environmental and public health impacts caused by local water pollution, including poor compliance with standards. Although government agencies are typically required to disclose information about water pollution levels, this information often does not reach small, rural communities.

## HIGHLIGHTS

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- Rapid economic development in many developing countries has increased the amount of pollution entering the world's waterways, with dire consequences for poor communities who rely on this water for their health and economic well-being.
- This report explores the challenges facing rural communities in Indonesia, Thailand, and Mongolia when they try to obtain information on pollution and evaluates the multiple laws and pathways in each country that dictate the disclosure of environmental pollution information.
- Our findings reveal that the company-specific, local information desired by communities is simply not available. Despite comprehensive laws that clearly require the disclosure of environmental information, poor implementation and complicated mechanisms block people's access to the information they want.
- To address these challenges, the governments of Indonesia, Thailand, and Mongolia can improve implementation of existing transparency laws and develop centralized systems to release information both online and in forms that are locally accessible offline.
- Donors should support community efforts to obtain and use information while civil society groups can help build communities' capacity to participate in water governance decision-making forums.

**The poor transparency of environmental information is especially important in Southeast Asia.** Rapid development in traditionally rural areas has significantly impacted many poor, often marginalized, communities that rely on rivers and other natural water sources for their water. Citizens in these communities need clean water for farming, fishing, and taking care of animals they use as a source of income, but they often don't know whether their water is safe to use. They can find themselves attempting to address these pollution problems over long periods of time with no positive outcome, trying multiple times to get information about company practices and engaging government officials over compliance and enforcement.

**In Indonesia, local shrimp farmers in the Serang area of Java have been witnessing the decline of the Cijung River for 20 years as pulp and paper and textile facilities have moved into their area.** Community members have held numerous protests, petitioned local enforcement ministries, and even brought a lawsuit to court to address the perceived impact of declining water quality and to demand that the companies be held responsible for the pollution of the river. Yet even after a Ministry of Environment audit of the river's main waste contributor found multiple problems with facility practices, shrimp fishermen's catches have fallen dramatically, and the river remains polluted.

**Villagers living in Wat Nong Fab, Thailand, near the Map Ta Phut industrial region, worry that water pollution is affecting their health.** Numerous petrochemical facilities and other companies discharge waste into the groundwater, contaminating the wells and streams that people rely on for drinking water and farming. Although community members suspect that pollution levels are dangerously high, they cannot substantiate their claim and have had trouble getting access to facility-specific, local water pollution data held by government ministries.



**In Mongolia, herders living outside the booming capital, Ulaanbaatar, fear that the Tuul River's rapidly deteriorating water quality is making their livestock sick.** Customers have complained about the taste of the meat purchased. The herders believe that gravel mining and the city's poor wastewater treatment have released pollutants into the water. But without documentation of water contamination or general information about the companies that own the mines in their area, these herders struggle to justify their concerns to government officials and don't have the information they need to try and stop more mines from coming into the area.

**These cases illustrate what can happen when community members do not get the local, facility-specific information about the sources and effects of pollution that they need.** While not the only important requirement, access to complete, timely, accurate, and comprehensive information ensures that poor, marginalized communities have the knowledge and power they need to protect the water they use. Access to information can enhance their ability to participate in government decision-making processes and help shape policies and practices that protect their health, welfare, and access to clean water.









## About This Report

**World Resources Institute (WRI) aims to understand and help mitigate the barriers that communities face in accessing environmental information.** We are working with civil society partners to implement the Strengthening the Right to Information for People and the Environment (STRIFE) Project in Indonesia, Thailand, and Mongolia. Specifically, WRI partnered with the following groups: In Indonesia, The Indonesian Center for Environmental Law (ICEL), WALHI/Friends of The Earth Indonesia, and MediaLink; in Thailand, the Thailand Environment Institute and Eastern People's Network; and in Mongolia, the Center for Human Rights Development, Patrons of Khuvsgul Lake, Environment and Health Center, and Transparency Foundation. All groups are members of The Access Initiative, a civil society network working on inclusive and participatory environmental decision-making. More information can be found at <http://www.accessinitiative.org>.

Communities often struggle to obtain the information they need to articulate their concerns around environmental and public health impacts caused by local water pollution, including poor compliance with standards.

This report summarizes the findings of a three-year investigation into the effectiveness of the legally mandated approaches used by the Indonesian, Thai, and Mongolian governments to release water quality and water pollution information and data. It reviews their approaches to releasing information both proactively and reactively on request through right to information (RTI) laws. The report also documents the plight of a community in each country that is trying to obtain and use the information to address local water pollution issues. We hope this report provides civil society, government officials, and other interested stakeholders with some insight into why access to information is so critical to the welfare of rural communities facing threats to their water. We also aim to show how developing countries can provide the information about pollution that citizens need.

Table ES-1 | Summary of Communities' Access to the Information They Want: Proactively Disclosed under Law and in Practice and Reactively Disclosed on Request

Information Wanted by Communities	INDONESIA			THAILAND			MONGOLIA		
	Proactively Disclosed under Law	Proactively Disclosed in Practice	Available upon Request	Proactively Disclosed under Law	Proactively Disclosed in Practice	Available upon Request	Proactively Disclosed under Law	Proactively Disclosed in Practice	Available upon Request
 Company-specific information	●	●	●	●	●	●	●	●	●
 Pollutant information	●	●	●	●	●	●	●	●	●
 Permitting documents	●	●	●	●	●	●	●	●	●
 Water quality	●	●	●	●	●	●	●	●	●
 Cleanup efforts	●	●	●	●	●	●	●	●	●
 Public health impacts	●	●	●	●	●	●	●	●	●
 Livelihood impacts	●	●	●	●	●	●	●	●	●
 Ecosystem impacts	●	●	●	●	●	●	●	●	●

● = yes   ● = limited   ● = no   ● = not applicable.

## Key Findings

**Local communities still face significant barriers to accessing environmental information.** Problems persist even though the governments of Indonesia, Thailand, and Mongolia have comprehensive laws requiring the disclosure of such information. Barriers concern both incomplete government reporting of environmental information and disclosure in response to citizen requests. Ultimately poor implementation of transparency laws impeded public access to vital sources of environmental pollution information.

**There is a need for a centralized database of information as well as provision of local information.** Regular proactive disclosure of facility-specific information, such as the pollutants being released into the environment, overall water quality, environmental impact assessments (EIA), and compliance data, was poor and fragmented in the countries assessed and the mechanisms used to release information did not provide easy access in rural communities.

**Citizens requesting environmental information still face numerous barriers.** These include understanding and using RTI laws,

the need to travel to government offices and pay for access to some documents, lack of internet access to online information, and, in many cases, the fact that the desired, locally relevant health and environmental information is simply not publicly available. Despite clear RTI laws, only a limited amount of facility-specific and health information was obtained by STRIPE partners through information requests to government ministries.

The summary in Table ES-1 shows that, while there has been clear progress in developing laws and regulations that mandate the proactive and reactive release of environmental information, this system does not, in practice, result in communities receiving the information they want.

## Recommendations

Many other governments around the world are experimenting with new ways of expanding access to environmental information, in multiple forms, to reach a wider range of people. To ensure that poor communities are included and better able to obtain the information they need to address water pollution challenges and participate in the development of water quality management solutions, we offer the following recommendations to governments, civil society, and donors.



## Address the Information Needs of Local Communities

**The governments of Indonesia, Thailand, and Mongolia should track and synthesize the information needs of local communities.**

Because current disclosure frameworks do not meet the needs of communities, governments should use surveys and other data collection tools to better understand the specific data and documents desired and how communities want to access the information.

**The governments of Indonesia, Thailand, and Mongolia should prioritize creation of a centralized system for synthesizing and proactively releasing local, facility-specific environmental information.**

Numerous national and subnational government agencies oversee water quality and water pollution regula-

tion. This presents a challenge to both government officials and members of the public who wish to navigate the collection, organization, and release of environmental pollution information. Given the demand for localized information and facility-specific documents and data, there is a need for a unified focal point or agency. This body should be responsible for developing and monitoring uniform reporting standards for collecting, collating, and releasing environmental information and overseeing implementation across ministries and regions.

**The governments of Indonesia, Thailand, and Mongolia should prioritize the release of specific categories of environmental documents and data on data portals.**

All three governments release some environmental data through website data portals. However, the information is incomplete or out of date and does not contain the facility-specific, localized documents desired by communities. Providing links to water quality monitoring reports, public health assessments, facility-specific discharge permits, EIAs, and compliance and enforcement reports through data portals will facilitate access for all interested stakeholders.

**Governments should expand the release of information in forms that are accessible offline and more easily understood by local communities.**

Such a move would complement wider access through online data portals. Many communities do not have easy access to the internet and often need support to understand the technical environmental data and documents relevant to their concerns. Governments, with the cooperation of civil society, should therefore provide timely, accurate, and comprehensive information in forms that can be easily understood and accessed by the public. These could include community information centers, guidebooks, simple signs, or reports in local media, community meetings, mobile phone apps, and radio alerts on the quality of water.



## Improve Implementation

**Governments should improve the capacity of ministry officials through staffing and training.** Our findings highlight the negative impact of poor implementation of RTI laws and procedures. Governments must invest in the human and financial resources needed to ensure efficient and effective implementation under the legal disclosure framework. Capacity building should include training key government personnel in the required processes and procedures and helping citizens find the information they need.

**Governments should improve oversight of RTI law implementation and appeal systems to ensure direct access to relevant information.** Systematically improving implementation will create a more efficient and effective process to expand community access to desired information.

## Increase Dialogue and Engagement

**Governments should work cooperatively with private and state-owned companies, civil society, and communities.** Broader cooperation would expand the pollution information that companies can share with regulatory agencies and communities about their operations, improvements, and challenges. Communities want more information about the companies operating in their areas. Providing more information offers the opportunity to create dialogue between companies and community members, improve compliance and enforcement of pollution control laws, and facilitate cooperative solutions that protect economic growth and the environment.

**Community members and civil society need to become actively engaged in decision-making about the management of water quality at the national and local levels.** Our findings highlight the importance of empowered communities in driving efforts for cleanup. Empowered communities can better participate in decision-making forums about local water quality issues. With relevant information to inform their advocacy, communities can demand better management of pollution and engage in policy discussions. Civil society can support and build the capacity of local people to obtain and use environmental information to hold government accountable. Communities must continue to demand information and participate in these critical water governance decisions.

**International donors investing in the achievement of the Sustainable Development Goal (SDG) on water should expand funding for civil society, community groups, and governments to improve the disclosure and use of information.** Political momentum around the SDGs creates new opportunities to expand multistakeholder partnerships and ensure that proactive disclosure frameworks are improved and used as implementation tools for SDG water goals. Civil society and donors should leverage this energy to support communities in their efforts to obtain and use documents and data to address local concerns. Specific donor-funded activities could include efforts to translate technical information into more understandable forms, advocating for expanded access to facility-specific documents, and working to use the obtained information to address the environmental and socioeconomic impacts associated with point-source water pollution.





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# INTRODUCTION

In many developing countries, industrialization is seen as a necessary choice for economic growth. The resulting pollution is viewed as an unfortunate but necessary consequence. However, the economic, health, and social costs of pollution to the environment and communities is increasingly being recognized.



Industrial facilities release 300 million–400 million tons of heavy metals, solvents, toxic sludge, and other waste into the world’s waters each year (Palanaippan et al. 2010). Globally, over 80 percent of all wastewater is discharged without treatment, and contaminated water is a root cause of death, disease, and disability, particularly in developing countries (UN-Water 2013). Further, some studies suggest that the volume of industrial wastewater could double by 2025, even though 748 million people currently do not have access to clean water (WWAP 2017). In many developing countries, the economic burden associated with deaths and illnesses related to environmental degradation from pollution is equivalent to 2–4 percent of GDP (World Bank 2012).

Leading governments and international agencies are slowly building momentum around addressing pollution as a common national and global priority for action (World Bank 2012). Change has been slow partly because of the complexity created by the range of approaches used to regulate pollution as well as the varied sources of water pollution and water uses (Tietenberg 1998). The regulation of water pollution requires a careful evaluation of

risks, abatement costs, and the ability to monitor and enforce compliance with pollution legislation. Many governments struggle to create effective institutional capacity to implement pollution management responsibilities, including training personnel and generating funding (Gani and Scrimgeour 2014; Hettige et al. 1996; Afsah et al. 1996).

Water pollution strategies must ensure communities can live in a healthy environment and incentivize companies to prioritize pollution prevention. The 2015 adoption of multiple sustainable development goals as part of the 2030 UN Agenda for Sustainable Development that targets pollution, sanitation, and clean water, provides an opportunity for new momentum.

To improve decision-making, governments need rigorous systems to collect, manage, and disseminate water quality information. Citizen access to information is an internationally recognized human right (Mendel 2012) that helps defend other human rights, including the right to life and the right to safe and clean drinking water (Gleick 1998). In water pollution management, the right to information can complement existing command and control programs and economic incentives for pollution prevention. There is a direct connection between a functioning right to information system and communities’ ability to participate in decision-making about water quality and their ability to access justice (Foti and De Silva 2010). Access to information can heighten people’s awareness about risks to health from using contaminated water and can be crucial to securing communities’ involvement and participation in the implementation of pollution control policies. Information disclosure on compliance and enforcement of pollution standards allows the public to monitor pollution control efforts of companies or make decisions about buying company shares or products. Finally, without access to information, communities cannot exercise their right to go to court to seek remedies and redress against those who breach national water quality standards.

In practice, the benefits generated by widely available information are in no way automatic but rather depend on the sociopolitical context and people’s ability to access, understand, and use the information (Beierle 2004; Weil et al. 2006; Lee 2010).



Careful attention to the multiple dimensions of disclosure—including who discloses information, what specific information is released, in what form, to whom, and for what purpose—will help illuminate the key drivers of success (Gupta 2008). As innovative solutions for pollution prevention and mitigation are developed, careful analysis of the models and mechanisms of public access to environmental information needs to be prioritized to leverage the power of transparency, citizen engagement, and accountability (Fung 2013; Lee 2010).

Unfortunately, the harsh reality is that billions of people around the world still have to use polluted water for domestic and livelihood purposes (Corcoran 2010). Many have very little information about the quality of water in their communities, who has contaminated it, or the potential risks of using such water. Poor water quality reduces the amount of useable water available for bathing, fishing, and farming. And while water quality is impacted by contamination from nonpoint sources such as agricultural runoff and poor sanitation practices as well as point-source discharges from wastewater treatment plants and industries, water pollution priorities often center only on improving sanitation, hygiene, and onsite drinking water.

Secrecy about the type and amount of industrial pollutants discharged into water bodies is still the norm across many developing countries. WRI's Environmental Democracy Index (EDI 2015) found that governments generally do not provide easy access to comprehensive information on environmental impacts from individual corporate facilities. The research, which assessed 70 countries, indicates that while almost half have legislation requiring all government agencies to monitor performance and compliance of activities by facilities that could harm the environment, 64 percent of these countries were not making point-source pollution (such as from a factory or mine) information publicly available in any form. EDI also found that a majority of countries provide limited or no access to information about water quality in capital cities. This may be due to government's reticence to release data that is unverified, a lack of clear permitting requirements mandating companies

to collect data, or a culture of secrecy surrounding the release of facility or company data (Blackman 2010).

This lack of transparency is especially problematic in Asia where the move away from traditional agricultural to rapid industrialization and urbanization has resulted in serious water pollution problems. Many governments—including Indonesia, Thailand, and Mongolia—are struggling to manage the complexity and scale of these water pollution problems (Evans et al. 2012). "In Indonesia, 75 percent of rivers were classified as heavily polluted in 2012 (WEPA 2015). In Thailand, water quality has been deteriorating across the country; data from 2014 show that the percentage of water resources with reduced water quality increased from 15 percent to 18 percent and that no water resources were in "excellent" condition (PCD 2014). Finally, in Mongolia, while some rivers are still considered clean, pollution from growing urban settlements and mining, including hazardous chemicals used in mining gold, is deteriorating the quality of many rivers and underground water sources (UNDP 2011).

These national water pollution problems are often caused by a failure to invest in efficient infrastructure for the treatment of industrial wastes (ADB 2015). A lack of regulatory capacity in national and local environmental enforcement agencies compounds the situation (ADB 2015). Public disclosure of company facility information to promote compliance is being attempted in some countries in Asia but only on a voluntary basis as in Japan and Indonesia.

Meanwhile, many rural communities depend on river systems for their domestic needs and livelihoods (UNDESA et al. 2015). Communities and groups that lack political and economic power, including the poor, women, and children living near and using contaminated water, are disproportionately affected and suffer the most from diseases caused by unsafe water (Palanaippan et al. 2010).

## Purpose of this Report

The World Resources Institute and its civil society partners from the Access Initiative undertook a three-year action and evidence-based investigation to assess the information needs of communities and ascertain the effectiveness of various legal and practice approaches governments have taken to release specific types of industrial pollution information. The comparative study explores these practices in relation to the release of environmental information in Indonesia, Thailand, and Mongolia. The research was conducted as part of the Strengthening the Right to Information for People and the Environment (STRIPE) project. The STRIPE project focuses on empowering communities to improve their environmental health by using their right to access information and participation.

We assessed three vulnerable communities that were just becoming aware of their right to access environmental information and faced numerous obstacles when attempting to use that right. In this report, we compare the three governments' approaches to disclosing environmental information and the quality of their responses to freedom of information requests by civil society and communities. The report provides insights into how the countries' legal standards compare to international standards, and documents the specific types of information needed by the communities to effectively participate in decisions impacting their local environment.

The study demonstrates the need for a paradigm shift in how governments release environmental information to the public. In many areas, a lack of transparency and the lack of the public's ability to use information to incentivize pollution prevention have resulted in conflict-ridden relationships between communities and companies. The authors hope it can be used to identify important lessons for other developing countries struggling to balance sustainable economic development, the human right to clean water and the right to information.

## Methodology

To assess the state of law and practice around access to environmental information and the ability of communities to obtain and use this information, WRI worked with STRIPE in-country partners in Indonesia, Thailand, and Mongolia on the following tasks:

- Identified and worked with communities concerned about industrial pollution. Conducted interviews to capture their experiences in collecting and using information to address multiple impacts as well as their ongoing concerns.
- Conducted a legal review to evaluate the national disclosure framework for releasing environmental information.
- Used an indicator-based analysis framework to investigate the proactive availability of environmental information in practice.
- Worked with communities and civil society to develop their capacity to make clear demands for information and submit formal information requests to multiple national and local government agencies and determine the effectiveness of this method in obtaining desired information.
- Supported civil society in identifying forums for their effective advocacy on pollution control.
- Translated technical environmental information into forms that communities could understand and use.

This original research was undertaken in partnership with a number of nongovernmental organizations, who were our STRIPE partners: in Indonesia, the Indonesian Center for Environmental Law (ICEL), an environmental law public interest organization; WALHI/ Friends of The Earth Indonesia, an environmental advocacy group; MediaLink, a community-focused media advocacy group; in Thailand, the Thailand Environment Institute, an environmental think tank; and Eastern People's Network, a community advocacy group; and in Mongolia, the Center for Human Rights Development, an environmental law public interest organization; Patrons of Khuvsgul Lake, a community advocacy organization; Environment and Health

Center, a public health civil society organization; and the Transparency Foundation, a journalism and transparency civil society group. More information about our partners can be found in Appendix A.

The methodology is a part of a larger action research model soon to be released that can be transferred to other countries, contexts, and communities. A toolkit (Excell and Moses, forthcoming 2017) was developed and used to support civil society to conduct the research. It included detailed indicators for assessing pollution control regulation. This toolkit, currently being revised, provided civil society organizations and local community representatives practical guidance on how to use their right to information to address the serious socioeconomic and environmental impacts of pollution in communities and expand their opportunities for participation in environmental decision-making processes. It includes the following how-to components:

- Conducting an integrated assessment of relevant transparency, participation, and environmental laws.
- Evaluating what environmental information is available to the public.
- Using right to information laws to make strategic requests to government.
- Analyzing and reporting findings including how to share and use information strategically to achieve goals and objectives.
- Building the capacity of activists to advocate for pollution prevention and restoration.

## Report Organization

The report is organized as follows.

**Section I** discusses the impact of a lack of transparency about industrial pollution and the struggles of Asian communities to obtain information.

**Section II** outlines how the three governments regulate the release of information and addresses the framework commonly used to proactively release pollution information. It also presents our findings about how these laws are implemented in practice.

## BOX 1 | RESEARCH LIMITATIONS

The findings in this report are based on in-country work in three communities, focused on the regulation of point-source industrial pollution discharges, and does not address the control of nonpoint water pollution.

Although many of the community members were concerned about the discharges from local facilities, the report does not attempt to address the specific sources of pollutants in water bodies, specific pollutants, or make any causal connections to public health impacts. The sources of pollution and possible impacts discussed are expressly the views of local community members or are referenced to independent studies.

Given the normative assumption of a “right to know,” the focus of the study was on citizen access to information and the role of government. The demand for information and how this demand shapes right to know policies was investigated in a limited way. No information on how gender, age, or social variables can affect the use of and demand for information nor on how government data was collected and/or aggregated was included in the methodological framework.

Information requests were submitted in 2011 and 2012 in Indonesia and Thailand and in 2014 in Mongolia. While newer information, when available, has been noted, analysis of request response rates was based on data collected during this time period.

**Section III** presents our review of how the governments address the release of information under right-to-information laws in each country and our findings about the progress and gaps in implementation.

**Section IV** offers a discussion of the barriers facing governments in the three countries in their effort to address community needs for public information and whether the legal frameworks support communities struggling with long-term pollution problems.

**Section V** includes recommendations for civil society, communities, donors, and governments.



SECTION I

# THE IMPACT OF POOR TRANSPARENCY ON COMMUNITIES

In three partner communities, the STRIPE project documented attempts to access water pollution information and the consequences of poor access to information on rural and marginalized communities.

These communities had a history of facing local pollution and were concerned about the discharges from specific industrial facilities and were willing to partner with STRIPE civil society partners. The partners held multiple workshops and trainings with community leaders throughout the project and documented their concerns and perspectives about industrial water pollution and its impact on their lives and livelihoods through interviews, formal surveys, and in-country reports.

## The Struggles of Local Communities to Obtain Information about Pollution

### Serang, Indonesia

On the outskirts of Serang Regency [district] in the Banten Province of Indonesia, people living near the Ciujung River said they are always relieved when the river water stops smelling bad and loses its chocolate milk color. Since the 1990s, numerous pulp and paper companies and other industries have established themselves on the Ciujung River. Villagers have grown increasingly concerned with the impacts of industrial discharges to the river, especially since the PT Indah Kiat Pulp and Paper (PT IKPP) mill began production. They believe pollution is impacting the water quality.

Villagers use the river water all year long to meet their daily needs. “We’re still taking a bath and washing our clothes there. It makes my skin itch,” one area resident, Anton, told local research partners.

Figure 1 | Serang, Indonesia



Villagers use the river water all year long to meet their daily needs. “We’re still taking a bath and washing our clothes there. It makes my skin itch,” one area resident, Anton, told local research partners.

Others believe the dirty water is impacting the fish and shrimp in the river. “Now, the fish can grow to just about an ounce in four to five months. Recently, we can only harvest them in 10 months,” Kholid, another resident, told local partners.

Another inhabitant, H. Maftoh, believes the current situation is far worse than before. “Back then we could harvest a large amount of shrimp. It could reach a quintal [100kg]. Now we can only harvest around a kilo.

“The pollution changes our life here; agriculture is no longer good anymore. It is ironic. The contribution from the agricultural sector to the Pontang and Tirtayasa villages and to the Serang Regency revenue used to be significant. Now people [leave] their fields and find another job, working as labor in the [pulp and paper] industry, or as migrant laborers,” he said.

Community members have been fighting to clean up the river for more than 20 years; they held protests in 1995, 1997, 1998, 2006, and 2010. In 1992, the community group, Organization of Ciujung River Users (OCRU) and a national civil society organization, Indonesian Center for Environmental Law (ICEL), representing local residents approached the Serang district government to address their concerns. Although Indonesia’s Environmental

Impact Management Agency, BAPEDAL, mediated an agreement to meet the villagers' demands for an EIA and the establishment of wastewater treatment plants, these changes did not limit the amount of industrial pollution discharged into the river. In 1995, community representatives filed a civil lawsuit in the North Jakarta District Court against the PT IKPP mill and the four other companies polluting the river, as well as the local government of West Java, on behalf of 17 people who had fallen victim to river pollution (District Court North Jakarta 1995). The court however determined it did not have jurisdiction because it was located outside the area where the industries were located; so once again, no action was taken (District Court North Jakarta 1995).<sup>1</sup>

In 2010, the communities took their demands to Indonesia's House of Representatives (DPR RI). In 2012, through the STRIPE project, community members developed and submitted a series of information requests to national ministries, state-owned enterprises, and local government agencies to collect data about the Ciujung River water quality, including the type and amount of industrial water discharges, and the impacts on the communities' drinking water and environment. In response, villagers received limited information about the PT IKPP mill, including wastewater release data from four random days in the summer of 2011. They

received Ciujung River water quality data for specific chemicals that was collected on a single day from multiple testing spots along the river that did not correspond to any of the PT IKPP testing dates.

The information released did establish that of all the companies polluting the river, PT IKPP was the largest contributor. It also established that a renewal of the pulp and paper mill's wastewater discharge permit had been issued without a public participation period as required by law. The information was used to persuade the parliament to act. Because of the long history of river contamination, company noncompliance, and ongoing conflict with local communities, Indonesia's Representative Council (DPR RI) ordered the Ministry of Environment to conduct an environmental audit of the PT IKPP mill. The results from this audit, published in 2013, included over 26 specific recommendations for action.

More protests in 2013 demanded PT IKPP comply with environmental laws, stop disposing waste into the river, and complete the environmental audit recommendations. In 2015 the issue was triggered again when the river water turned black for six months. Water quality testing conducted by local residents documented that the river was still polluted. Protests demanding the government clean up the Ciujung River continue.



## Map Ta Phut, Rayong, Thailand

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 zone occupies 64 square miles in the Mueang Rayong District, in Rayong Province. It was built around 30 agricultural and residential communities with more than 49,000 residents. Map Ta Phut is one of the Thailand's most toxic hot spots with a well-documented history of air and water pollution, industrial accidents, illegal hazardous waste dumping, and pollution-related health impacts including cancer and birth deformities.

In 2007, after years of protests and failed attempts by residents to stop expansion of the industrial estates and curb the industrial pollution, 27 people representing 11 communities in the Map Ta Phut zone filed a lawsuit against the National Environmental Board (NEB), alleging that the board had improperly failed to designate Map Ta Phut and its vicinity a pollution control zone (Soytong et al. 2014). Another lawsuit was filed against the NEB and eight other Thai ministries by community organizations (Soytong and Perera 2014). Spearheaded by STRIPE partner and local activist organization, the Eastern People's Network, this lawsuit focused on the failure to follow the prescribed procedures,

Figure 2 | Map Ta Phut, Rayong Thailand



including conducting environmental and health impact assessments, before issuing operating licenses to 76 new industrial expansion projects. In 2009, the Administrative Court ruled in their favor and ordered a halt to the 76 projects (Feldmann 2012).

This was a landmark court ruling in Thailand, but later that year the government received the court's permission to proceed with 11 of the projects. It also developed an environmental management plan with five objectives to reduce the emissions, improve health care, enhance community participation in monitoring environmental quality, and ensure that future development will not affect the environment or public health (Soytong and Perera 2014).<sup>2</sup>





Ultimately, 74 of the 76 projects were allowed to continue (Feldmann 2012). Further, even after declaring Map Ta Phut a pollution control zone and implementing an environmental management plan, pollution violations continue. There have also been several major incidents, including a 2012 explosion at the factory of a Bangkok Synthetics subsidiary that killed 11 and injured another 129 people. The following day, a chemical leak occurred at the Aditya Birla Chemicals plant, leading to the hospitalization of 138 people. Press reports at the time noted the local people were not told if it was safe to remain in the region or if they should evacuate. Details about the toxic chemicals released during the accidents were not immediately provided to community members.

Community residents continue to raise their concerns and fight for more information and better industrial compliance and enforcement. During a visit in 2012, one villager living near the Lek Umaree estate, discussed her experience with WRI staff. She described how she and other local citizens had been told by the government there was an elevated level of arsenic in the local wells and they were not to use them. Arsenic had also been found in blood samples taken from community members and in the local seafood. (Rangkadilok et al. 2015).

In June 2011, as part of the STRIPE project, and with the assistance of the Eastern People's Network, community members from five areas around Map Ta Phut submitted information requests for specific information about the Map Ta Phut zone. They were concerned about the environmental, social, and health impacts from industrial operations and wanted more information to help them protect themselves and their families from the potentially high risks. They wanted a list of factories not complying with environmental laws and information about the specific pollutants being released, including their health impacts.

After a significant delay, some relevant information was released as well as the locations of the factories that released pollutants into rivers. In two cases, citizens had to file an appeal with the information commissioner's office to receive the information. However, agencies never released a list of factories violating pollution standards, nor information on the pollutants' health impacts—the information most desired by local communities. In addition, the information was often highly technical and difficult to understand.



## Tuul River Basin, Mongolia

The Tuul River Basin covers only about 3 percent of Mongolia's territory, but is home to more than half of the country's population (UN-HABITAT 2006). The capital city, Ulaanbaatar's, main source of water is the Tuul River. Over the past 30 years, growing urbanization and rapid industrialization have significantly impacted the Tuul River Basin (Batimaa et al. 2011). Major Tuul River polluters include gold mines, gravel extracts, livestock, and tourist camps. Toxic pollution has degraded the ecosystem. Major pollutants included pH modifiers, various organic pollutants, chromium, other heavy metals, chlorinated hydrocarbons, phenol, and nitrogen-containing inorganic compounds (Teaf et al. 2004).

Outside the capital, Mongolia's rural residents are also under threat. Many of the wastewater treatment plants in Ulaanbaatar are not functioning (Batimaa et al. 2011). The remaining facilities are over capacity and discharge improperly treated waste directly into the river. In fact, stretches of the Tuul River downstream from Ulaanbaatar are among the most polluted river stretches in Mongolia (Batimaa et al. 2011).

Figure 3 | Tuul River Basin, Mongolia



Residents of the Khoroo No. 13 village outside Ulaanbaatar are working to address their need for an increase in drinking water capacity and pollution concerns from local industries, gravel mining operations, and Ulaanbaatar's poor wastewater treatment. Village families do not travel like traditional nomadic communities, but rather have summer and winter camps here. Their income is based on vegetable and fruit farming and cattle and other livestock, all of which require clean water.

At a community meeting in 2015, villagers spoke about changes to the Tuul River. Oyunbileg, a villager, told WRI researchers, "Normally the river



should be clear and frozen in the winter months, not gray and smelly and free flowing in winter like it is now. Waste freezes to the bridge, and the cattle drinking river water fall sick. More and more dead fish are being found.” Villagers believe the polluted river water is impacting their ability to grow crops. They worry about running out of clean drinking water. Historically, the community used five springs; now villagers talk about their need to drill many additional boreholes for water. They can see the impact this is having on underground water sources as the surrounding trees have been dying. Oyunbileg shared, “Bad odors are coming from the river and when our cattle drink river water the meat takes on a yellowish color. Our customers complain of a weird taste.”

Accessing information from the local industries or the government has been a problem. Residents don’t remember any consultation during the EIAs or mining permit processes in their area. Villager Lkhagvaa complained, “Information from companies is difficult to obtain, especially about ownership and who is ultimately accountable for these problems.” With the help of local partners, community members submitted requests to the government for information about the water pollution generated by local facilities. Unfortunately, only district-level data were sent, making it impossible to identify local industry releases or who is responsible for the local environmental and public health impacts. After the RTI-requesting exercise highlighted important information gaps, agency representatives were unable to address community concerns and recommended approaching the cabinet or parliament instead.



“Normally the river should be clear and frozen in the winter months, not gray and smelly and free flowing in winter like it is now. Waste freezes to the bridge, and the cattle drinking river water fall sick. More and more dead fish are being found.”

## Commonalities among Communities

The experiences of these three communities highlight the impact of growing water pollution problems, inconsistent pollution control regulation, and the essential role and strong demand for environmental information. Overall, our partners found that communities

- spent a long time, sometimes decades, voicing concerns about growing pollution problems and the perceived health, environmental, and economic impacts;
- struggled to obtain information about industry compliance with water discharge requirements and suspected permit violations;
- did not have the information they needed to adequately participate in EIA and other processes designed for public consultation;
- made efforts with multiple governments and elected officials to seek redress but had only limited success;
- attempted to access information through right to information laws with support of civil society but did not receive adequate information; and
- resorted to civil protests to call attention to the ongoing pollution problems and poor enforcement of existing laws.

## The Types of Information Needed by Communities

Transparency and access to information enable people to make individual and family decisions that protect their health and support the development of a clean and beneficial environment. This information also allows them to participate in government pollution control regulatory systems, although they must build capacity to understand and use information to engage in decision-making. Currently, communities undergo long struggles for answers about cleanup and remediation from corporate actors and governments.

A survey of communities living along the Ciujung River in the Serang Regency conducted by ICEL indicated that they want the following environmental information, in order of priority:

- Impacts of local company activities on the quality of drinking water and river water.
- Negative impacts of using potentially contaminated water on health.
- Mitigation efforts taken by government and company officials to prevent pollution and further degradation of the river.
- Business operating permits from both central and local governments so local people can help monitor compliance and enforcement (ICEL 2016).

In Mongolia, STRIPE partners, in a community survey, found mining reclamation, mitigation, and contamination as the number one environmental concern, followed by Tuul River pollution and drinking water and pasture land scarcity (CHRD 2014). Overall, the communities wanted the following:

- More information about local mining companies and their activities in the area.
- Information on government efforts to address reclamation and water and air pollution levels in their local area.



- Practical information to help them decide whether to buy livestock given the water contamination.
- Spatial information such as maps with multiple layers including boundaries with an easy, location-based search method to help identify the location of different mines.

In Thailand, the information request submitted by community members as part of the STRIPE project included similar information needs regarding the sources and effects of pollution. It included facility-specific pollution discharge information, compliance and violation documents, and drinking water and public health and environmental impact information (TEI 2013).

In summary, communities’ concerns centered around access to local, facility-specific information that would help them understand which companies were polluting the river and the impact on river health (found in monitoring reports that include the names and quantities of pollutants released), company information including compliance and enforcement records and permit discharge requirements, and the potential health, socioeconomic, and environmental impacts from the pollution. Synthesized from our partners’ STRIPE community work and joint research, Table 1 summarizes the information local communities need to have a meaningful voice in decisions impacting their local environment.

Table 1 | **Type of Pollution Information Communities Need**

SOURCES OF POLLUTION	EXAMPLE
General company information	Parent company or owner information, its location, and environmental officer contact details
Pollutant information including specific types and discharge quantities	Often imbedded in water quality monitoring reports; includes locations of water monitoring and pollution discharge sites
Regulatory permitting documents	Discharge permit limits, EIAs, and compliance and enforcement reports
General water quality of local water bodies	Ambient water quality standards and monitoring reports
Mitigation or cleanup efforts or requirements	Specific company actions and/or government issued mitigation or clean up orders
EFFECTS OF POLLUTION	EXAMPLE
Potential short-term and long-term health impacts of pollutants being released	Public health assessments; EIAs
Potential health impact of using contaminated water	Ongoing monitoring and assessments of health impact of drinking, bathing, and other household uses
Biological monitoring	Ongoing monitoring and assessments of impact to livestock, agriculture, and/or fishing



## SECTION II

# TRANSPARENCY OF ENVIRONMENTAL INFORMATION: PROACTIVE DISCLOSURE

Governments pass laws and write regulations that determine what types and forms of information will be released. It is therefore critical for community members to understand the mechanisms used to access environmental information.



Academic literature outlines two overarching regulatory approaches that governments use to release information: proactive and reactive disclosure (Darbishire 2010). Proactive disclosure is defined as information made public at the initiative of the public body without a request being filed. Reactive disclosure is information released following requests by interested parties (Darbishire 2010). Proactive disclosure is discussed here, and reactive disclosure is discussed in Section III.

Proactive disclosure is driven by three areas:

- International standards that frame general principles and obligations around the right to access information.
- National laws and regulations that translate these principles into specific government obligations to disclose environmental information.
- The specific processes or mechanisms used by government ministries to mandate the release of this information to the public.

Proactive disclosure has certain advantages over reactive disclosure, including lowering government administrative burdens and expenses, eliminating the need for citizens to understand the requesting procedures or knowing the exact document containing the information they desire. Proactive disclosure can also make information available to many potential requesters in a timely and efficient manner (Puddephatt and Zausmer 2011; Darbishire 2010). Proactive disclosure relies less on building a strong system to address individual requests and instead requires governments to collect data and transform it into useful formats using the following methods:

- Collect comprehensive timely and accurate information.
- Analyze data and transform it into forms that can be understood by and targeted to specific audiences.
- Widely disseminate national, regional, and local data and proactively publish useable data (Foti and De Silva 2008).

Governments use multiple approaches for proactively disclosing environmental information (Kulsum 2012). Multiple channels of distribution must also be used to ensure information is widely accessible to the public (Grimmelikhuijsen et al. 2012; Darbishire 2010). Governments should consider cost, local language, and traditional forms of communication such as radio, television, or public meetings, often used in rural areas. They can present environmental information in graphic forms such as maps and charts, using symbols and colors to identify risks, and demonstrate breaches or compliance with standards. Ideally, local information channels that are frequently updated would be used for proactive disclosure of information about water quality to communities.

We evaluated the applicable international standards on proactive disclosure, how they inform national laws and policies, and whether local communities could use proactively available approaches to obtain the information they need in Indonesia, Thailand, and Mongolia. We also assessed which environmental disclosure mechanisms were used and their efficacy in each of the three communities studied.



## International Standards for Proactive Disclosure

States have long recognized a duty to proactively disclose information to the public about environmental pollution through Principle 10 of the 1992 Rio Declaration, which states:

*[E]ach individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided.*

States have translated this principle into their national legislative frameworks. The United Nations Environment Programme (UNEP) Bali Guidelines adopted in 2010 by the United Nations Environment Programme Governing Council provides guidance:<sup>3</sup>

*States should ensure that their competent public authorities regularly collect and update relevant environmental information, including information on environmental performance and compliance by operators of activities potentially affecting the environment. To that end, States should establish relevant systems to ensure an adequate flow of information about proposed and existing activities that may significantly affect the environment.*

This principle has been incorporated into an international environmental convention in Europe and into an agreement being negotiated in Latin America and the Caribbean.

These regional agreements provide broad recognition of a right to environmental information and provisions for the proactive release of environmental information, including requirements for the release of information in electronic formats and facility-specific information on pollution information by companies.<sup>4</sup> No such regional legally

## BOX 2 | THE AARHUS CONVENTION

Within the United Nations Economic Commission for Europe (UNECE) region, the 1998 Aarhus Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, includes a government duty to proactively disseminate information and respond to requests for environmental information. The convention's article 4, paragraph 4(d), makes it clear that information on air emissions, water discharges, and waste that is relevant for the protection of the environment must be disclosed.

Information on pollutant releases is not considered exempt because the releases are made to the environment and therefore they are public and cannot remain a secret (UNECE 2014).

The convention also includes specific requirements for the release of information by companies, which are required to set up a robust framework for pollution disclosure. Article 5 (9) requires states to progressively establish a publicly accessible nationwide system of pollution inventories or registers.

The 2009 Kiev Protocol on Pollutant Release and Transfer Registers specifically addresses industrial pollution. This protocol provides for the public release of air emissions, water discharges, and land deposit information by corporations through mandatory reporting by the owners or operators of listed polluting facilities. None of the three countries assessed in this report are parties to the Aarhus Convention.

binding agreement exists in Asia. A description of a pollutant disclosure release system is provided in Box 2.

Outside of these instruments that explicitly promote proactive disclosure of information, the SDGs, voluntary international development goals adopted in 2016, provide states with an approach to improve access to clean water (goal 6) and improved governance (goal 16), and a framework for national action with support from the international community. Goal 6 indicators include a requirement that by 2030 states improve water quality by reducing pollution, eliminating dumping, and minimizing

release of hazardous chemicals and materials. Goal 16 asks them to measure the extent to which public access to information is guaranteed in accordance with national legislation and international agreements.

## Review of National Proactive Disclosure Standards

To varying degrees, international standards that require states to release information to the public have been incorporated into national law through a set of policy mechanisms that aim to provide communities with environmental information and to drive efforts for transparency around industrial pollution. We evaluated the laws in each country to see if the types of information that communities needed is required to be proactively released by law and whether the law describes a prescriptive environmental disclosure mechanism (where relevant).

We found a broad obligation for the proactive release of environmental information in Indonesia and Thailand through both the right to information laws and sectoral environmental laws providing varying degrees of proactive access for communities including to EIAs and general monitoring information. Mongolia’s environmental law provides a mechanism for the creation of an environmental databank. However, its RTI law provides a limited obligation for proactive disclosure. In Mongolia, we found no frameworks that prioritize the release of the types of information desired by communities. The comparison of country laws with the information communities want is summarized in Table 2. An overview of common proactive disclosure mechanisms used in these countries is provided in Table 3.

Table 2 | **A Comparison of Information Communities Want with Proactive Disclosure Legal Requirements**

Community-Desired Information	INDONESIA		THAILAND		MONGOLIA	
	Proactive Release of Information Required by Law	Law or Regulation	Proactive Release of Information Required by Law	Law or Regulation	Proactive Release of Information Required by Law	Law or Regulation
<b>General company information</b>	Yes	Application for permit announced in article 44 of Government Regulation 27/2012	No	n/a	No	n/a
<b>Pollutant information including specific types and discharge quantity amounts (liquid waste permits)</b>	No	No	Yes	Section 55 of the 1992 Enhancement and Conservation of National Environmental Quality Act (NEQA), requires gazette publication of standards only and Official Information Act section 9(8)	Yes	Environmental Protection Law (EPL): Article 10 says an environmental monitoring network is required that will release information to the public  Article 21(2) requires the central state administrative body to maintain a unified register of pollution sources
<b>Permitting documents</b>	Yes	Ministry of Environment Regulation no. 12/2012, but does not include liquid waste permits	Yes	OIA section 9(8): make information available by gazette or inspection at a public authority	No	n/a

Table 2 | A Comparison of Information Communities Want with Proactive Disclosure Legal Requirements (continued)

Community-Desired Information	INDONESIA		THAILAND		MONGOLIA	
	Proactive Release of Information Required by Law	Law or Regulation	Proactive Release of Information Required by Law	Law or Regulation	Proactive Release of Information Required by Law	Law or Regulation
<b>General water quality of water bodies</b>	Yes	Article 33 of Government Regulation no. 82/2001 requires publication	Yes	Yes, NEQA section 53 pollution control report	Yes	Yes, Article 12 of the EPL requires creation of an environmental information databank that includes measurements and data on water; Article 10 includes an environmental monitoring network to provide information to the public
<b>Mitigation or cleanup efforts or requirements</b>	Yes	Yes, article Environmental Protection and Management law (2009) speaks of cleanup and mitigation risks and requirements to provide notice to the minister and public, Art. 18, 39, and 53	Yes	Yes, section 36 of the Environmental Quality Management Plans and OIA section 9(8) requires information be made available by gazette or inspection at a public authority	Yes	Yes, article 12(9) says the government shall report annually to the spring session of the state [on the state of the environment including sources and levels of environmental pollution, mitigation measures, and results]
<b>Potential short term and long term health impacts of pollution being released</b>	Yes <sup>a</sup>	Articles 49–50 disclosure of audits includes information on impacts of pollution	Yes	Yes, see pollution report, NEQA section 53	Yes	EPL article 10(3) provides for environmental monitoring, including the development of proposals for the prevention of adverse effects on human health, which are to be made available to public
<b>Potential impact of using contaminated water</b>	Yes	Article 12 paragraph (1) Standards of Public Information Service (Perki SLIP) requires a standard procedure to release information	Yes	OIA section 9(8) made available by gazette or inspection at a public authority	No	EPL article 8 (2) speaks to carrying out natural resource assessments, which shall include measures for the proper protection and use and restoration of renewable resources. This information must be published in the environmental databank.
<b>Biological monitoring</b>	Yes	Article 33 of Government Regulation no. 82/2001	No	n/a	No	n/a

n/a is data not applicable.

Note: a. This provision may be implied based on Articles 49–50 of the Environment Protection and Management Law (EPMA) [2009] law, which includes a requirement for carrying out an environmental audit on businesses and release of this information to the public as well as a provision on immediate release of water quality information in case of threats.

In general, the governments assessed in this study have adopted state of the environment reports, EIAs, permitting registers, environmental disclosure ratings, pollutant release and transfer registers, water quality monitoring and compliance data via data portals to proactively release environmental information to the public. Only some of these mechanisms are referenced in the law. Some proactive disclosure policy tools used in the countries and their limitations are outlined in Table 3.

Interestingly, in the countries assessed, RTI laws included specific provisions on proactive disclosure of environmental information as outlined in Box 3. These provisions were broad in their application and detailed a number of categories of environmental information that required proactive disclosure across agencies. These provisions set up a framework for proactive release beyond what was provided in environmental laws.

All three countries showed gaps in their legal mechanisms to obtain specific types of information that are relevant to communities. That is, many of the laws did not include a prescriptive list of how information is to be made available and comprehensible to affected communities. Instead, information is more likely to be published in an official Gazette or website. Very few requirements call for information to be released to affected communities by way of notice or signs near polluting facilities or for documents to be posted on local registers. The regulatory complexity also makes it very difficult for communities to understand which agency holds the information adding a significant barrier to their ability to use their legal rights of access.

A review of each country’s laws and policy disclosure mechanisms is provided below.

### BOX 3 | RIGHT TO INFORMATION LAWS AND PROACTIVE DISCLOSURE

Although primarily a mechanism for reactive disclosure, or citizen requests for information, right to information laws in each country also include specific stipulations for the proactive disclosure of information. The table below compares the legal proactive disclosure provisions in the three countries.

	RIGHT TO INFORMATION LAW		
	<b>THAILAND: THE OFFICIAL INFORMATION ACT B.E. 2540 (1997)</b>	<b>INDONESIA: THE PUBLIC INFORMATION DISCLOSURE ACT (PIDA) NO. 14 (2008)</b>	<b>MONGOLIA: LAW ON INFORMATION TRANSPARENCY AND RIGHT TO INFORMATION (2011)</b>
Proactive release requirements under right to information law	Under the Official Information Act, a rule was released in 2010, which includes a list of information to be released by the government including impacts of pollution and specific facilities.	In 2014, a regulation was adopted to proactively require the release of a list of documents held by agencies including water monitoring information in rivers.	Section 14.4. of the law on transparency speaks only to the release of radioactive or poisonous substances, which damage the environment where storage requirements are violated.

Table 3 | Proactive Disclosure Policy Tools

POLICY TOOL AND DESCRIPTION	BENEFITS	LIMITATIONS	COUNTRY RELEVANCE
<p><b>State of the environment report:</b> A written assessment of the integrity and condition of the ecosystem and natural resources in a given region or country (Anderson et al. 1999)</p>	<ul style="list-style-type: none"> <li>■ Ensures credible information is available to support environmental decision-making (Kulsum 2012; Ramos et al. 2014; Rapport and Singh 2006.)</li> <li>■ An effective tool for governments to communicate technical data to wide audiences in an informed, easy-to-understand manner</li> <li>■ Allows the reader to understand broad environmental problems, track trends over time, and see progress toward stated environmental goals</li> </ul>	<ul style="list-style-type: none"> <li>■ Data selection, collection and assessment are not typically developed with input from a broad range of stakeholders</li> <li>■ Quality of reports varies significantly</li> <li>■ Information is unusable, incomplete, or obsolete in some cases</li> </ul>	<p>Indonesia, Thailand, and Mongolia have regularly published reports in the last 10 years, but none of these countries legally require the information to be up to date or comprehensive, making this a limited resource for local communities</p>
<p><b>Environmental impact assessment (EIA):</b> An essential component of evaluating the likely environmental impacts of a proposed project or development, taking into account inter-related socioeconomic, cultural, and human health impacts, both beneficial and adverse (Partidario and Sheate 2013)</p>	<ul style="list-style-type: none"> <li>■ Meant to inform development decisions by mandating consideration of alternatives and assessing environmental conditions, impacts, and mitigation measures for prescribed or major development projects (Li 2008)</li> <li>■ Provides public access to useful and relevant information and ensures that government and industry are making development decisions within the parameters of law and the public interest</li> <li>■ Often a rare public source of locally specific, detailed information about water quality and pollution</li> </ul>	<ul style="list-style-type: none"> <li>■ In practice accessibility to relevant and comprehensive information for the full range of potentially affected individuals is often not achieved</li> <li>■ Governments often fail to make a public announcement about the imminent preparation of an EIA</li> <li>■ Often doesn't include a well-designed process for involving the public or post-EIA monitoring for compliance</li> </ul>	<p>Indonesia, Thailand, and Mongolia all use the EIA process, but the laws governing EIAs do not require them to be available in a timely fashion to the public and requirements to ensure the information is understandable to the public is limited</p>
<p><b>Permitting register:</b> Permits can be issued to industry, business, and individuals to carry out certain activities that have the potential to pollute the environment. These registers may include conditions for getting a permit, applications, and other relevant information. Registers can also contain monitoring information, details of any breaches of the terms of the permits, and information on the renewal of permits (Rowan-Robinson et al. 1996)</p>	<p>Registers allow access to information about the business associated with polluting activities and terms and conditions of the permits that make civil society monitoring possible</p>	<p>Registers need to be updated frequently and are usually accessed only by very sophisticated users seeking accountability of actors</p>	<p>Mentioned in Indonesia by legislation but not found in practice in any of the countries studied</p>

Table 3 | Proactive Disclosure Policy Tools (continued)

POLICY TOOL AND DESCRIPTION	BENEFITS	LIMITATIONS	COUNTRY RELEVANCE
<p><b>Environmental performance rating disclosure program:</b> A set of pollution control indicators used to develop a performance rating system for industrial pollution releases/management. Often color coded to indicate good, fair, and poor performance (Gozun et al. 2011)</p>	<ul style="list-style-type: none"> <li>■ Disclosed to the public as a source of information about the environmental impact and compliance of local companies (Blackman 2010; Lee 2010)</li> <li>■ Cost-effective complement to traditional forms of regulation that can support developing countries with a history of weak environmental enforcement and compliance control</li> </ul>	<ul style="list-style-type: none"> <li>■ Often dependent on regulators collecting the same amount of information and investing the same amount of enforcement effort</li> <li>■ Participation is voluntary, and many of the programs do not connect poor ratings to enforcement or penalties for noncompliance</li> <li>■ Often does not include detailed information on which chemicals are released into the environment</li> <li>■ Ratings often cannot be easily verified by outside stakeholders</li> </ul>	<p>Indonesia has the Program for Pollution Control, Evaluation, and Rating, or PROPER, but majority of the verification results are not published</p>
<p><b>Pollutant release and transfer register (PRTR):</b> A publicly available database or register of chemicals released to air, water, and land, and wastes transferred off site. Based on a list of priority chemicals and industries, where facilities must report on the amount released and/or transferred. (Sullivan and Gouldson 2007)</p>	<ul style="list-style-type: none"> <li>■ Rare public source of timely, standardized data that can be used to evaluate environmental performance of different facilities (Mol et al. 2011)</li> <li>■ Standardized data allows for comparative analyses across firms in a single country</li> <li>■ Used as a regulatory tool</li> <li>■ Enhances public access to information by systematizing the information received from corporations</li> <li>■ Many secondary bureaucratic advantages for public bodies, industry, the public, citizens' organizations, researchers, and academics</li> </ul>	<ul style="list-style-type: none"> <li>■ Public awareness in many countries remains low, and communities still need expert assistance to interpret and translate the data into a useable form</li> <li>■ Must be paired with enforcement data to provide a basis for evaluating corporate environmental performance</li> <li>■ Comparison across sectors or countries is difficult</li> <li>■ Ability to use nonaggregated data to investigate health risks remains challenging</li> <li>■ Often difficult for local communities to use this information to obtain corporate performance improvements</li> <li>■ A new tool used or planned in 50 countries worldwide</li> <li>■ Slow growth of PRTRs in the developing world</li> </ul>	<p>The government of Thailand is currently working with the government of Japan to develop a basic PRTR scheme for Thailand</p>
<p><b>Water quality monitoring and compliance portal:</b> Environmental data generated and collected as a result of traditional environmental laws and regulations to develop ambient water quality standards, pollution monitoring and control, and government oversight (Norris and Conceição 2004)</p>	<ul style="list-style-type: none"> <li>■ Detailed pollutant information based on criteria to protect designated uses of specific water bodies or ensure adequate public health protection</li> <li>■ Often aggregated in plans for strategic rivers, coastal areas, watersheds, and groundwater</li> </ul>	<ul style="list-style-type: none"> <li>■ Difficult to access if not provided in an online data portal</li> <li>■ Technical data are difficult to understand for many community members without support</li> <li>■ Platforms often do not provide information about pollution at a local level</li> </ul>	<p>Indonesia, Thailand, and Mongolia all generate and release water quality and pollution control regulatory data although to date only Mongolia has a data portal for proactive community access of environmental information. Indonesia and Thailand have some data on selected ministry websites.</p>

## Indonesia

Communities want information that is easily accessible about industrial facilities and their impact on the environment. This is recognized in Indonesia's Environmental Protection and Management Law (EPMA) No. 32 of 2009, which requires the establishment of an environmental information system for public awareness and education to ensure that people can fulfill their right to a healthy environment. The law references documents that must be created and made available to ensure access to information including: status of the environment, environmental vulnerability maps, and other environmental information. The government must develop an environmental information system which must be published to communities (Article 62).

### Permitting and EIA Information

The law requires the creation of an EIA system (called AMDAL) for businesses or activities that have a substantial impact on the environment (Article 22). EIAs in Indonesia contain information on companies that are discharging pollution, pollutants that will be discharged, mitigation measures, and impact on the environment. Article 26 requires notification of communities and for the EIA to involve communities in a transparent and complete manner. For small businesses, an EIA is not required, but there is a requirement to prepare statements in relation to managing and monitoring the environment.

A number of permits are required for a business that will have an impact on the environment (ICEL 2016). They include a business permit, environmental permit, and wastewater discharge permits (where such discharges will be made). Business permits must be made available to communities, especially where the activity needs an environmental permit. The law requires that notice be given of applications for permits and decisions in ways that the public can easily understand (Article 44, Regulation No.27/2012). This notice is to be announced by the minister, governor, or regent/mayor. The regulation requires release of information before the creation of an EIA announcing where the EIA will be made available and where one can access copies. The law also specifies the timing of the

Communities want information that is easily accessible about industrial facilities and their impact on the environment.

release of the application and the information to be contained in the permit. The regulations prescribe what must be included in an announcement, including identity of the business, type of business to be undertaken (scale/magnitude of the activity and location), the date of the announcement, the deadline to submit comments, name and address of the institution to which comments are to be submitted, the potential impact that will occur, and name and address of the community representatives on the EIA review committee. Multimedia that can reach out effectively to impacted communities should be used, as well as announcement boards *in the location* of the activity that can be easily accessed by impacted community members. The regulation requires information to be in Indonesian and, where feasible, in local languages. The law states that this is required to facilitate public participation. However, there is no requirement to have a register at the local level for communities to obtain access to the final permit granted.

Wastewater discharge permits are addressed in regulations on the management of water quality and water pollution control. No public participation announcement of their issuance is required by law (ICEL 2016). Article 30(2) of Government Regulation No. 82/2001 confirms the right to get information regarding water quality management and pollution control. It does not provide a mechanism to obtain liquid waste permits, which can limit access to specific discharge information from private companies. So, while the framework for understanding water quality has improved over time, it still may not address communities' priority concerns.

Indonesia has made improvements in proactive release of environmental information to the public (ICEL 2016). A 2011 regulation by the Ministry of the Environment (Regulation No. 6/2011) requiring the proactive release of government EIAs, which contain information about the standards to be met by private companies and their monitoring requirements, still needs to be implemented (ICEL 2016). Article 68(a) of the regulation requires a business to provide accurate, accessible, and immediate information related to protection and environmental management. In addition, Government Regulation No. 82/2001 requires a business that discharges pollution to submit a report on compliance of requirements of the wastewater disposal permit to the regent or mayor every three months with a copy to the minister. Unfortunately, the regulation does not detail what information related to environmental protection and management must be provided or that the information be delivered to the community, or made available through a specific means.

In addition to EPMA, the 2008 Public Information Disclosure Indonesia (UU KIP Law No. 14, Articles 9 and 10) mandates that the Indonesian government provide information proactively both periodically and instantly as outlined below (Paramita et al. 2013). Article 10 requires public agencies to immediately provide information on events that may threaten the lives of people and communities.

Information Committee Regulation No. 1/2010, Standards of Public Information Service (Perki SLIP), sets out technical guidelines on publishing proactively.

Periodic publication includes:

- information about a regulation, decision, and/or policy that binds and/or affects the public; and
- information procedures to complain about the abuse of power of authority or violations committed by public agency officials as well as other parties who obtain permits or agreements from related public agencies.

Instant publication includes:

- information about nonnatural disasters such as industrial or technological failure, industrial impact, nuclear blast, environmental pollution, and outer space failure.

Perki SLIP's article 12 (1) states that public agencies required to provide information instantly should follow a standard procedure. Information that must be provided instantly includes:

- information about a potential threat with a high magnitude of impact;





- potentially affected parties;
- evacuation plans and emergency procedures;
- tips to avoid danger and mitigate impact;
- tips to get help from authorities; and
- efforts undertaken by public agencies and/or authorized parties in tackling dangers.

Indonesia is the only country of the three assessed with a centralized voluntary performance assessment program requiring the release of summarized information about corporate facilities' environmental performance. Begun in 1996, the Program for Pollution Control, Evaluation and Rating, called PROPER, sought to encourage companies to comply with environmental regulations by publishing the results of environmental monitoring. Ministry of Environment Regulation No. 5 of 2011 referenced the program in regulations with an expanded scope for the release of corporate facility-level information at the national level. The ministerial rule provides for the establishment of a voluntary public information disclosure program under which companies release information based on targets for an environmental management system, resource use, and community development.

PROPER rates companies with a color schematic to provide the public with information on the efforts it has taken to improve environmental performance. The color rating system grades factories' environmental performance as gold and green (beyond compliance), blue (compliant), red (not appropriate environmental compliance for some aspects of operation), or black (breach of standards). Compliance is assessed against regulations for sea pollution, hazardous wastes, air pollution, water pollution, and EIAs. The rules do not require the distribution of PROPER results by the companies or by local authorities. PROPER can be credited with the release of information in standardized, easy-to-understand formats. It encourages private companies to self-report their environmental performance and compliance with environmental standards. While it does not guarantee enforcement action by local authorities, it provides a red flag for companies with potential problems that can be used by community groups to demand action.



## Thailand

Thailand's 1992 Enhancement and Conservation of National Environment Quality Act, B.E. 2535 (NEQA 1992) recognizes the right of a person "to be informed and obtain information and data from the government service in matters concerning the enhancement and conservation of environmental quality." This includes communities. But NEQA spells out exceptions to this general right: "Except the information or data that are officially classified as secret intelligence pertaining to national security, or secrets pertaining to the right to privacy, property rights, or the rights in trade or business of any person which are duly protected by law."

The act includes provisions for EIAs based on the types and sizes of projects that are likely to have an environmental impact.

NEQA requires the release of standards for pollution in wastewater discharges and other point sources under section 55 through a notification in the *Government Gazette* to be made available to the public. Section 53 of the act provides for a pollution control committee with the power and duty to create a pollution situation report, which is required to be released online in an annual *State of Pollution Report* (section 53 [9]). The law does not stipulate the content of the report or how it must be delivered to communities (TEI 2013).

Information may also be provided for an area needing special attention in an environmental quality management plan (section 42). The plan is intended to improve the management of air and water quality and to reduce pollution from point sources and improve conservation of the area. Environmental quality management plans must be published in the *Gazette*. Section 36 of the law requires that the categories of enterprise or activity that require a permit and/or an EIA are published in the *Gazette* as well. Finally, in section 56, the act describes the possible creation of a pollution control area in places where pollution creates a health hazard. The National Environmental Quality Board can publish a notification of such an area in the *Gazette*. Unfortunately, the *Gazette* rarely reaches communities.

NEQA contains a provision that is likely to deter persons from naming specific companies and their pollution sources as being a danger to the environment and public health. The provision makes it a criminal offense to spread or disseminate false information about the danger from any point source of pollution. The law requires the government to prove an intention to destroy the reputation or trust of the lawful operation of a business or activity. Punishment is up to five years' imprisonment or a fine. The provision covers all media, including publications, announcements, advertisements, and news reports on television or radio.

Although NEQA does not name the disclosure mechanisms for all categories of information, 2010 amendments to the Official Information Act (OIA) B.E. 2540 (1997) provide for proactive disclosure of information based on information specifically designated by the Official Information Board. Section 9(8) of the OIA lists the types of environment and health-related information that government agencies should proactively make available to the public. The OIA specifies that this information should be published in a *Gazette* or made available for public inspection. Section 9(8) requires all key ministries and agencies that have a mandate concerned with environment and health to make environmental information available to the public.

The OIA lists 16 categories of information that must be released proactively by every government agency that holds it. Some examples are:

- Reports, data, and information concerning analyses of the impact of activities and implementation performed at every level by entities of the environment, health, and society.
- Reports or measures to prevent and solve environmental, health, and social problems, including measures to monitor and check on the quality of the environment.
- Reports related to data and information on the amount of pollutants released into the environment and on their impact on the environment and health.
- Situation reports and or data related to the measurement and monitoring of pollutants, toxic substances, and the quality of the environment including data on health conditions, factors impacting health conditions that arise from pollutants, and the quality of the environment.
- Studies and research reports on the level of contamination of the environment.
- Impact reports that relate to risks occurring from industrial activities.
- Monitoring reports on the effects of operations.
- Contracts, concessions, and permits of activities related to their impact on the environment.

How each agency chooses to release this information is discretionary, resulting in a confusing array of pathways for communities to search for the information they want. In addition, Thailand has no standardized reporting framework to measure multiple companies' facility disclosure requirements.

## Mongolia

Mongolia's Environmental Protection Law (Articles 33–37) requires the government to collect information in a national environmental database. It recognizes the right of Mongolian people to obtain accurate information about the environment from relevant organizations (state administrative bodies, the Civil Defense Department, regional and local government of all levels). This duty is similar to that found in Indonesia and Thailand. The law recognizes the importance of EIAs and mandates them for the development of proposals and programs, as well as for the establishment of contracts for the commencement, operation, and expansion of production or services that may have adverse environmental impacts (Article 7).

The Environmental Protection Law recognizes the state's duty to create an environmental monitoring framework to (1) regularly conduct surveys on the level of physical, chemical, and biological changes to the environment and of pollution; (2) establish and assess the extent of environmental changes; (3) provide the public and interested business entities and organizations with information on the environment and natural resources; and (4) develop proposals to prevent adverse effects on human health and the environment as a result of natural disasters and for the rectification of any damage.

It outlines environmental information databanks at the central, city, and *soum* (community) levels as the primary means to provide information. The databanks must include observations, measurements, research reports, data, and impact assessments on surface and underground natural resources—forests, water, animals, plants, and air—including their value. They must include consolidated information from the central state administrative body and research organisations, as well as information and data from the *aimag* (province) and capital city databanks. Information relevant to communities and cities must be provided, including changes and trends in the state and quality of the environment and natural resources; use of natural resources and their restoration; and sources and levels of environmental pollution, mitigation measures, and results. The law spells out responsibilities for the city and *soum* to provide access to this information and the time period for its collection

into the databank. While the provisions are comprehensive in terms of requirements for collating information, the method of delivery of information to communities has challenges.

Mongolia passed an EIA law in 1998 (Law of Mongolia on Environmental Impact Assessments). After a series of amendments, this law includes requirements to disclose strategic environmental assessment opinions and recommendations to the public via ministry websites and in print. The 2011 amendments include requirements for public participation in the EIA process (Article 17), including the ability of citizens to submit both written and verbal comments.

Finally, Mongolia's transparency law mandates the proactive release of environmental information that indicates an existing or potential impact of manufacturing, servicing, equipment, and technology activities on the environment and health of the population. It also requires release of information that specifies harmful impact of all types of poisonous or radioactive substances that might damage the environment and the health of the population if the procedures for storage and protection are violated. This also applies to non-governmental organizations carrying out government-related functions. Mongolia has no framework for multiple companies' facilities' performance disclosure requirements to be released in standardized formats or time periods.

## Summary

Of the three countries, Indonesia's legal requirements for information release are the most comprehensive. They require immediate release of information to communities, a legal mandate to release information in forms that communities can understand, and environmental disclosure requirements that rate facilities' performance. Indonesia and Mongolia have extensive provisions requiring environmental disclosure frameworks that ensure information is accessible by local communities. While Thailand has a long list of types of documents that must be disclosed by various agencies, its law allows agencies discretion to refuse the release of environmental information that may be classified as secret.

## Findings on the Availability of Information in Practice

In practice, the quality and quantity of information provided depends largely on the country's regulatory context, political will, and institutional capacity to develop, maintain, and implement its disclosure systems. WRI investigated each country's practice in providing access to information about pollution regulation as well as the measurable quality and quantity of its proactively disclosed environmental information. Indicators based partly on the information desired by communities were used to analyze the proactive disclosure requirements regulating ambient water quality, specific facility pollution discharges, and the mandate to collect pollution data. The indicators assess the degree to which information is disclosed in the following five regulatory categories.

- Ambient water quality standard setting
- EIAs
- Permitting
- Monitoring
- Enforcement and review

We found that despite wide proactive disclosure mandates in law and the existence of a number of public disclosure information systems, in practice these requirements do not result in the proactive release of local, facility-specific information wanted by local communities in Indonesia, Thailand, and Mongolia. Many of the disclosure mechanisms summarized environmental information and prioritized simplicity and understandability over the comprehensive, facility-specific information needed by communities. Further, multiple barriers to accessing environmental information at the local level limited the usefulness of the proactive disclosure systems. Our detailed findings are presented as follows.

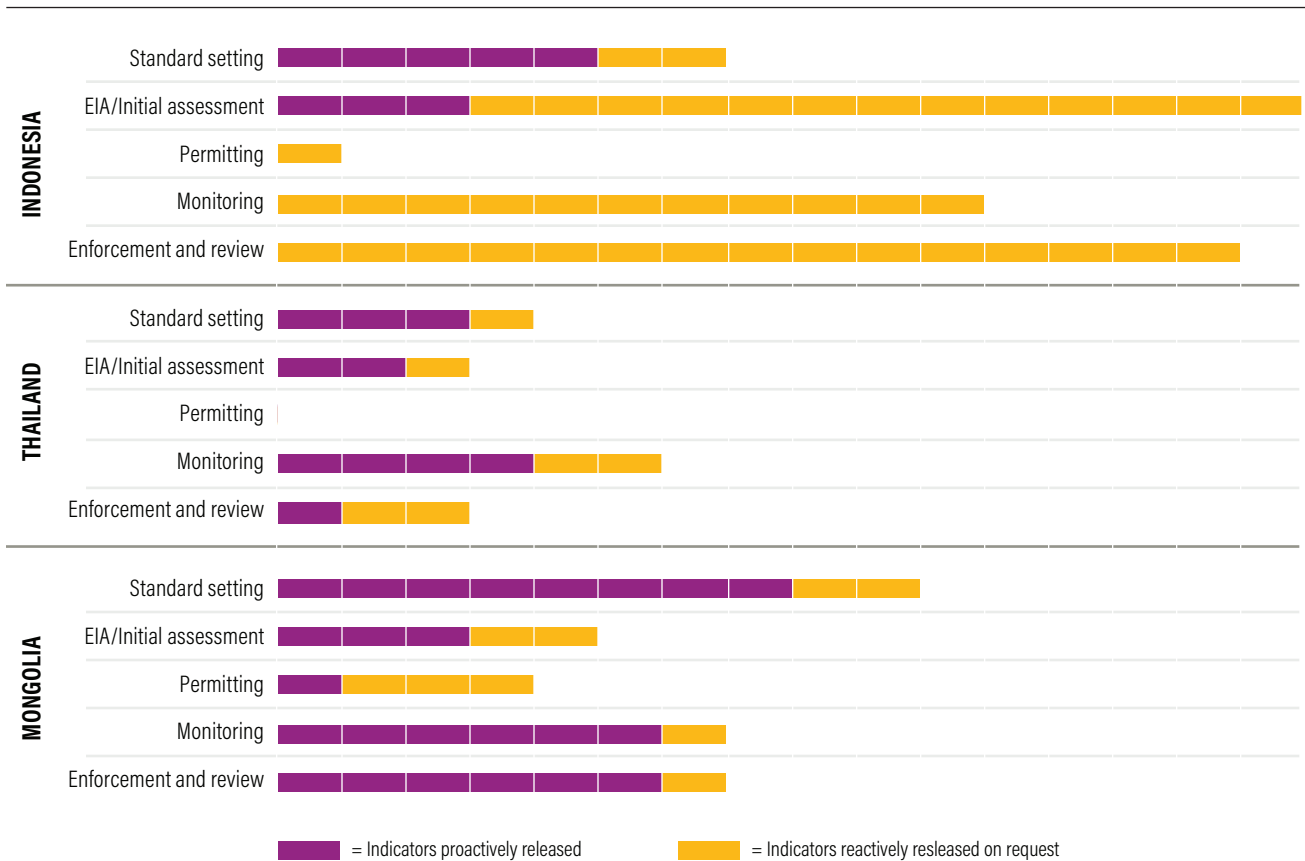
### Finding 1: Public access to facility-specific data, permits to discharge pollution, and environmental enforcement information is limited in all the countries assessed.

As seen in Figure 4, public access to legal texts on pollution control and the standards for companies discharging pollution was the most commonly provided information in all countries. Limited monitoring and EIA information was also available. However, permitting and enforcement data were largely not proactively available to the public in any of the three countries. Government databases did not contain specific information about company compliance, and this information was rarely available. The number of indicators proactively available for the different regulatory categories of information is summarized in Figure 4. Country-specific results are discussed below.

#### Indonesia

PROPER, Indonesia's flagship program to release specific company information, releases no company pollution discharge monitoring information—an expressed need of the community. PROPER releases public information only in an online annual report. Information from PROPER was challenged by many civil society groups that we interviewed who criticized the rating of companies against standards that, in many cases, may not be the best international standards, such as the standard for the release of toxic chemicals. Their view was that the PROPER information on whether companies comply with standards does not give the true picture of a company's impact on the environment and is used as a shield against action by communities.<sup>5</sup> PROPER was unknown in the communities we assessed and the PROPER results were not referenced by the local authority as a basis for reviewing companies' performance or enforcement action.

Figure 4 | Number of Indicators of Public Information Disclosed in Five Regulatory Categories in Three Studied Countries



Other detailed facility-specific information desired by communities was not available at the local level. Information on ambient water quality and specific facility discharges were usually found in EIA documents, which were not provided proactively, but had to be requested from public authorities. The EIAs did not contain information on current releases to the environment or the chemicals used by companies. ICEL believes that the lack of a proactive disclosure requirement for water discharge permits is especially problematic because it limits the opportunity for people to intervene and suggest better terms and conditions in the permit. This lack of opportunity minimizes the potential for small, gradual reforms within the permitting process that could address the community’s concerns.

### Thailand

In Thailand, limited facility-specific and enforcement information was available through Thailand’s *State of Pollution Report* published every two years. The 2012 edition included information on common surface and groundwater contaminants such as the locations of surface and groundwater monitoring sites and detailed charts listing the chemicals, regulatory parameters, and quantities measured in the environment. Water quality measurements taken in the Map Ta Phut community were shown. However, community-desired information about releases from individual facilities was not included. In Thailand, a large number of agencies have supervisory and enforcement roles over industrial estates, which are managed by industrial estate offices in conjunction with the Ministry of Environment and the ministry responsible for health. There is no centralized portal to proactively obtain facility-specific information on rivers and streams within industrial estates.

## Mongolia

In Mongolia, researchers found that more than a quarter (28 percent) of WRI's proactive disclosure indicator data, especially enforcement information, were not required to be collected by Mongolia's pollution control regulations, leaving important data-collection gaps which prevent proper pollution regulation.

Mongolia does not publicly provide information about individual facility discharges, the permits regulating these discharges, nor the compliance record of specific companies. No national agency requires the proactive release of information regarding discharges by large industries at a facility level, including permit information. Ownership, locations, and names of industries with permits to discharge pollutants into water bodies were not available.

The *State of the Environment Report: Mongolia 2008–2010*<sup>6</sup> mentions only general water pollution problems in the Tuul River Basin and that the river is affected by mineral and organic pollutants. While the general sources of pollution, including poor wastewater treatment capacity, gold mining, and livestock processing plants, are mentioned, only a few general environmental data points are provided along with statements that these measurements indicate violations of water quality standards. Detailed information about exploration and mining licenses are not provided.

## Finding 2: Limited public health information is proactively available

All of the STRIPE community members expressed concern over drinking water and potential negative health impacts associated with the pollution contaminating their water supplies, but no information about the community water systems and ways to avoid risks from contamination of water was provided proactively.

In Indonesia, the required public EIA information, a common source of public health information, was not available near the impacted communities during the STRIPE project. In Thailand, the *State of Pollution Report* outlined general information regarding the potential health impacts commonly associated with specific chemicals, including those released in Map Ta Phut. However, no long-term potential health impact from ongoing pollution was examined, even in areas where violations of standards were recorded. In Mongolia, researchers were unable to locate any public information about the risks to health associated with water pollution discharges or any inspection reports of underground drinking water sources, the most common source of drinking water for the Mongolian communities involved in the STRIPE project.



### Finding 3: The information proactively available on data portals and websites does not meet the demand of communities for localized information.

The demand for localized specific information is not being met by the proactive disclosure data portal mechanisms used in each country. In Indonesia, for example, researchers found little local information available through the Ministry of Environment's official website. The website was not centralized or easily searchable. For example, the classes and designations of major Indonesian rivers were unavailable on the main website but scattered throughout the websites of each river basin administration. Much of the information was incomplete. Indonesia is developing a consolidated environmental portal to house information online, but there is no current plan to create systems that include information collected by local government agencies. In 2016 the Ministry of Environment and Forestry rolled out an online platform of company self-reported wastewater discharge monitoring data (<http://simoli.menlhk.go.id/>). However, the current site is password protected and is not available to the public.

In Thailand, the Pollution Control Department does post some point-source water quality data online including an overall water quality rating based on key nonpoint water quality parameters (such as dissolved oxygen content, biological oxygen demand, and ammonia-nitrogen content), but no facility-specific information for point sources is available. However, as mentioned above, Thailand's Pollution Control Department and Industrial Works and

Industrial Estate Authority are working with the Japan International Cooperation Agency to pilot a PRTR system in Rayong Province that includes data collection for seven types of manufacturing industries (Kondo and Limjirakan 2013). Once this system is operational, it will greatly expand the facility-specific discharge information proactively available.

The Mongolian Ministry of Environment and Green Development has been recognized internationally for providing environmental information to the public. The ministry's system provides general data on water quality but does not provide local water quality information by district or facility and is not recognized as an environmental information disclosure program seeking to improve companies' compliance and environmental performance. Our research partner found that the portal is missing key categories on information, including information on subsoil, minerals, climate, and waste data, as well as the environmental protection budget and expenditures on compensation for environmental harm and environmental crimes. In addition, a community use survey of this website indicated the database did not adequately meet the information needs of community residents, especially those in rural areas where access to the internet is limited. While the vast majority of community residents indicated the need for information about their local environment, most were unaware of the ministry's website, as well as of the specific information available. When they did use the website, they found little information related to the Tuul River and found the databases challenging to use and understand.







### SECTION III

# TRANSPARENCY OF ENVIRONMENTAL INFORMATION: REACTIVE DISCLOSURE

If information is not made public proactively, local communities can ask the government for information they need, which is called reactive disclosure. Right to information laws are the most common legal basis for granting citizens a right to request specific information and documents from government.

Research has shown that RTI laws need to be properly implemented and enforced at the local level to be useful to communities, which requires both political will and government capacity (Mendel 2015; Mutula and Wamukoya 2009). This includes the creation of responsive government institutions that follow specific procedures to provide information within a prescribed time limit (Puddephatt and Zausmer 2011; Florini 2010).

Reactive disclosure allows concerned community members to request specific information from a variety of government agencies and provides an established avenue of redress for complaints. Citizens and residents concerned about industrial pollution in their communities must be aware of this right and understand how to apply it.

## International Standards for Reactive Disclosure

International standards and statements outline best practices for reactive disclosure (Article 19 2012). Best practices include allowing requests in a variety of media (oral and written), provision of assistance in making a request where possible, and an independent appeal mechanism if information is denied (Mendel 2008).

UNEP's Bali Guidelines on Principle 10 of the 1992 Rio Declaration include a general duty of countries to ensure that any natural or legal person should have affordable, effective, and timely access to environmental information held by public authorities upon request without having to prove a legal or other interest. The Aarhus Convention and regional agreements currently being negotiated in Latin America and the Caribbean on Principle 10 include minimum standards on access to environmental information, minimum timelines to receive a response, requirements to provide decisions in writing, and appeal mechanisms. As noted earlier, these conventions do not apply in Asia.

Several UN regional bodies have created standards for access to information laws through guidelines and model laws (African Commission on Human and People's Rights, African Model Law, Inter-American Model Law on Access to Information.) No model law exists for Asian countries. Asia has seen

slower progress on regional mechanisms for access to information: the ASEAN Human Rights Declaration stands out as one of the few declarations that references the importance of access to information.

## Legal Review of Right to Information in the Three Countries

All the countries in this study have legal disclosure regimes that apply to all types of information, including environmental information. We evaluated their legal frameworks to determine how well the reactive regime was providing information that met the needs of local communities.

We found that all three governments are working to implement relatively new right to information laws and share a history as emerging democracies struggling with the concepts associated with individual rights, the public interest, and a right to government-held information. Citizens' rights to demand information (including environmental information) from governments is recognized in all three countries, both in their Constitutions and in specific RTI laws. As illustrated in Table 4, all three countries' constitutions include provisions that support the right to obtain information. Thailand also specifically grants a right to environmental information.

### Indonesia

Indonesia's law recognizes the need for requesters to obtain public information promptly at low cost and in a simple manner (Article 2). However, it requires the requester to state a reason for the request (Article 4). The law allows the request to be presented orally (Article 22 states that a request may be made in writing or otherwise). The law recognizes that the agency may create information to support the request and has a duty to manage its records and make other efforts to satisfy requesters (Article 7). Specific time periods to respond to requests are provided in Article 22. The agency must provide reasons for refusal (Article 35) and the requester has a right to appeal (Article 4 ). If information is refused, the law provides a multiple-stage appeal process including mediation and a formal appeal, which may be difficult for local community members without legal support or assistance.

Table 4 | Recognition of a Constitutional Right to Information

INDONESIA	THAILAND	MONGOLIA
<p>The Indonesian Constitutional Amendments of 2000, Article 28F, include the right of “every person to communicate and obtain information for the purpose of the development of his/her self and social environment. Everyone also has the right to seek, obtain, possess, store, process and convey information using all available channels.”</p>	<p>The Thai Constitution, section 57, includes the right “to receive information, explanation, and reasons from government agencies, state agencies, state enterprises, or local government before the approval or implementation of a project or activities which might have a serious impact on the environment, health, sanitary conditions, quality of life, or other important interests of his or her own or of the community, and shall also have the right to voice his or her own opinion to the responsible agency to be used as input in appraising the said project or activities.”</p>	<p>The Mongolian Constitution of 1992, Article 17, recognizes a “right to seek and receive information except that which the state and its bodies are legally bound to protect as secret. In order to protect human rights, dignity and reputation of persons and to defend the state national security and public order, secrets of the state, individuals, or organizations which are not subject to disclosure shall be defined and protected by law.”</p>

### Thailand

Thailand’s Official Information Act (OIA) recognizes the right of requesters to obtain information and assistance to determine where to send their request (Article 12). If the request is refused, there is a right to complain (Article 13). Lack of a specific time period for provision of information is a significant problem as the OIA specifies only that information must be provided in a reasonable time and gives an administrative discretionary period. The lack of time requirements for acknowledgments and final decisions make it difficult to track information requests or receive timely information. The law does not allow community members to make oral requests, and there are no regulations to require agencies to designate officials to develop and carry out internal procedures to answer requests.

### Mongolia

Mongolia’s Law on the Information Transparency and Right to Information, recognizes the right of any citizen to request and receive information. The law states that there is no need to provide a reason for the request and that a person can request an oral explanation of the information (Article 12). The right to appeal is also guaranteed. Timelines are outlined for the provision of information (Article 14).

### Summary

In Indonesia and Thailand, reasons must be provided for an information request, which may be a barrier to communities who have to explain reasons in writing to local or national officials. Strict reasonable time periods for provision of information are helpful to local communities. In Thailand, there are no clear provisions for responses, which may be a deterrent for community members who may need information within specific time frames to make decisions. Provisions require the designation of an information officer for public authorities, which could help communities get assistance from a specific official. Provisions to appeal decisions were also found in all three countries, although there was no duty to provide assistance in making the appeals. Provisions differ in term of timelines and formalities for requests. Public access to environmental information varies across the three countries based on their legal frameworks and the extent to which the laws are implemented, enforced, and used. Table 5 compares the provisions among countries.

Table 5 | Comparison of Right to Information Law Provisions in Thailand, Indonesia, and Mongolia

PROVISION	INDONESIA	THAILAND	MONGOLIA
	The Public Information Disclosure Act (PIDA) No. 14 (2008)	The Official Information Act (OIA) B.E. 2540 (1997)	Law on the Information Transparency and Right to Information (2011)
<b>Recognition of a right to information</b>	The law provides a right of access to information (Article 4).	The law recognizes a right to request information from government authorities where it is not published (Article 11).	The law recognizes the right of persons requesting information to be treated equally and be able to choose the means to receive information (Article 12).
<b>Requires assistance from a designated information officer for each agency</b>	Each government agency must appoint an information and documentation officer responsible for processing information requests and appeals (Articles 1 and 13). But there is no explicit requirement to provide assistance to the requester.	A state official can be designated to perform the duties of the law for a state agency, which includes addressing refusals. Chapter II, sections 11 and 12, allow the provision of advice and the creation of new information to support the requester.	The law recognizes that an official from the public authority under the act must comply with the law (Article 11).
<b>Provides an option to make a request orally over the phone</b>	A request may be in writing or otherwise, which includes electronic form (Article 22).	OIA section 11 speaks to a request being made in writing that can be reasonably comprehensible.	A request must be signed (Article 11).
<b>Obligation to give reasons for a request</b>	The law requires a reason to be given for a request (Article 4).	The law requires a reason to be given for a request (section 11).	There is no obligation for citizens to give a reason for requesting information (Article 12).
<b>Time period to respond</b>	Information is to be provided within 10 working days, or an extension can be granted for a maximum of 7 days (Article 22).	The law does not include specific time periods for responses, requiring only that information be provided within a reasonable time. If a public authority intends to refuse information, it must give the public "a reasonable time" to lodge an objection. Under the country's Governmental Good Governance Law of 2003 "reasonable time" is interpreted as 15 days.	Information must be provided within seven business days or (if necessary) may be extended once by seven days (article 14.8).
<b>Right to Appeal</b>	Public authorities must provide a reason for a refusal. If a requester is denied access to the information requested, he or she may follow an internal appeals process that requires the public authority to reconsider the request and thereafter submit to an information commissioner (Chapter VIII).	The law gives no right of internal review by an agency that refuses a request. The requester must submit an appeal to the Information Disclosure Tribunal, which then sends a notice of action to the responsible agency and also asks the requester to inform the tribunal of what difficulty was faced in obtaining the requested information (Chapter VI). The tribunal is made up of representatives appointed by the Council of Ministers.	If a requester is denied access to the information requested, he or she may complain to the upper level of the agency, the National Human Rights Commission of Mongolia, or to the court (Article 17).

## Responses to Information Requests in Practice

Our study also assessed the implementation of RTI laws and the availability, quality, and quantity of information released in response to information requests. None of the community members we interviewed knew about the RTI laws or had ever used them. Civil society STRIPE partners and community representatives made information requests based on the availability of pollution control data through proactive disclosure mechanisms as well as the information desired by local community members.

The RTI request process was carried out in several stages:

- *Overview of country’s legal framework.* To understand how to make requests, civil society STRIPE partners and the authors analyzed the RTI laws in each country, including water pollution control laws and regulations.
- *Development of requests for information not proactively available.* Community members and STRIPE civil society partners then created requests for wanted information, targeting the most appropriate government authority.
- *Submission of information requests.* Information requests were submitted to multiple government agencies. In some cases, the requests included multiple questions about individual facilities submitted as a single request.
- *Tracking and recording the initial response.* Government responses to the information request were tracked and recorded. Follow-up calls were made to ensure that the requests were received and processed.
- *Submitting appeals.* If an information request was denied or received a mute refusal (no response within the time frame allowed by law), appeals were submitted and recorded. A template was used to track the RTI requests, including the time frames, responses from government, and appeals.
- *Analysis of results.* The quality of the information received was assessed through the information request process and recommendations were provided for improving legislative and implementation gaps through country reports. These data were aggregated into a master database and several parameters were analyzed:
  - Overall response rates to requests, including approvals, refusals, and mute refusals (failure to respond to requests)
  - Response rates by state enterprises and other public agencies
  - Response rates by regulatory phase and the type of requester (academic researcher, civil society representative, or community member)
  - Response rates for right to information request appeals and internal review processes where relevant
  - Timing of responses
  - Type and quality of information received

The topics included in the information requests are summarized in Box 3. The total number of information requests submitted in all three countries is provided in Table 6.

Table 6 | **Number of Information Requests Submitted in Each Country**

COUNTRY	NUMBER OF REQUESTS	TIME PERIOD
Indonesia	82	May 2011–January 2012
Thailand	66	June–October 2011
Mongolia	26 <sup>a</sup>	August–November 2014

Note: a. An additional 12 information requests were submitted, but response data was not recorded.

## BOX 3 | TOPICS OF INFORMATION REQUESTS SUBMITTED IN THREE COUNTRIES

Information requests submitted in all three countries included questions about EIAs, inspection reports, compliance and enforcement, water quality monitoring documents, and copies of permits.

### Indonesia

In cooperation with other civil society and legal aid organizations, the Indonesian Center for Environmental Law focused its right to information requests on the PT Indah Kiat Pulp & Paper Mill (PT IKPP) located in Serang, Banten Province, which produces linerboard, coated boxboard, and corrugated cases. PT IKPP Corporation is a subsidiary of conglomerate Asian Pulp and Paper. Activity from many industries impacts the 6,500 people living in the adjacent villages of Kragilan, Cijeruk, Sentul, and Luwung. Mill pollution is released into the Ciujung River, which villagers use for rice field irrigation, fish ponds, and daily activities such as bathing and washing. The water quality of the Ciujung River, the pollutants released, and regulation of the mill were investigated. RTI requests asked about pollution control, discharges, and permit violations from the PT IKPP mill.

### Thailand

The Thailand Environment Institute together with the Eastern People's Network, worked with community members in the villages of Nong Fab and Mab Kha-Mab Nai concerned about water pollution from four industries in the Map Ta Phut industrial zone. These facilities included the BLCP coal-fired power plant, Siam Steel Company Ltd., Siam Yamato Steel Company Ltd., and Phenol Company Ltd. RTI requests included general inquiries about the names and types of specific factories in industrial estate facilities and general policy on pollution discharges.

### Mongolia

Patrons of Khuvsgul Lake (PKL), United Movement for Protecting the Rivers and Lakes of Mongolia, and Center for Human Rights and Development worked with community members from both Khoroo No. 13 outside Ulaanbaatar and Khailaast Bagh, Zaamar *soum* in Tuv Province. These communities were concerned about pollution released by local facilities and mitigating their impact on the Tuul River Basin. This included the wastewater treatment facilities in Ulaanbaatar as well as the names and ownership information of specific mining facilities. RTI requests prioritized obtaining information about the major sources of pollutants and the specific Extractive Industries Transparency Initiative (EITI) license, and cadaster information of local companies.

We found that despite the clear legal right to access environmental information, submitting formal information requests provided only limited pollution information to local communities and civil society. Examples of some of the information requests that were made in Indonesia and Thailand are provided in Appendix B.

**Finding 1: Mute refusal (no response) was the most common response to requests for information on water quality and company pollutant discharges in Indonesia and Mongolia. Only in Thailand did mute refusals make up a small percentage of the responses.**

As shown in Figure 5, mute refusals were a significant problem in Indonesia (59 percent) and Mongolia (58 percent). Overall Thailand had a significantly smaller number of mute refusal responses (15 percent). A “mute refusal” is a failure by a government body to respond in any way to a request for information. Mute refusals represent a breakdown in the access to information system and highlight a fundamental lack of transparency. When requests for information are ignored, requesters have little recourse but to try again or use the formal mechanisms for appeal and/or complaint, thereby delaying access. Mute refusals can undermine trust in government and reinforce assumptions about corruption and malpractice.

Figure 5 | **Response Rates to Information Requests by Country**

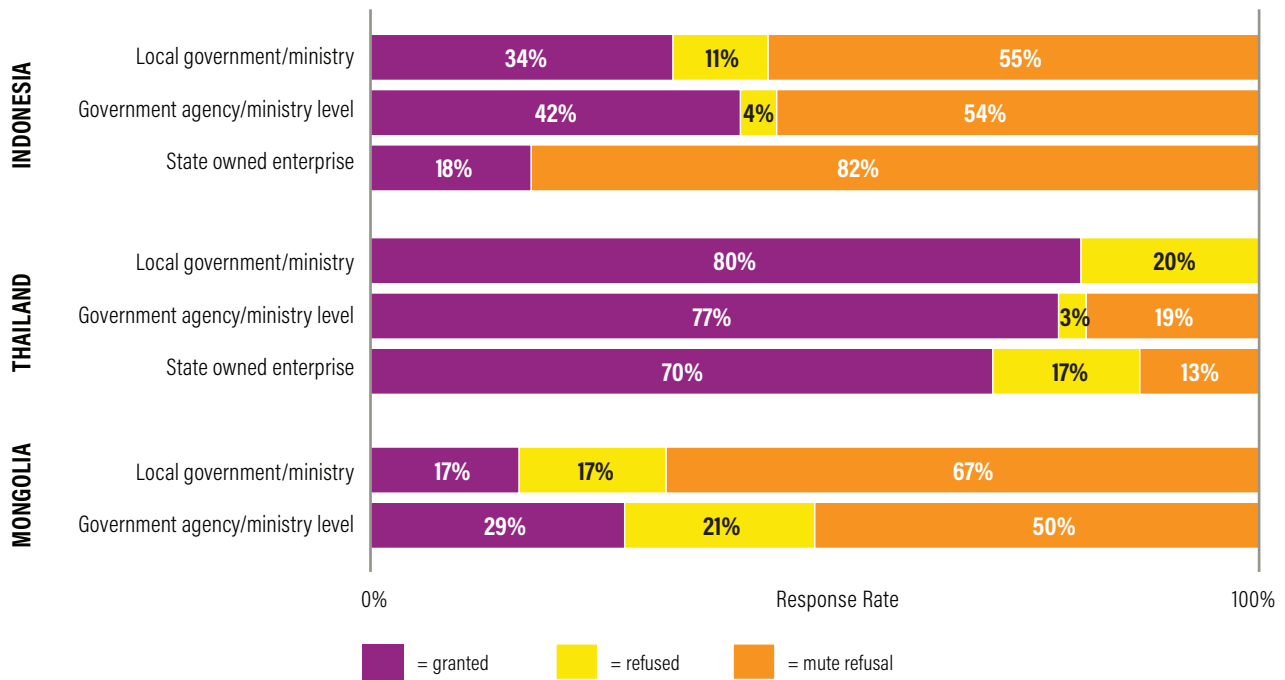


Given that multiple institutions have mandates related to water, which creates confusion for officials and the public alike, responsibilities for transferring requests when information is held by another public agency may be poorly understood, which would help explain the high mute refusal response rate in Indonesia and Mongolia. In Indonesia, no specific instructions are outlined in the law, leaving transfers to the discretion of the public official attempting to fulfill the information request. In Mongolia, many requesters were told to approach other institutions, suggesting a fundamental lack of understanding of the legal obligations outlined in the law. The fact that Thailand passed its RTI law in 1997—over a decade before Indonesia and Mongolia—may indicate that information request response rates can improve over time as government officials develop the knowledge and capacity to implement the law, while at the same time the public’s knowledge of the law deepens.

**Finding 2: Local government authorities and state-owned enterprises were less likely to grant access to information in Indonesia and Mongolia. Only in Thailand were the response rates similar between local government authorities, state-owned enterprises, and national ministries.**

The response rates for local government, state-owned enterprises, and national ministries in the three countries are shown in Figure 6. Local government offices, which are closer to the communities and often responsible for government compliance and enforcement activities, were less likely to respond to or grant information requests than national ministries except in Thailand. In Indonesia, state-owned enterprises either ignored (mute refusal) or refused information requests more often than national ministries.

Figure 6 | Response Rates to Information Requests by Country and Type of Public Authority



**Finding 3: Appeals rarely worked for communities in Indonesia. Appeals were granted in more than half the cases in Thailand.**

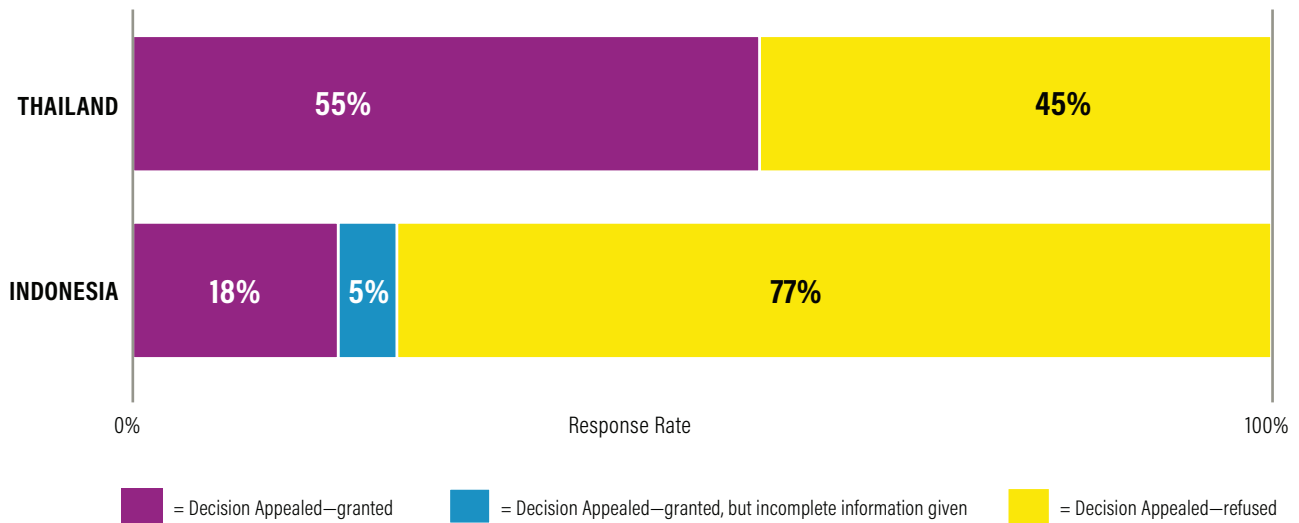
Formal appeal mechanisms did not always provide a meaningful review. Mongolia researchers did not submit any information requests for appeal. Although not a large number of cases were submitted for appeal in either country, in Indonesia, over 77 percent of the requests submitted were denied, including 13 cases where the original RTI requests were met with a mute refusal. In Thailand, six cases originally denied were granted on appeal; five cases that originally met with a mute refusal were denied. These findings are summarized in Figure 7. The lack of action taken to address mute refusal responses in conjunction with limited appeal success suggests a low priority for RTI oversight and enforcement in Indonesia. When central government bodies tasked with oversight responsibilities do not take action, meaningful access to information is denied.

**Finding 4: While new RTI laws should offer a powerful tool to access pollution information, poor implementation of these laws impedes access.**

In all three countries, procedures outlined in the RTI laws were not consistently followed, which impacted the ability of requesters to obtain the desired information. Requesters found it difficult to identify the officers responsible for accepting RTI requests or answering queries. They faced numerous bureaucratic obstacles that required persistent follow up to secure responses. They often had to place numerous follow-up phone calls. Some were asked to come in person to get information. For example, in Thailand, 37 percent of the time requesters were asked to pick up the information from the agency office or were provided the information only over the phone.



Figure 7 | **Government Responses to RTI Appeals, Indonesia and Thailand**



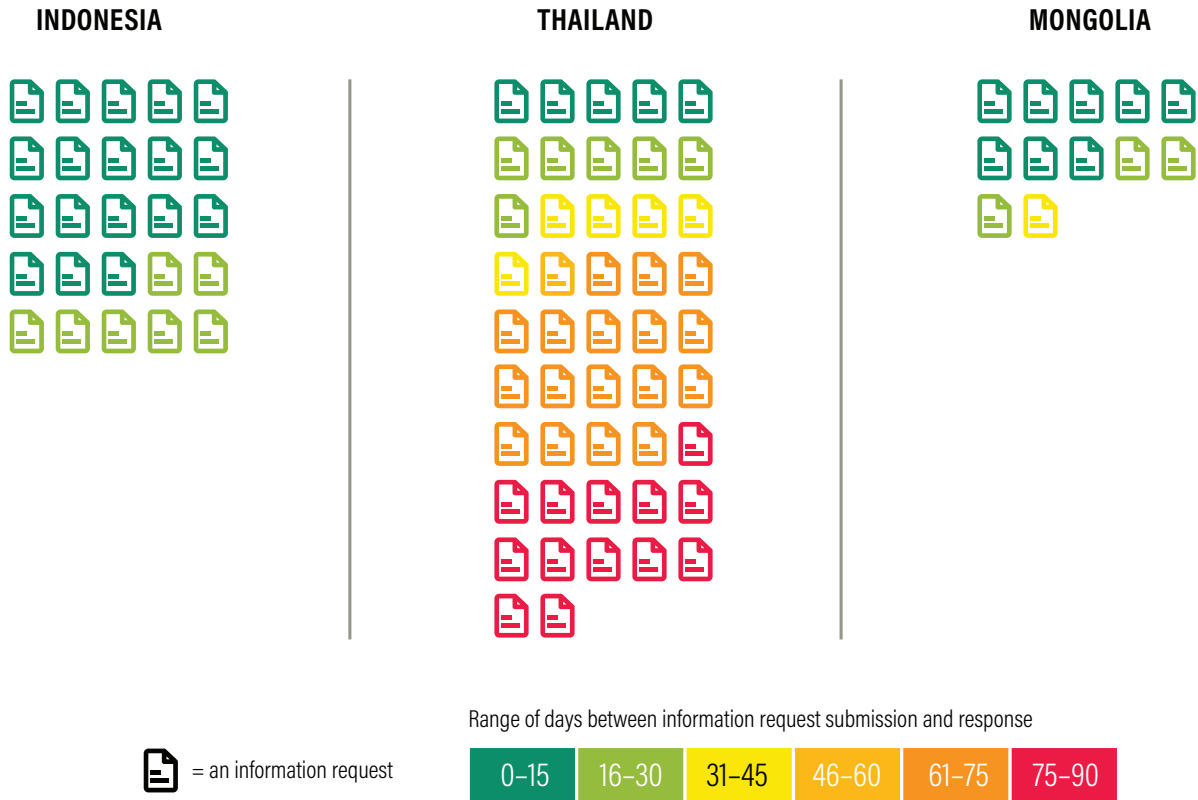
These response formats can significantly impact access in practice. Limiting the amount of written information provided creates barriers for community members who may have to travel great distances to reach government offices or who cannot afford the travel expense. A lack of written documents can inhibit use of outside resources such as civil society or academic experts to explain the often-technical and scientific information provided.

Government officials usually asked for a rationale for information requests sent by e-mail. A rationale is not required under the law of Mongolia; though it is allowed in Indonesia and Thailand, it hampered community members' use of the law because they feared repercussions for asking for information about powerful companies. It was clear that even if government officials provided responses, agency staff were not used to handling requests. When information was granted, it was often incomplete and inadequate or irrelevant to what the applicant was seeking.

Written refusals did not cite specific exemptions in the law to justify the refusal as required, making it difficult to determine why a request was denied. State-owned enterprises claimed that their obligations under the law were limited to providing a discrete set of documents and did not respond to requests for pollution, monitoring, or enforcement information despite the fact that these public-private enterprises operate under the same pollution-control regulatory environment as private industry.

In Thailand, a lack of regulations to require agencies to designate RTI officers or adopt internal procedures to answer requests likely slowed the response process. Average response time was 61 days, well beyond the 15-day limit prescribed by law. Persons who could not read or write found it difficult to use the law without a provision for oral requests or were often unable to understand information received in a technical format. The range of days between requests submitted and the response received in each country is shown in Figure 8.

Figure 8 | Number of Days between Information Request Submission and Response in Three Countries



**Finding 5: The RTI information received was of inconsistent quality and very technical.**

In all three countries, the data provided was often only tangentially related to the information requested even though specific documents should have been available as per the pollution control regulation requirements. In many cases, the very technical information or raw data provided were too difficult for community members to understand and were often sent in response to more general questions about the safety and risks of using contaminated water for everyday activities. In Indonesia, public authorities were often unable to determine the correct documents needed and required community members to identify the name of the document containing the information they wanted.

In Thailand, average annual discharge estimates were provided in response to requests for water quality or wastewater discharge data for a specific day or time. Documents were also often provided only in English. In Mongolia, responses included only some of the information requested and were out of date in a significant minority of the cases. A number of important regulatory gaps were identified on the basis of the information obtained. These gaps are presented in Box 5.

## BOX 5 | INFORMATION REQUESTS SUBMITTED IN THREE COUNTRIES

Although the right to information process was fraught with obstacles, the information ultimately received was valuable to civil society and communities.

In Indonesia facility-specific requests revealed the following:

- The existing legal standards in the pulp and paper industry do not cover specific chemical standards for chlorinated organic compounds (AOX).
- A renewal of a pulp and paper mill's license was issued without a public participation period as required by law.
- There is only intermittent monitoring of the water quality in the

Ciujung River into which discharges were being made by a pulp and paper mill.

- Ongoing breaches of facility standards and lack of enforcement was occurring.

This information has been critical to the ongoing advocacy efforts of local community members. It not only spurred the environmental audit of PT Indah Kiat Pulp and Paper but became the foundation for community-generated outreach material and greater public awareness around river pollution. It also helped local activists prioritize ongoing engagement with the local ministry office over poor compliance and enforcement of wastewater discharge permits and EIAs public consultation requirements.

In Mongolia, requesters from Khoroo No. 13 village discovered that community residents had never been consulted during the EIA process for permitting any of the gravel mines operating in their area, a clear violation of the law. They discovered that certain permits were granted in areas that are reserved against gravel mining because of their proximity to the Tuul River. With the support of STRIPE civil society partners, they have been developing advocacy campaigns to address water pollution and other impacts associated with mining, creating their own maps of mining concession locations, and actively engaging with local and national government officials to improve enforcement of water management and mining laws.

### Finding 6: The use of RTI laws to access environmental information by the most vulnerable communities is new and fraught with challenges.

Community members did not clearly understand their right to information or the procedures for submitting RTI requests. Before the STRIPE project, no community member that was part of the project had ever attempted to use their RTI law. Community members in all three countries experienced difficulties in submitting and tracking information requests and required significant support from civil society partners. Many stopped their information request process when their request was initially denied or when faced with a mute refusal. In Indonesia, the Serang community did not at first understand the importance of their right to environmental information or the significance

of the information they received. In some cases, they were afraid to file information requests about specific facilities because of possible intimidation if the company was told who had made the request for information. Further, appeal mechanisms under PIDA and Information Commission regulations were long and difficult for community requesters and required assistance by civil society organizations, which had to navigate new mediation and enforcement requirements.

In both Thailand and Indonesia, some community members felt uncomfortable contacting officials and writing requests or appeals. In Mongolia, the data received were in many different forms and had to be redeveloped by civil society partners to make them easier to understand and delivered through trainings, meetings, and e-mails.



#### SECTION IV

# CITIZENS FACE BARRIERS TO ACCESSING INFORMATION

The underlying assumption behind information disclosure is that meaningful access to information is a prerequisite for promoting citizen involvement in environmental decision-making processes. Proactive disclosure and RTI laws translate this fundamental right to transparency and accountability into a defined set of procedures and requirements that ensure the right to information is achieved in practice. However, these laws and regulations don't just create the citizen right to access information but also a corresponding government obligation to provide needed information to communities.

Synthesizing the community stories, legal reviews, and practice findings shows the multiple barriers faced by community members when trying to obtain the information they need to address pollution problems. As summarized in Table 7, our study suggests that legal rights to access information do not by themselves guarantee that communities actually receive the information. Information required to be available proactively was often only partially available in practice, if at all. Information that should be accessible through requests was often only partially available or not provided. Clearly, there is still a real need for innovation on how information can be provided to communities.

## Implementation Matters

Indonesia, Thailand, and Mongolia have comprehensive legal frameworks for information disclosure. Each system uses multiple proactive and reactive mechanisms to release pollution information to the public. While clearly more public information is available in Thailand than in Indonesia or Mongolia, RTI law implementation and limited facility-specific information remains a problem in all three countries. The procedures for making and processing requests impact the extent to which RTI laws encourage or limit accessibility (Mendel 2015). Laws with clear and varied options for submitting an information request, strict and enforced timelines, and exceptions that clearly prioritize the public interest can help ensure practical access to information.

Proactive disclosure requirements can enhance access by including lists of specific documents that must be made public, including compliance and enforcement information. Including data from local or regional sources and expanding the mechanisms for distribution in local areas in a variety of accessible formats will also help. Better implementation and enforcement of sectoral water pollution laws will result in the collection of up-to-date, facility-specific monitoring, compliance, and enforcement data and increase the likelihood that the data communities need are available.

Implementation also depends on ensuring that these systems are effectively integrated into the larger bureaucratic system (Mendel 2015). Public officials must have a clear understanding of the law and their roles in enforcing it, as well as an overarching work environment committed to openness. In actuality, implementation of proactive and reactive disclosure involves coordination among multiple actors across multiple steps including data collection, data cleaning and quality control, record management, analysis, follow up, enforcement, and auditing. This multilayered and complex process itself creates multiple entry points where challenges can impact implementation quality. Investment in improving data access implementation is a long-term process that requires significant efforts in making these systems work over time.

Synthesizing the community stories, legal reviews, and practice findings shows the multiple barriers faced by community members when trying to obtain the information they need to address pollution problems.

Table 7 | Summary of Citizens' Access to Desired Information in Three Countries

Information Desired by the Community	Law requires Proactive Release of Information	Information is Proactively Available in Practice	Information is Accessible through Right to Information law
<b>INDONESIA</b>			
General company information	●	●	●
Pollutant information including specific types and discharge quantity amounts	●	n/a	●
Permitting documents	●	●	●
General water quality of local water bodies	●	●	●
Mitigation or cleanup efforts or requirements	●	●	●
Potential short-term and long-term health impacts of pollution being released	●	●	●
Potential impact of using contaminated water	●	●	●
Biological monitoring	●	●	●
<b>THAILAND</b>			
General company information	●	n/a	●
Pollutant information including specific types and discharge quantity amounts	●	●	●
Permitting documents	●	●	●
General water quality of local water bodies	●	●	●
Mitigation or cleanup efforts or requirements	●	●	●
Potential short-term and long-term health impacts of pollution being released	●	●	●
Potential impact of using contaminated water	●	●	●
Biological monitoring	●	n/a	●
<b>MONGOLIA</b>			
General company information	●	n/a	●
Pollutant information including specific types and discharge quantity amounts	●	●	●
Permitting documents	●	n/a	●
General water quality of local water bodies	●	●	●
Mitigation or cleanup efforts or requirements	●	●	●
Potential short-term and long-term health impacts of pollution being released	●	n/a	●
Potential impact of using contaminated water	●	●	●
Biological monitoring	●	n/a	●

● = yes   ● = limited   ● = no   n/a = not applicable.

Our research provided insight into gaps in the collection of monitoring data on the quality of river and underground water for common pollutants and toxins in all three countries. Information on river systems' health is not systematically collected by local and national authorities.

In all countries, delays in receiving documents from public officials were common, and some crucial information was not provided at all. Enforcement information was not centralized. Common drivers of poor implementation included administrative barriers, a poor culture of openness, minimal training and education, lack of defined roles and procedures, and a systematic lack of oversight and enforcement.

Most RTI laws impose an obligation on public authorities to provide assistance to applicants who need it, and many include specific proactive disclosure requirements. Although the broad scope of government actors involved in regulating pollution is an understandable challenge to the efficient processing and release of meaningful information, governments must harness the capacity-building resources needed to ensure public officials have the time and energy to answer citizen questions and fulfill their legally mandated obligations to provide information.

## The Demand for Information

If citizens keep demanding information, they will send governments the message that they need to make public information available. Civil society and media groups must be regular requesters and users of proactively disclosed information in order to ensure the proper functioning of the system and that information reaches the public. Community capacity must be built to make citizens better aware of how to use the information to become effective in decision-making about water pollution regulation.

In all three countries, community members desired similar information, including impacts on drinking and water quality, how to mitigate health impacts, and facility-specific information. Yet multiple barriers limited their ability to demand and use this information, including:

- Poor understanding and difficulty using RTI laws without outside support.
- Minimal access to environmental information about local facilities and public health and water quality concerns.





- Challenges around cost and traveling to government offices to gain access to documents.
- Difficulty understanding the unprocessed, technical information provided.
- Obstacles to using national websites and online portals to access information and minimal alternative public sources of information available in local communities such as signage or forums for feedback.
- A divergence between the information publicly available and the information wanted.
- Technical procedures for submitting tracking and appeal information requests.

Governments, media, and civil society can all help community members overcome these barriers. Governments must provide education and training to ensure their citizenry knows and understands its right to information and can follow simple, well-delineated procedures and guidelines. Governments should provide information in a variety of formats (e.g., written materials, radio broadcasts, and television ads) and in appropriate languages and at

the appropriate locations. Civil society groups acting as intermediaries can help build the capacity of citizens to use their right to information by translating the information received into local languages and formats that allow it to be used to take action to address local concerns. Intermediaries also play a crucial role in interpreting the available data and in translating technical and regulatory jargon into information that can be understood. Together they can work with local government officials to ensure citizen demand for local information is met.

Information disclosure is not a panacea for improving participation or pollution control regulation. However, the barriers outlined above likely obstruct achievement of the many documented benefits commonly associated with public disclosure. Given the growing environmental, social, and economic impacts of industrial pollution and the ongoing challenges of balancing development with compliance and enforcement, improving citizen access to environmental information is an essential part of the solution for addressing industrial pollution and strengthening accountability.





## SECTION V

# RECOMMENDATIONS AND CONCLUSION

As rapid urbanization and industrialization fundamentally change the landscape of rural and often marginalized communities, people need meaningful access to information that ensures they can have a voice in decision-making related to the externalities of industrial pollution. This report reveals that gaps in the proactive release of information, as well as deficiencies in RTI laws and their implementation by government agencies in three countries, are preventing such meaningful access.

Transparency of community-desired information on water, including the sources of water pollution, ambient water quality, and pollution effects on public health and environment, is still needed in Indonesia, Mongolia, and Thailand. Government officials, communities, and civil society must work collectively to identify what information communities need and prioritize policy changes and improved methods for making that information more easily available.

Around the world, many governments are recognizing that making data available to citizens in a user-friendly manner is one of the most powerful ways to spur environmental cleanup and improve health. We offer the following recommendations, with examples of good practice, which center on the collection and release of information valued by the community and support the development of systems that improve the management and disclosure of water quality information.

**The Governments of Indonesia, Thailand, and Mongolia should track and synthesize the information needs of the general public and local communities.** National assessments of community information needs could identify priority data sets for collection and release online and through social media, as well as identify forms that communities can easily access. New procedures could be embedded in the current disclosure framework to enable progressive implementation of this recommendation. Colombia offers one example of how this idea is currently implemented. In an effort to establish a space for constructive and equitable dialogue between different government, academic, and community stakeholders, the Colombian Intersectoral Bureau for Environmental Democracy (MIDA) is mapping users of environmental information and identifying their information needs and preferences on how they should receive information. These data will be used to reform the country's proactive environment information disclosure process.



**The Governments of Indonesia, Thailand, and Mongolia should prioritize the creation of centralized information technology platforms for synthesizing and proactively releasing national water quality and facility-specific environmental information.** Although data portals cannot be the only form of disclosure, they offer the greatest opportunity to provide a comprehensive and consistent pathway to the wide range of information desired by communities.

Institutionalized mechanisms need to be developed to improve the completeness and forms of information over time. Any centralized system must recognize the role of local governments, especially when permitting and enforcement is delegated to them, and the importance of providing local versus national information to citizens.

Based on the experience of communities in countries with a legacy of poor pollution control, there is a need for a nationally coordinated system for government to synthesize data on the performance of facilities that discharge into water bodies. This will provide a clear basis for the public to understand government's regulation of industry, and industry's compliance rates. The primary aim should be to build public trust that human health and the environment are being carefully considered in waste discharge permitting processes, but the database could support efforts to improve standards for specific industries. A centralized system for information, standardization, and release is also necessary to lower institutional barriers to the release of environmental information on the control and management of pollution by specific facilities.

The city of Amsterdam offers a good model for providing information on water quality. Information is provided through an online tool and app called WaterNet and is updated quarterly. The Dutch also have created a centralized system called Aqualarm that enables users to see real-time monitoring results of the levels of pollution in the Rhine and Meuse Rivers.

**The Governments of Indonesia, Thailand, and Mongolia should prioritize the release of five specific categories of environmental documents and data, both on data portals and in local areas.** These include the following:

- Water quality monitoring reports that indicate the types and quantities of pollutants discharged by specific facilities.
- Public health assessments that include legally allowed uses of water, impact of pollution and risks to health, and support references that define what it means for community uses (agriculture, bathing, drinking).
- Facility-specific discharge permits, including company contact and owner information.
- EIAs and supporting documents throughout the life cycle of development projects.
- Compliance and enforcement reports.

Information from these documents should be compiled into summary forms in multiple formats and released on data portals and in communities. Release of these data would also improve opportunities for local and national authorities to address compliance and enforcement of national water quality standards and provide transparency about corporate performance improvement. Permit and enforcement information that is easily obtainable by civil society and communities would serve as an accountability mechanism to ensure that regulatory agencies are enforcing the laws and pollution standards.

Each country has legal instruments and mechanisms for disclosure that could be expanded to achieve this centralization and standardization of data. Indonesia could expand the environmental information system required under the Environmental Protection and Management Law to include a data portal for the release of facility-specific information, including EIAs, permits, and water quality documents already mandated to be public. Indonesia's PROPER program could be modi-

fied to include access to specific company pollution discharge monitoring information as well as compliance and enforcement actions. Thailand is already in the process of developing a PRTR system. The online release of Thailand's State of Pollution Report could include links to regulatory documents including facility-specific permitting, compliance, and monitoring documents. Mongolia's environmental database portal could be expanded to include more localized information and links to specific documents.

Looking to other countries for additional examples, Ireland's Citizens Information Board offers a help center where requests about water information can be submitted, as well as a website directed toward citizens, [www.citizeninformation.ie](http://www.citizeninformation.ie), that includes information on risks to using well water. The website also posts "Boil Water Notice," warnings when the water supply is not safe for human consumption. Canada has developed an Environmental Assessment Registry that allows users to search for public participation opportunities for specific projects. The United States has the most comprehensive system of publicly available enforcement and compliance information called ECHO (Enforcement and Compliance History Online). This database includes a search function for individual facilities in specific communities and includes compliance and enforcement actions taken. It also allows users to investigate pollution sources, create enforcement-related maps, and explore states' performance.

**Governments should expand the release of information in forms that are accessible offline and easily understood by communities.** Our research found that information provided by government authorities is often incomplete or too technical. Information on pollution in water

bodies used for domestic needs (water quality) must be provided in a way that is timely, accurate, comprehensive, and in forms that can be understood by the public. Government officials could offer funding and coordinate efforts to produce guidebooks and other culturally appropriate resources explaining the importance and meaning of technical information in EIAs, discharge permits, and monitoring reports that could be distributed to local communities. Civil society groups should continue to help translate water management documents and data into forms that can be distributed widely to empower an effective and engaged citizenry. For example, WRI's Indonesian partner MediaLink worked with Serang community members to create comic books, a calendar, and a quarterly newsletter to help share permit compliance, EIA, and pollution information with the greater Serang area as part of the STRIPE project.

Information must be accessible at the local level. Simple signs or reports in local media, community meetings, mobile phone apps, and radio alerts on the quality of water would meet this need. Community information centers and other culturally appropriate forums could also effectively improve access to different types of information. For example, signs warning of water pollution contamination and health risks can be found in a wide range of towns and beaches in many countries. They include Kommetjie, a small town near Cape Town, South Africa; on the shore of Ashbridges Bay in Toronto, Canada; and Seatown Beach in Dorset, United Kingdom. A mobile phone app created by the nonprofit organization Institute of Public and Environmental Affairs (IPE), which lets users see whether a factory in their community is violating pollution standards, has been downloaded by 3 million people in China.

Each country has legal instruments and mechanisms for disclosure that could be expanded to achieve this centralization and standardization of data.

**Governments should prioritize improving the capacity of their environmental and water quality management officials through staffing and training to ensure that systems for the release of information are efficiently and effectively implemented.** Leadership and financial resources are needed to ensure that government officials are trained and have the necessary support to provide meaningful public access to water and environmental information. National and local agencies need to designate information officers and create guidelines and procedures for their roles and responsibilities. Protocols and systems to maintain, organize, and share records need to be created. Increased performance monitoring should hold ministry officials accountable.

**Better oversight of RTI implementation and appeal systems is needed to ensure direct access to relevant information.** A major finding of this study is the need for significant improvement in the implementation of RTI laws and procedures. Indonesian, Thai, and Mongolian government authorities need to develop better systems to track and respond to requests in a timely fashion, granting or refusing access to information within the terms of the law.

Neither the Thai appeal process nor the Indonesian appeal and internal review process have resulted in significantly more information becoming available. Greater clarity is needed on the reasoning of the information commissioners and on why using the appeal procedures did not result in more environmental information being released. Monitoring how well information commissioners and tribunals comply with the law in filling information requests could reduce the number of mute refusals. Creating simple procedures for appeals and providing information about response rates of government agencies to the public and to the executive and legislative arms of government, as well as the outcomes of appeals from specific government authorities, may help in both countries.

Finally, deficiencies in RTI laws in Indonesia, Thailand, and Mongolia are adversely affecting people's ability to access information; these laws should be amended to allow oral requests over the phone, waive copying costs, and provide informa-



tion in local languages. Removing requirements to give reasons for information requests should also be considered where applicable.

**Governments should work with private and state-owned companies, civil society, and local communities to expand the pollution information that companies can share with regulatory agencies and communities on their operations, improvements, and challenges.** When companies operate in secrecy, long-term conflict, disputes with communities, and disputes between community members can result. Communities want more ownership and contact information for the facilities located in their area. Release of information by companies to government agencies or directly to communities should be facilitated in a truthful, accurate, transparent, and punctual manner. Israel, for example, in addition to maintaining a PRTR system, releases an annual Environmental Impact Index. The index presents the environmental risks of public and governmental Israeli companies, names them, and ranks them relative to the world's worst-performing countries.



**Community members and civil society need to become actively engaged in decision-making about the management of water quality pollution at the national and local levels.**

Our findings highlight the importance of empowered communities in driving efforts for cleanup. Empowered communities can better participate in decision-making forums about local water quality issues. We found that communities were able to use information to inform their advocacy efforts, demand better management of pollution, and engage in policy discussions. Civil society organizations can support and build the capacity of local people to obtain and use environmental information to hold government accountable for better pollution control. Local communities must continue to demand information and participate in water governance decisions.

**International donors should leverage their investment in the achievement of the SDGs on water.**

Donors including the Asian Development Bank, the World Bank, and the government of Japan should consider jointly funding government, civil society, and community groups to improve the disclosure and use of information to support participation in decisions about how pollution is regulated and monitored. The public cannot play an active role in participating in pollution control if it does not receive information on water quality or if its complaints go unheeded. Governments need support to implement better water quality management and deliver on enforcement mechanisms that work. Donors have the opportunity to expand water management partnerships by supporting regional engagement between governments and civil society to improve implementation of proactive disclosure within the framework of the SDGs. The SDGs provide a space to leverage political will and create momentum for implementation and improvements in the release of environmental information.

Donor support is also needed to help civil society and governments support and build community involvement and participation in key water governance decision-making forums. Specific donor funded activities could include the following:



- Supporting initiatives to translate technical pollution control and policy information into easily understandable forms and provide the appropriate forums for getting such information out to communities.
- Advocating for better opportunities to use the collected information, including developing frameworks for stronger public participation requirements in the water pollution regulatory process and supporting water quality testing and information management.
- Educating community members about their rights to access information and appeal mechanisms and supporting improvement of enforcement agencies and the decision-making processes used by information commissioners.
- Working to support government and community members to use collected information to protect public health and the environment. Civil society can identify appropriate forums where local communities can use the information obtained to address these concerns. These can include required public consultation opportunities around the development of EIAs or renewal of permits. They can also include basin commissions, water boards, and other councils that address specific water issues. Governments can use national pollution information to make decisions on cleanup and restoration.

Community members and civil society need to become actively engaged in decision-making about the management of water quality pollution at the national and local levels.

## Conclusion

Growing pollution problems in Indonesia, Thailand, and Mongolia and the impact on health has been documented by international banks (ADB 2016), regional partnerships (WEPA 2015) and national researchers.

In communities near polluting factories, this pollution causes health and livelihood problems. Local, often marginalized village residents rarely have the political clout or strength in numbers to pressure government or industries through protest alone. They often need the support of civil society and other stakeholders concerned with the environmental and public health threats caused by industrial pollution. These communities need accurate, comprehensive, and easily accessible information and training in citizen engagement to pressure the factories and government officials to stop the pollution.

International and national laws state that governments must provide the information necessary to ensure that citizens can fully participate in decision-making processes and that can be used to resolve conflict and support compliance and enforcement with laws and regulations. Without this information, rumors and lack of information can distort a community's perception of industrial activities and prevent them from having a voice in demanding and achieving accountability (Anbumozhi et al. 2011). Our findings reinforce this important need and document ongoing and significant community barriers to meaningful access to information.

Over the past three years, our work has documented that community members have had significant challenges obtaining information and engaging government officials over their concerns. Meaningful access to information depends not only on laws but also on strong institutions with the capacity and willingness to create a culture of openness.

The Governments of Indonesia, Thailand, and Mongolia have all taken progressive steps to improve transparency by the adoption of RTI laws and regulatory provisions to improve access to environmental information. However, as outlined in the recommendations, more needs to be done to make relevant information available to citizens.

Urgency around these issues is critical because meaningful access to information is the essential first step for creating change.

## APPENDIX A: STRIPE PARTNERS

This appendix describes the organizations involved in the STRIPE partnership in Indonesia, Thailand, and Mongolia.

### Indonesia

**Indonesia Center for Environmental Law:** Established in 1993, the Indonesian Center for Environmental Law (ICEL) addresses Indonesia's development priorities that focus on economic growth to the detriment of the environment and neglect of the needs of people whose lives depend on natural resources. ICEL aims at reform policies to support environmental protection while improving the capacity of government and communities. ICEL works on research, advocacy, and capacity building in the areas of environmental policy, forest management, public information disclosure, green bench, mining, and biodiversity.

**WALHI/ Friends of The Earth Indonesia:** Wahana Lingkungan Hidup Indonesia (WALHI; Indonesian Forum for the Environment) was founded in 1980 and joined Friends of the Earth in 1989. WALHI is the largest and oldest environmental advocacy non-governmental organization (NGO) in Indonesia. WALHI unites more than 479 NGOs and 156 individuals throughout Indonesia's vast archipelago with independent offices and grassroots constituencies in 27 of the 31 provinces. Its newsletter is published in both English and Bahasa Indonesian. WALHI works on a wide range of issues, including agrarian conflict over access to natural resources, indigenous rights and peasants, coastal and marine, and deforestation. WALHI also has several cross-cutting issues such as climate change, women, and disaster risk management.

**MediaLink:** MediaLink is an NGO focused on issues of media freedom and democratizing information. Founded in 2010, MediaLink aims to strengthen democracy by promoting the open and equitable flow of information.

### Thailand

**Thailand Environment Institute:** The Thailand Environment Institute (TEI) is a nonprofit, nongovernmental, environmental organization focusing on environmental issues. It was established in May 1993 with a working philosophy of serving as a reliable and up-to-date information and knowledge resource. Founded on the belief that partnerships are the most effective approach to achieving sustainable development and better quality of life, TEI advocates a participatory approach to shared environmental responsibility. By working closely with the private sector, government, communities, other civil society partners, and academia, as well as with international organizations, TEI helps to formulate environmental directives and link policy with action to encourage meaningful environmental progress in Thailand.

**Eastern People's Network:** The Eastern People's Network is a grassroots advocacy organization focused on bringing policy attention to the social and environmental impacts of Map Ta Phut's pollution by staging protest rallies, petitioning the government, and bringing lawsuits.

### Mongolia

**Centre for Human Rights & Development:** The Centre for Human Rights & Development (CHRD) works on projects aimed at achieving goals such as improving national human rights mechanisms and structures, increasing foreign aid effectiveness, improving civil society's contribution to Mongolia's development, and using international human rights mechanisms and instruments. Its work is organized into three programs: a program to combat human trafficking, a human rights advocacy program, and a community-based development program.

**Patrons of Khuvsgul Lake:** Patrons of Khuvsgul Lake (PKL) works to protect Lake Khuvsgul, the freshest and deepest lake in Central Asia. It is also an active participant in Mongolia's Publish What You Pay (PWYP) and EITI networks.

**Environment and Health Center:** The Environment and Health Center is a nongovernmental organization comprising environmental hygienists, ecologists, chemists, toxicologists, and lawyers with 5 to 26 years' experience in government and nonprofits. Since 2006, the center has been working on a project to "increase transparency on environmental pollution" funded by the World Resources Institute. The project focuses on creating transparency on information about environmental pollution, improving citizens' environmental responsibility and their ability to monitor pollution, establishing residents' management in the ger district, a residential district of detached houses or *gers* (hence the name) surrounded by wooden fences. Increasing citizens' environmental responsibility and providing them with skills is an important methodology to reduce pollution in the ger district and improve the health of its residents.

**Transparency Foundation:** The Transparency Foundation was established in 2007 as an NGO working in the field of budget-related monitoring and evaluation, especially regarding the mining industry, infrastructure, and public-funded organizations. As part of its social accountability initiative, it conducted transparency ratings of companies in the extractives industry in 2007 and 2008.

## APPENDIX B: SAMPLE INFORMATION REQUESTS

Some of the common types of information requests made by STRIPE partners in Indonesia and Thailand are shown in Table B1.

Table B1 | **Common Information Requests Made in Indonesia and Thailand**

INDONESIA	THAILAND
Determination of water class/water standard classification of Ciujung River	
Permits on effluent discharge into the river	Permits that allow effluent discharge from facilities near community into water body
List of pollutant releases to water body	
PROKASIH report (clean water report)	
Water quality monitoring data for past year	Water quality of underground water in community
Health report regarding the condition of the local community from the local health department	
Banten regional state of the environment report	
EIAs implementation document	
Number of inspections per year and number of breaches per year	Inspection report
Monitoring and inspections record/report by environmental inspector in the facilities—within one year	Any document that identifies the number of inspections carried out by enforcement officers in the region in the last year
Self-reporting document on environmental management by the company—within one year	Monitoring data of water quality source entering and leaving water treatment in last six months
Public consultation process on the standard setting of effluent discharge and water class	Records of public comments in the area when permit was up for approval
Guidelines on water monitoring	
Industry database to identify another source of pollution from the PROPER secretariat	Any reports prepared by government agency on the sources of pollution entering the river
Law enforcement and compliance document (e.g., administrative sanction, notification letter for violation) within one year	Enforcement actions (both type and number) taken against facilities in the area
EIA of facilities discharging pollutants	
Report or follow-up to public complaints	
PROPER report, analysis, justification	
List of the name of industries along the Ciujung River	Number of facilities permitted to discharge into rivers and locations of these facilities
Permit control report, hazardous and toxic waste management, and transportation	
Monitoring report and periodical report from the companies regarding the Ciujung River water quality and the impacts upstream and downstream	Monitoring data for a water body over last six months (near community); copy of monitoring report from same facilities that indicates what they actually discharged for six months
Information on the waste generated from the industry and the impact on the community's health	Report by regulatory agency of progress made in achieving mitigation by these facilities
Information on the potential impact of pollution on the health of communities	Any report indicating cumulative impacts from pollution in the area
Information on how to face and handle the health problem	

## ENDNOTES

1. A comprehensive summary of this court dispute can be found in Nicholson, 2010.
2. As part of the plan, the Pollution Control Department (PCD) installed information displays at two locations in Map Ta Phut to show the daily environmental air quality (Soytong and Perera 2014).
3. Principle 10 has not developed into an international legally binding instrument that requires all states to ensure that the public has a right to receive information on pollution at the national level relevant to their social context. (Banisar et al. 2012).
4. United Nation resolutions and reports on human rights and the environment recognize the link between rights to a healthy environment, to life, to health, to property, to an adequate standard of living, and procedural rights. John Knox, rapporteur on human rights and the environment, has stated that in order to protect rights to a healthy environment, it is necessary to provide rights of access to information about the environment, to participation in environmental decision-making, and to remedies for environmental harm (Knox 2014)
5. These internal interviews are corroborated by Lee, 2010.
6. A 2012 report has been published but is available only in Mongolian.

## GLOSSARY

**AMDAL**—Indonesia’s EIA system

**Ambient water quality**—The quality of a body of water such as a lake, river, or underground aquifer. Can also refer to the allowable amount of materials, as a concentration of pollutants, in water.

**Aimag**—Mongolian word for province or state.

**Ammonia-nitrogen content**—The amount of nitrogen combined in the form of ammonia or ammonium. Ammonia is a toxic pollutant often found in liquid organic waste products. It can be used as an indicator of the health of water bodies. The term is used widely in waste treatment and water purification systems.

**Biological oxygen demand**—The amount of dissolved oxygen needed by oxygen-using organisms to break down organic material present in a given water sample at certain temperature over a specific time period.

**Dissolved oxygen content**—Refers to the level of oxygen present in water. It is an important indicator in assessing water quality because a level that is too high or too low can harm aquatic life.

**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 media**—Refers to abiotic components of the natural environment—namely, air, water, and land.

**Mute refusal**—Failure of a government body to respond in any way to a request for information.

**Ongoing monitoring**—The systematic, long-term assessment of pollutant levels by regularly measuring the quantity and types of certain pollutants in the surrounding environment.

**Open License**—a license that ensures that anyone is allowed to freely use, reuse, or redistribute the data.

**Permit**—A legal document issued to a specific facility that controls the quantity and quality of specific pollutants released into the air or water.

**Point source**—A localized and stationary source of pollution, 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 into 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.

**Proactive disclosure**—A scenario where a government purposefully and anticipatorily causes the release of information, rather than simply responding to requests for information.

**PROPER**—Indonesia’s Program for Pollution Control and Evaluation, which collects and releases environmental performance data on individual corporate facilities in a color-coded system.

**Regulatory phase**—The system of legal requirements that control, monitor, and enforce the release of pollutants into the environment: typically involves numerous laws and regulations governing standards, EIAs, permits, monitoring, compliance, and enforcement.

**Right to know (RTI) laws**—The legal requirements that allow access by the general public to information and data held by governments. Also, commonly referred to as freedom of information laws.

**Standards**—Legal requirements governing the maximum amount of pollutants that can be released into the environment. They are generally designed to limit pollutant levels below those harmful to human health.

**State-owned enterprise**—A legal entity created by a government in order to partake in commercial activities on the government’s behalf. It can be either wholly or partially owned by a government and is typically earmarked to participate in commercial activities.

**Soum**—A Mongolian second-level administrative subdivision below the *Aimags* (provinces); roughly comparable to a county.

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