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GROWING THE GRASSROOTS: INTEGRATING ENVIRONMENTAL JUSTICE INTO THE TOXICS RELEASE INVENTORY PROGRAM

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STATEMENT OF ISSUE

ECOS, through the U.S. Environmental Protection Agency Toxics Release Inventory Program (EPA TRI), recently has focused outreach efforts on assisting the Environmental Justice (EJ) community. To this end, ECOS and EPA hosted a webinar in 2010 centered on expanding TRI use among current and potential users in the EJ community; highlighted EJ concerns at the 2010 National Training Conference on TRI and Environmental Conditions in Communities; and most recently focused on raising awareness of EJ-TRI related issues through a small grants program.

TRI has proven to be one of the most effective tools for environmental advocates to decipher potential environmental and public health hazards in their neighborhoods. By targeting this group, ECOS hopes to further enhance the EJ community's ability to access and use TRI information.

As such, ECOS awarded three grants under its current five-year TRI Cooperative Agreement with EPA. These grants support EJ efforts as they relate to TRI, with particular emphasis on addressing local environmental issues in communities. World Resources Institute (WRI), an environmental think tank and one of the grant recipients, identified key barriers to accessing information from TRI for individuals and groups within the EJ community. This effort was completed under WRI's Access Initiative, which seeks to expand information availability, public participation, and access to justice in matters affecting the environment. As part of this undertaking, WRI developed policy goals and steps for an integrated approach to better serving EJ communities. WRI's findings and recommendations follow in this edition of *ECOS Green Report*.

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OVERVIEW

The TRI program has long been a flagship program for providing access to information around environmental conditions at the community level. Up to now, EPA has not explicitly integrated an EJ approach into its strategy for access to information around toxic releases. With the advent of *Plan EJ* 2014, the EPA Office of Environmental Information will need to integrate EJ concerns into the day-to-day operations of the TRI program. This paper outlines a set of policy goals and steps for an integrated approach to better serving "EJ communities," that is, communities that traditionally have not been part of decision making affecting the environment or are made up of significantly minority or low-income populations. Based on a series of interviews with members of EJ communities in Louisiana and California who regularly engage with TRI data and regulated facilities, this paper identifies a key set of barriers to public understanding of toxics data. These include poorly integrated information systems, lack of awareness of the data and online tools, low public understanding of risk, and lack of accountability mechanisms to spur public release of data. To respond to these challenges, the authors propose a programmatic approach to developing relevant data analysis, publicizing new tools, and linking information with mechanisms to foster collaboration, accountability, and rule of law.

1. Problem Statement

1.1 Out of Proportion: Environmental Impacts on the Poor

Poor and minority communities often suffer disproportionate impacts and enjoy fewer environmental benefits than the wealthy. For example, there is evidence to suggest that poor communities and ethnic minorities face disproportionate exposure to environmental hazards. In the United States, land-use decisions often unfairly impact low-income African-American communities, resulting in increased exposure to toxic chemicals (Bullard, Mohai, Saha, and Wright 2007; Bowen 2002). In other countries, evidence suggests that exposure to floods and toxics is higher in low-income communities (Schwarte and Adebowale 2008; Walker, Mitchell, Fairburn, and Smith 2003; Walker, Mitchell, Fairburn, and Smith 2005). Other research suggests that ethnic minorities also face a disproportionate risk of flooding and extreme weather events (Agyeman 2005). This can be critical in the context of emergency planning around chemical risks.

1.2 Getting to the Table: Information as Empowerment

Where disproportionate environmental impacts and benefits exist, including from toxic exposure, access to information can play a significant role in addressing those impacts. Even where there is some doubt about the extent to which minority and low-income communities suffer disproportionate environmental impacts, better access to information plays a significant role in ensuring more socially inclusive, legitimate, and accountable decision making. Further, these principles are increasingly considered ends in and of themselves, inseparable from the well-being of individuals or as human rights (Sen 1999; Bonfiglioli 2001; Foti et al 2008; Carter Center 2009).

Box 1: Definitions

EJ: disproportionate impacts (relative intensity); adverse effects (relative vulnerability/ability to withstand shocks)

EJ Organizations: used here to describe both grassroots organizations and umbrella organizations aiming to address issues of disproportionate impacts and benefits and fair procedures in matters dealing with the environment

EJ Communities: Local-level communities defined either in qualitative terms (ex. "segments of the population most at risk of being unaware of or unable to participate in environmental decision making or to gain access to state environmental resources") or in numerical terms (ex. U.S. Census Bureau census block groups with some specific poverty level, percent minority, percent immigrant, or of limited English proficiency)

Access to information: refers to (1) the availability, usability, and publicity of information relating to the environment, and (2) the mechanisms by which public authorities provide environmental information

Accountability: In this context, accountability refers to the combination of transparency around decisions, answerability of decision makers for those decisions, and the possibility of sanctions such as –in the case of officials, removal from office or in the case of polluters, denial of permission to pollute, and payment for past pollution (Fox 2008)

1.3 Information Barriers for Minority and Low-Income Populations

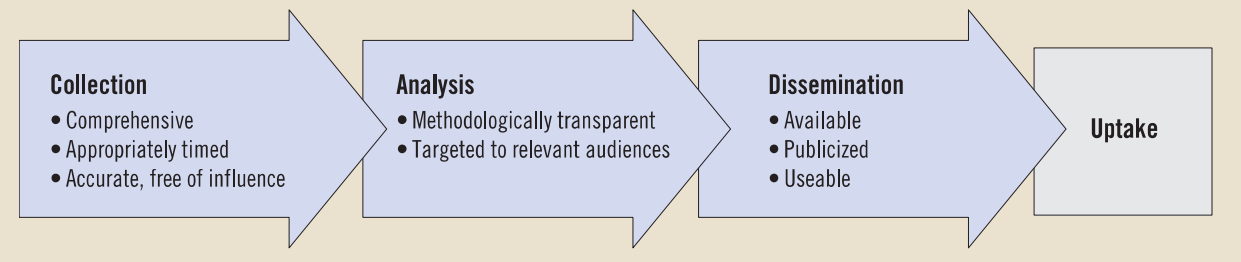
In many contexts, few members of the general public are able to access official information on their environment due to basic issues of availability. However, there are a number of barriers that are particularly acute for minority and low-income populations, even when basic environmental information is readily available.

- **Literacy:** basic reading skills; ability to understand technical content; language
- **Access to communication channels:** access to information and communication technology; reluctance to use official means of communication
- **Cost:** official fees; travel; foregone work; time constraints; cost of childcare
- **Cultural context:** expectations of who has a voice; ability to communicate in "bureaucratic" language; officials' perceived legitimacy of environmental and health concerns; relative bargaining power of the community members (adapted from Foti and de Silva 2010)

1.4 Good Practice for Access to Information

Having good access to information means that officials and members of the public use information to make decisions and take steps to protect their lives, livelihoods, and environment. This information has a number of key elements, highlighted in Table 1.

Table 1. Elements of Good Practice for Access to Information



Source: Foti et al. 2008

In the context of minority and low-income populations, the issues of relevance, availability, publicity, and usability are key.

2. Access to Information and EJ Provisions in U.S. Federal Policy

This section looks at current policies and activities to ensure that these populations are receiving adequate information, with special attention to the TRI. Additionally, it reflects on access to information components in other federal and non-federal programs that might offer clues to integrating EJ into TRI activities.

2.1 EJ in Federal Policy

Following on the heels of a number of studies showing patterns of racial discrimination in the siting of toxic waste facilities (Bullard, Wright, and Mohai 1986) and pressure from members of the public, especially members of the civil rights movement, EJ became a formal part of federal policy beginning in 1994 (Rosenbaum 2008). Since then, the implementation could be characterized as “stop-start” at best. The current administration, however, holds promise for mainstreaming EJ principles, not only throughout the EPA, but in other considerations dealing with the environment. This section reviews the foundational policies for ongoing work to integrate EJ into EPA activities.

2.1.1 Executive Order 12898

Executive Order (EO) 12898, issued by US President Bill Clinton in 1994, is the impetus for the development of EJ policies and programs in federal agencies. Among other actions, EO 12898 required each agency to:

- Create a comprehensive, agency-wide EJ strategy, formally making EJ concerns part of their central mission;
- Increase public participation by ensuring that documents are understandable, accessible, and translated (if necessary); and
- Solicit public comments on agency handling of EJ issues.

2.1.2 EPA's Implementation of EO 12898

Under Administrator Carol Browner, EPA began examining EJ concerns even before the advent of EO 12898. In 1992, EPA created the Office of Environmental Justice (OEJ), originally the Office of Environmental Equity, and it listed EJ among the seven main goals of its 1993 Strategic plan (NEJAC 2002). Also in 1993, EPA convened the National Environmental Justice Advisory Council (NEJAC), a stakeholder advisory board to provide recommendations to EPA on the integration of EJ into key programs.

EPA's first formal response to EO 12898 came with its "Environmental Justice Strategy" (1995) and "Environmental Justice Implementation Plan" (1996). While these guidelines were a strong first step, they suffered from a lack of implementation, often left to individual offices, without standard accountability measures to track their progress are established (U.S. Commission on Civil Rights, 2003).

Under President George W. Bush, a policy shift was evident in EPA's implementation of EO 12898. In 2003, EPA's Office of Policy, Economics, and Innovation released its "Public Involvement Policy." The document explicitly addresses EJ and says that officials should, when "appropriate," give "extra encouragement and consider providing assistance" to minority and low-income populations (EPA 2003). These qualifiers reflect the policy change: recommendations became highly discretionary, with repeated mentions that the EO was not a rule and therefore not legally binding. Officials should use "sound judgment," keeping in mind that "resource constraints, the need for timely action, and other considerations may affect the appropriate nature and extent of public involvement." Opportunities for public participation and access to information were greatly curtailed.

A critical element of access to information is building capacity and fostering involvement of EJ communities through training and direct financial support. In 2008, EPA released its "Collaborative Problem Solving Model" (CPS Model), which stands as one of its most recent action on EJ. EPA touts the CPS Model as a framework to maximize the effectiveness of community decision making and dispute resolution, intended for use by community groups and other stakeholders facing EJ issues (although EPA allows that agency officials "may" make use of it as well). It is made up of seven core elements, including, notably adaptive outreach techniques.

EPA long has placed grant making at the center of its EJ program. The EPA CPS Model is now the basis for its own small grants program, awarding funds to communities that agree to apply the CPS framework to local environmental problems. Between 1998 and 2010, however, grant award amounts and number of grantees have decreased, and questions exist about the scalability and wider utility of these programs (NEJAC 2008).

With the appointment of Administrator Lisa Jackson, implementation of EO 12898 has again become a priority for the agency. The Administrator has identified impacts on children and vulnerable populations as top priorities for the agency and has published *Plan EJ 2014*, which seeks to mainstream EJ procedures into decisions across the agency. In accordance with this internal agency guidance, the TRI program will need to identify major steps to integrate environmental concerns into its EJ programs.

Box 2: CEQ's NEPA Guidance on Reaching EJ Communities

The White House Council for Environmental Quality (CEQ) released its "Environmental Justice: Guidance under the National Environmental Protection Act" in 1997. The following year, EPA issued its "Final Guidance for Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analyses" (1998), which builds upon the CEQ guidance and offers more specific public outreach strategies. Both documents present "meaningful participation" by minority and low-income populations as a central tenet of EJ; EPA (1998) goes further, pointing out that existing NEPA outreach procedures often have failed to successfully inform and elicit participation from minority and low-income populations.

In order to "overcome linguistic, cultural, institutional, geographic, and other barriers to meaningful participation," agencies must tailor their outreach activities to best serve the cultural and socioeconomic contexts of affected communities (CEQ 1997). Both EPA and CEQ offer specific techniques to break through these barriers, including a number which address the specific barriers facing minority and low-income communities around access to information. CEQ's 1998 guidance on impact assessment processes recognizes that traditional NEPA outreach requirements are not sufficient to engage EJ communities.

There are established procedures for public participation in NEPA actions and decision making processes (as in other federal actions). However, these procedures have not always been successful in informing or gaining participation by minority communities and low-income communities.

Because these populations are often least informed, the guidance strongly recommends that action agencies under NEPA use and consult the following cultural institutions and community groups to reach EJ communities:

- Environmental organizations and agencies
- Minority businesses, associations and trade organizations
- Civic associations and public interest groups
- Grassroots/community-based social service organizations
- Federal elected officials and agencies
- Homeowners' or tenants' associations, neighborhood watch groups, and resident groups
- Labor unions and organizations
- State and local elected officials and agencies
- News media, the Internet, and other electronic media
- Tribal governments and tribal organizations
- Religious groups and organizations
- Libraries, vocational and other schools, colleges, and universities
- Medical community
- Legal aid providers
- Rural cooperatives
- Civil rights organizations
- Senior citizen's groups

In many ways, these NEPA guidance documents offer a comprehensive, progressive approach to engaging minority and low-income populations. Developing similar internal guidelines for outreach to such cultural institutions and community groups, especially in vulnerable communities, in the context of toxics could aid staff in fostering the use of TRI data. It is crucial to note once again, however, that these recommendations are discretionary; agencies are under no legal obligation to follow them. The CEQ guidance, in particular, says that agencies should apply its recommendations "prospectively," and should not implement those that would "result in additional delays or costs of compliance" (CEQ 1997). Also, many EPA actions fall outside of NEPA and are therefore unaffected by this guidance (US Commission on Civil Rights 2003).

2.2 Toxics Release Inventory

Public outcry over the Union Carbide Disaster in Bhopal, India chemical disaster of 1984 and a number of smaller chemical incidents within the U.S. prompted passage of the Emergency Planning and Community Right to Know Act (EPCRA) in 1986. EPCRA established a number of provisions to support the public's right to know about potential environmental dangers, including the creation of the TRI program. While it does have its weaknesses, TRI remains EPA's flagship program for increasing public access to information about potential environmental hazards.

TRI is a publicly available database that compiles reports of toxic releases by regulated industry facilities. Since the project's inception in 1987, both the number of industries covered and the number of chemicals listed have increased steadily. Today, TRI regulates nearly 650 chemicals. Facilities must report (at least an estimate of) any form of release of listed chemicals to EPA, which maintains the database and provides data-use tools to the public.

In the words of EPA's TRI website, "The goal of TRI is to empower citizens, through information, to hold companies and local governments accountable in terms of how toxic chemicals are managed." To be valuable in this way, however, citizens must be able to easily access, and use, the TRI database. However, the actual usability of TRI data, especially by minority and low-income populations, is questionable. Box 3 reviews current tools available at the following EPA website: http://www.epa.gov/tri/tritools/index.htm.

Box 3: TRI Access Tools

A number of online tools show promise for what could be relevant, centralized, useable data on regulated facilities within any given community. The successes and shortcomings of each tool point the way to a number of key improvements that could be made for future developments.

EPA recommends that the general public access TRI using either its TRI Explorer or Envirofacts tools (website). Using **TRI Explorer**, the user defines a geographic area (by state, county, or zip code) and a year, and the tool returns a list of the amount (in pounds) of various chemicals released. Users can also get more detailed reports of the amount and type of waste releases and transfers.

With **Envirofacts**, locations are not limited to zip code, state, or county, but can include addresses, water bodies, and park names. The tool returns a list of EPA-monitored facilities in the area and provides facility information from a number of EPA databases, including TRI. Envirofacts also offers a link to **EnviroMapper**, where users can view this data on an interactive

map. The user specifies what combination of air, water, land, waste, toxics, or radiation facilities he or she wants to see, and the tool returns a map showing the locations of facilities reporting those types of releases.

The effects of a chemical release depend upon the chemical's toxicity, its fate in the environment, and the duration and manner of human exposure – and finding this information can be difficult. For more meaningful analysis, EPA recommends its **Risk Screening Environmental Indicators (RSEI)** tool, but also says that RSEI itself is limited and should not be used to determine specific risks, only to screen for potential risks.

TRI.NET is a sophisticated, interactive data engine that allows the user to pose complex queries and manipulate data layers, but must be downloaded and is only suitable for advanced users.

TOXNET is a tool put out by the National Library of Medicine that allows users to search for specific chemicals, years, or locations. TOXNET-generated reports do provide a chemical name along with the code number, as well as slightly more user-friendly interfaces than Envirofacts or TRI Explorer.

MyRTK is a mobile device web page that compares facilities in a given region and lists the twelve facilities least in compliance with the Clean Air Act, the Clean Water Act, and the Resource Conservation and Recovery Act in the previous year. The tool is extremely user-friendly, and perhaps most importantly, links to the Office of Enforcement and Compliance Assurance's Enforcement and Compliance History Online website.

TRI-CHIP is a database program that offers toxicity information for TRI chemicals. The user can specify an amount of chemical exposure to find out specific risk levels associated with each chemical, or, conversely, can find out which TRI chemicals are associated with a particular health risk.

The TRI comparative tool offers an excellent means for community members to compare reporting of releases under various statutes. Again, this can be very useful for EJ groups concerned that all releases are not being reported.

2.3 Beyond Washington: State-level EJ Programs and Policies

A number of states have EJ departments, programs, and/or policies. Three states – New York, California, and Massachusetts – have particularly notable EJ initiatives which can shed light on integrating access to information for EJ.

New York State Department of Environmental Conservation's (DEC) Office of EJ makes clear that its efforts are geared toward minority and low-income communities. It offers an EJ hotline, grant programs, and links to community resources. DEC's policy on EJ and permitting (CP-29, 2003) is notable in that it places the responsibility on the *applicant* to submit a detailed "Enhanced Public Participation Plan" laying out the specific community and culturally relevant outreach tactics the applicant will take to meaningfully engage EJ communities. Applicants also must submit a preliminary report of any anticipated challenges and proposed mitigation techniques, and a follow-up report of all outreach completed.

California Public Resources Code Sections 71110-71116 regulate the state's handling of EJ issues and tasks the California Environmental Protection Agency (CAL/EPA) with developing and overseeing a state-wide EJ program. Pursuant to the law, CAL/EPA has issued and EJ Strategy (2004), Action Plan (2004), and Draft Public Participation Policy (2005), which mandate the use of "alternative communication techniques" to increase public access to information, including the use of pictures to illustrate complex concepts.

CAL/EPA's Department of Toxic Substances Control (DTSC) and the California State Lands Commission have formal EJ policies (2008 and 2002, respectively). Both require that officials and project proponents work to increase public access to information in order to encourage meaningful participation. DTSC's Public Participation Manual (2001) offers applicants unusually extensive guidance for navigating the Department's aggressive participation process. Project applicants, in consultation with an assigned Public Participation Specialist, must complete a detailed community assessment, to include interviews with community members to ascertain information needs and level of interest. Tailored outreach activities continue throughout the permitting process, and community input is given strong weight.

Massachusetts' Executive Office of Environmental Affairs' (EEA) "Environmental Justice Policy" (2002) is especially strong. The policy grew out of a "rigorous seven-month comment period" and incorporated input from the Massachusetts Environmental Justice Advisory Committee (MEJAC), civil society groups, and the public. It mandates financial investment and capacity building in minority and low-income neighborhoods where "residents are most at risk of being unaware of or unable to participate in environmental decision making." The policy requires all state agencies to create EJ strategies with "robust, inclusive" public participation plans that emphasize targeted outreach and "enhanced access to information." Box 4 highlights some of the innovations of Massachusetts Department of Environmental Protection.

Box 4: Massachusetts – A Leader in EJ and Toxics?

Massachusetts' Toxics Use Reduction Act of 1989 (TURA) was passed unanimously by the Massachusetts State Legislature and by 1998 had succeeded in its initial goal of reducing toxic waste generation by 50 percent statewide. Administered by Massachusetts' Department of Environmental Protection (DEP), TURA goes beyond the national TRI program by requiring that companies report any *use* of toxic substances (rather than merely releases) and create a Toxics Use Reduction Plan. DEP provides yearly data reports on its website, along with a link to TURAData, a public database maintained by the Massachusetts Toxics Use Reduction Institute.

While not very prominently featured on DEP's website, TURAData offers a good deal of information in a very simple, user-friendly format. Users can enter the name of a community, company, or chemical to see data for the current year or all previous reporting years. By clicking one of five tabs on the top of the page (Reports, Understand, Success, Collaborate, Glossary) users can easily find guidance and context. There is also a link to the state Toxics Use Reduction Institute, which provides public education and training, along with grants to communities to encourage awareness and use of TURA data.

3. Research Approach

The review of literature and policies above provides a framing for typical problems with access to information for disadvantaged communities and with some of the roads not yet taken. But

such a review, while helpful, needs to be tested with analysis of actual community experience using TRI-associated tools and data.

In early 2010, WRI staff partnered with two EJ groups, the Louisiana Bucket Brigade (LABB, New Orleans) and Literacy for Environmental Justice (LEJ, San Francisco). Both groups were working on issues of toxic pollutants in their communities. Through the EPA small grants program, WRI had the privilege of observing the two organizations working on issues in their communities. The goal of coordinating research with the small grants program was to support the organizations in their efforts to educate their constituents while observing both the problems and the pitfalls in using the toxics release inventory among EJ communities. Criteria for selecting partners were based around:

- Expressed willingness to take part in the activities;
- The centrality of research and education in their activities; and
- Alignment of TRI with already existing or already planned activities.

3.1 Method

For the purposes of this paper, the WRI team was able to interview members of EJ groups, staff, and officials involved with each campaign or project at two points: in January 2010 and at the mid period, May 2010. Each visit involved a series of semi-structured interviews around several theme areas:

- **Relevance:** What data was most useful in current activities?
- **Usefulness and uptake:** Which data sets and online tools did people use in their activities?
- **Publicity:** Did communities have access to computers and actually know about the available tools? If so, how did they find out?
- **Using TRI for decision making:** What were their interactions with local government, state agencies, and EPA? Were they able to communicate risk, costs, and benefits to decision makers at the appropriate level?

The total number of interviewees for San Francisco was eight, including two officials. WRI and LABB conducted six community-level interviews in Louisiana, including in Shreveport, on Route 44, in St. John the Baptist Parish, Chalmette, New Orleans proper, and Baton Rouge, for a total of 12 individuals interviewed.

3.2 Partner Activities

The remainder of this section describes specific partner activities and their basic engagement with TRI. Further findings relevant to the interview themes above are discussed in the next sections.

3.2.1 Literacy for Environmental Justice, San Francisco

LEJ worked to reduce outflows and odors from a sewage treatment plant in its Bayview-Hunter's Point neighborhood. The project took place amid the context of the Public Utilities Commission's (PUC) development of the master plan. Bayview-Hunter's Point currently treats nearly 90% of San Francisco's waste and 100% of the nearby suburb of Brisbane, and has been the cause of 80 separate unplanned outflow incidents in the last year. The aim of the project was to inform youth involved in urban planning decisions about the potential risks associated with

keeping the sewage treatment in their neighborhood through engagement with TRI online tools, community education, and public participation in various meetings of urban planning bodies.

Specific activities included:

- Field trips to different types of waste and sewage treatment plants near San Francisco (with different treatment types);
- Preparation and distribution of an educational pamphlet on the comparative toxic burden (by pounds) in the various neighborhoods of San Francisco;
- Research into regulated facilities around the Bay, especially in communities of color;
- Meetings with EPA Region 9 staff to learn about tools and potential risks associated with toxic releases; and
- Youth testimony at the PUC's Digester Task Force meetings.

In the end, no decision was made to move the sewage treatment plant. Instead, the PUC decided to erect additional barriers and containment measures for both outflows and odors. At the same time, the PUC set a medium-term goal of moving the bulk of wastewater treatment to other quadrants within the city to minimize disproportionate impacts and passed an EJ plan covering both substantive distribution of impacts from decisions around utilities and rules for fair procedure.

3.2.2 Louisiana Bucket Brigade, New Orleans

LABB is working to empower communities at the grassroots level to clean up the various refining and chemical facilities in the Mississippi River Corridor. For the purposes of the EPA mini-grant, staff of Louisiana Bucket Brigade was able to take a number of steps to educate community members about online tools available for TRI. At the time of the training, this largely consisted of TRI Explorer and TRI net. A number of EPA staff and a few Louisiana Department of Environmental Quality (DEQ) staff were able to attend the trainings.

In the end, few of the community groups were able to engage with the data in a sustained way, as they felt it was not current enough, and many of the emissions for air were not immediately relevant as short-term exposure to small events (such as flares and shutdown-startup events) was of more pressing importance. In addition, stressors such as air and light were causing significant problems in addition to pollution through more recognized media. LABB's analysis of TRI reporting suggested that further that self-reported data is not accurate when compared with self-reported incidents and accidents, along with other Clean Air Act-mandated reporting data. In a low-trust environment like Louisiana, this is not conducive to use of the data.

4. Findings

4.1 Relevance of TRI

Key question: *What data were most useful in current activities?*

Key finding: *Where communities used TRI, they used it as a tool to provide context for more acute environmental impacts or to demonstrate disproportionate pollution burdens on communities.*

Citizens of neither site used TRI as a go-to spot for information on their environment. Similarly, neither regularly used nor was aware of value-added data sets such as the Risk Screening Environmental Indicators tool (RSEI) and the National Air Toxics Assessment (NATA). In both cases, the sectors examined were, to varying extents, exempted from TRI reporting.

San Francisco

The initial approach of LEJ in their activities was to demonstrate the disproportionate toxic burden placed on the Bayview-Hunter's Point Neighborhood. They did this through development of a pamphlet comparing the various communities in San Francisco. Indeed, it showed that this industrial neighborhood had significantly higher burden than other neighborhoods.

On the other hand, it was unclear whether the toxic aspects of the sewage treatment plant were worth worrying about. Simply knowing what the toxic output of the wastewater treatment plant was would have been the first step in assessing this risk. However, such data are unavailable. This is because wastewater treatment facilities are exempted from reporting under TRI.

Even without the specific data on the treatment plant, it was clear that the smell and the raw sewage outflows add to an already disproportionate burden. Speaking to the public utilities commission in language that it would understand – risk, cost-benefit, for example – however, became completely out of the question without such data and significant input from technical experts. Within this context, where community members do not have access to "economistic" accounting of pollution burdens, it is entirely reasonable that language of civil rights and discrimination provide the clearest rhetorical strategy for addressing undue burden.

Louisiana

In Louisiana, TRI has two main gaps of relevance for the communities. The first is that it is seen (accurately or not) as being a context tool for putting flares and accidents in context. Again, the acute air pollution, sound, and light pollution presented a clear and present threat to the well-being of the communities. They did not use the TRI data regularly to assess the issues of long-term exposure. Likewise, enforcement mechanisms around violations of the Clean Air Act, such as litigation, are more readily enforceable and require a lower burden of proof, making the incentive to find these violations greater.

Second, one organizer noted the reporting exemption of exploratory wells in the Gulf of Mexico, which could be having a significant impact on communities abutting such exploration.

4.2 Publicity

Did communities have access to computers and actually know about the available tools? If so, how did they find out?

Key finding: *The digital divide, at least in these two cases, did not provide a major barrier. By and large permitting and incident data were the most useful data for negotiation.*

In both cases, all community members had access to computers. Very few, if any, used smart phones in their work. Neither organization was familiar with the new TRI tools such as "my RTK," the "TRI Comparative Tool," or "myEnvironment" (see Box 3). To be fair, many of these tools were in beta testing at the time of the project. Some still are at the time of this writing.

San Francisco

In San Francisco, EPA training was absolutely essential. The project leader stated that had Region 9 staff not trained and assisted them, they would not have been able to complete the project. It is important to note that their contact with the Region 9 staff member was primarily through informal means. She had actually been working with LEJ as part of her master's program. It is worth considering whether LEJ would have had access to hands-on training and attention if this personal connection had not existed. Few EJ organizations are likely to be in a similar situation, located so closely to regional headquarters.

Louisiana

In Louisiana, few community members remarked that they paid regular attention to updates of tools, although many had used such tools in the past. It appeared that most picked the tools that they liked and stuck with them. It is also important to note that with Hurricane Katrina cleanup and the BP oil spill, most of the organizations' precious resources were being dedicated to these disasters, even when their prior work had been dedicated to toxics efforts. The understandable diversion of state-level organizations such as LABB and Sierra Club means that community-level groups may not be receiving the same intensity of resources and capacity building around toxics as they had previously. When the impacts of these disasters recede, special attention to retraining and empowering communities to use available toxics data and tools will be in order. To date, it seems as though the primary and most trusted channels for such training in the past have been state-level organizations and, to some extent, EPA headquarters.

In Louisiana especially, it seems that newspapers, rather than online formats, are still the critical tastemakers in the region. That is to say that communications about toxics data and the various industries often makes the front pages of the local papers. Sustained engagement with print and broadcast journalists seems to have some effect in this area. Overreliance on digital formats could be counterproductive.

4.3 Usefulness and uptake

Which online tools did people use in their activities?

Key Finding: *TRI tools might not have been used without support from the EPA small grant.*

Both LEJ and LABB do not regularly use TRI data to support their work and may not have done so in these cases.

San Francisco

LEJ had some difficulty using the online TRI tools and had not used them prior to the grant period. While it did some work with TRInet before receiving assistance, it was helped along significantly by training from the Region 9 TRI coordinator. Afterward, it was able to use TRI Explorer and TRI net. While the youth had more success with TRI Explorer, their exercise was somewhat tangential to the variety of urban planning and environmental impact activities they were trying to inform. By the time the group mastered TRI Explorer, it realized that wastewater was exempted from TRI and that the PUC had already made its decisions on mitigating the odor and outflows. In the end, the data set or the tools did not necessarily inform decision making. Perhaps a tool like myRTK might have answered these questions more quickly and linked the

group to data that would have been most helpful. When the group used TRICHIP, it had no problem assessing the effects of basic toxics, although it did not compare the relative toxicity of the emissions and effluents of various facilities.

Louisiana

Community members in Louisiana used TRI data occasionally. Perceptions of its utility varied greatly among community members. In Chalmette, activists perceived that the TRI data was too old and that it therefore was not as useful. Even though EPA has greatly accelerated the data release, there is some leftover public perception that the lag persists. Interestingly, most leaders of community organizations understood toxicity of the various facility releases quite well.

It is important to note that TRI data operate in a very low-trust context in Louisiana. Citizens do not have faith in cancer reporting, the quality of ambient air monitoring, and smokestack air monitoring. In this context, there is a strong feeling that TRI data may be wildly inaccurate. In this context, and without public understanding of the potential errors in the TRI formulas or a regularized transparent process of review for the formulas, such feelings may persist. The TRI Comparative Tool, however, may go a long way in helping to troubleshoot reporting and to, over time, build public confidence in the reporting.

As an alternative to annual reporting data, much of the focus of the Louisiana groups was on short-term air monitoring, its own sampling of data, and accident and spill data. These data sets are more easily tied to the perception of acute risks and short, high-intensity events.

4.4 Using TRI for decision making

What were their interactions with local government, state agencies, and EPA? Were they able to communicate risk, costs, and benefits to decision makers at the appropriate level?

Key finding: *Presence or absence of a supportive state and local government made the key difference in environmental and livelihood outcomes in both situations.*

Information without accountability can breed cynicism, mistrust, and disillusionment. TRI and other data on facilities can go a long way to empowering EJ communities to take part in improving their environment, but by itself, it has not led to mutually agreeable outcomes.

The key difference in the two areas has been the strength of local institutions willing to engage with communities and to make public, well-reasoned decisions. In San Francisco, the active engagement of the PUC and individual officials was a linchpin in the success of local groups to mitigate environmental problems around the wastewater treatment plant. In Louisiana, capture of decision making processes at the local, state, and regional levels has made attaining an acceptable level of environmental quality elusive and frustrating.

San Francisco

The City and County of San Francisco, the San Francisco Public Utilities Commission, and the State of California have taken steps to ensure general access to information for the public and to direct some resources to engage minority and low-income communities. The City and County of San Francisco has a centralized, online urban planning portal with all environmental impact assessment documents, zoning permits, and other permitting applications. This is a key step in

reducing the burden on communities to assemble information into a useable format. Additionally, the PUC has an EJ subcommittee which has recently issued guidance on decision making processes to minimize disproportionate impacts and foster meaningful involvement. The city's human rights commission may have some power to enforce the city's obligation to ensure transparency and participation. The city also has a tradition of civic engagement and public participation upon which community groups expect to continue and draw. In addition, help from EPA regional staff on these issues has been key.

Louisiana

The State of Louisiana historically has not supported capacity building for local organizations and has been dismissive of claims from communities, especially around cancer clusters. There is widespread perception that local government and associated permitting processes have been captured by industry. Consequently, members of the public do not feel that hearings are fair or useful. Hearings may be seen as useless, with decisions made well in advance. Even where such decisions may be open-ended, environment takes a backseat to jobs, sometimes in violation of existing laws.

For some of the community members interviewed, there is a sense that EPA is the primary arbitrator of disputes in the communities. In other cases, individuals and organizations have relied on some direct negotiation with the companies and facility managers. For many of the community groups, engagement with the Louisiana DEQ and, to a lesser extent, the EPA Regional Office, has been written off as a waste of time.

In all of these local situations, TRI data can only be useful if it is tied to some process that takes seriously environmental health and rule of law (i.e., enforcement of environmental laws, civil and human rights). At present, citizens are using those pathways that they see as most promising. In the long term, circumventing the local and state governments, however, may be untenable.

5. Policy Recommendations

Building on the momentum of the newly minted *Plan EJ 2014*, the various offices of EPA are at a key moment to systematically mainstream principles of EJ into their programs. TRI has always been indispensable to scholars and officials involved in the EJ movement for identifying differential patterns of exposure and problems in specific communities. It has been EPA's flagship program in fulfilling the principle of "community right-to-know." But its full potential to address the most vulnerable has not yet been reached. The following recommendations are intended to aid EPA program staff in mainstreaming and improving the relevance of TRI and related information to the organizations serving these communities. They can all be done within existing statutory authority as outlined by the *Emergency Planning and Community Right-to-Know Act* (1986).

5.1 Systematically mainstream EJ into the various TRI programs

Establishing an EJ point of contact within the Office of Environmental Information (OEI)

In order to ensure that there is an EJ focus within the TRI program and its related programs, an EJ point-of-contact should be established, preferably as a full-time position. A publicly available job description and contact information would be key to ensuring that community groups know that there is a responsible individual for helping them to use the data. The job description would include:

- To serve as a liaison with OEJ to maintain intra-agency coordination on EJ issues;
- To facilitate and contribute to "one-EPA" access to information, including to "EJ-sensitize" any issued tools;
- To solicit requests for relevant analysis and mashups from particularly affected communities;
- To inform expansion and rulemaking within TRI programs to take into consideration particular adverse impacts for communities.

Creating a publicly available EJ screening tool, allowing for clear prioritization of communities

EJ principles will always be subject to considerations of limited budgets and will face competing strains. Add to this the fact that many of the needed interventions (face-to-face training or provision of toxicologists, for example) for EJ simply cannot be taken to scale. Thus some fair process for prioritization of communities for enhanced capacity building, education, collaboration, and enforcement actions is necessary. The currently unavailable (to the public) tool, Environmental Justice Screening for Environmental Action Tool (EJSEAT), is an excellent start for such a screening mechanism. Members of the public, seeing the agency set its priorities through such a tool, would be able to better understand the vulnerability of other communities and the need for special action in such communities. The currently public EJ-View tool and the demographic data included in "Enforcement and Compliance History Online" are unsuitable for this purpose as they are inscrutable and do not offer comparison at a suitable scale, respectively.

5.2 Improve the relevance of TRI data

Prioritize expansion to sectors with high impact on vulnerable communities through a fair, transparent, and public process.

In the context of this study, two sectors, currently not required to report to TRI, emerged as relevant to some of the affected communities. These were wastewater treatment and oil exploration facilities. While expansion of TRI to these sectors would be critical in capturing major sources of emissions and effluents, a regular, fair, and transparent process which sets regulatory priorities to helping vulnerable communities would be preferable. As the economy has evolved, so too should regulation.

Further development of risk data

In this study, communities had a hard time verbalizing risk in a way that might convince officials to take other actions or illuminate other choices. Tools to aid in this understanding can be helpful. However, the current value-added data set for risk screening, RSEI, is widely seen as imperfect. Nonetheless, moving toward transparent, accurate risk indicators is critical. While there may be some intention to dissolve RSEI, its value for EJ work has not yet been fully realized. Until there is a newer, better risk screening tool useable by communities, RSEI should not be rolled back.

Continue the drive toward centralization of information

EPA has done a commendable job in developing the myEnvironment and myRTK websites. Each offers centralized, easy-to-read, methodologically transparent data in a useable format. Continuing this process by integrating enforcement and compliance data in more useable formats, and integrating facility-level data with other environmental data such as disposition

data, can serve to make such websites incredibly useful for EJ groups and citizen environmentalists.

5.3 Improve usability of TRI

Develop low-tech, low-cost solutions for access to information

While this study showed that most concerned community members were able to access computers, it was a largely a self selected group. In other words, we don't know who else might have engaged and become active around pollution reduction in his or her community if there were more readily accessible sources of facility-level pollution data. This might include publication of TRI and accident data in the local or weather section of local papers and placement of signage representing compliance and relative risk on or near the facility (as is currently done in Indonesia and for zoning permits).

Engage journalists – turn data into narratives

Many people are intimidated by science, and especially by environmental health information. Behind every TRI reporting facility – the good and the bad – there are stories of pollution reduction, of active citizens, innovative employees, and, at times, increased pollution. Supporting journalism schools or providing events at which there will be significant numbers of journalists can help in reaching out to community leaders in accessible narrative forms.

5.4 Improving publicity

Develop and deploy a programmatic approach to publicizing data and information sources

The tremendous strides the various TRI-related programs have made in developing user-friendly tools will be in vain if there is not a wide-scale, measurable effort to reach out to communities and the organizations that serve them with these new online tools.

Publicity! Publicity! Publicity! Establish a cadre of "tool-mavens"

While online learning through webinars, videos, and cookbook-style webpages is often incredibly useful, for many EJ groups, such tools cannot replace face-to-face interaction. In some cases, this is due to issues of digital divide, while in others it is due to frustration with technological approaches. In still others, interactive learning styles may be more culturally appropriate, while in some, there may be issues of trust with "official-sounding" education from Washington being perceived as paternalistic.

A group of "tool-mavens" who might go out and publicize the existing online tools could go a long way to breaking down these barriers. Additionally, if the mavens are members of the EPA staff, such training can informally serve the purposes of product-testing, soliciting feedback on issues of relevance, and creating informal ombudsman in educating staff members.

In the current federal budget climate, working through trusted local institutions can be a suitable or even preferable substitute for EPA staff. An incomplete list of such opportunities might include:

- Enlisting TRI CARE Grant Phase II recipients to educate similar communities in other parts of the region;
- Holding more frequent, regular tool-focused webinars;
- In partnership with an environmental education organization or NGO, hosting a weekend retreat for NGOs to learn how to train other NGOs in the new online tools;

- EPA HQ supporting Regions in carrying out “focus groups” which would teach and learn from community members at a more localized level. Additionally, this would have the added benefit of increasing ownership by regional officers. Such training might also involve training volunteers to train other volunteers.
- Scaling up work with local librarians to host seminars and evening classes for community members in neighborhoods hosting TRI facilities

5.5 Link TRI to accountability measures and decision-makers

Increase capacity-building of local governments through decision-relevant interventions

Where local government is either a key stakeholder or has some decision making power, EPA can work to help integrate TRI and other environmental conditions data into processes. Examples for a review of new sources of pollution include providing analysis of the parent company’s record of performance across all reporting facilities, comparing the parent company’s data to other members of the industry, and providing company-wide analysis of compliance history. Such information should be critical in aiding local governments in deciding whether to host a new site. Similar interventions can be made in permits for ongoing facilities. Much of this work can be done through a local government advisory group for OEI or its equivalent.

Provide support to regions, states, and tribes for EJ mainstreaming into existing TRI

Current regional, state, and tribal approaches to TRI and other materials reporting have not mainstreamed the above recommendations and approaches into their TRI programs. Recognizing that most are operating on an especially constrained budget relative to the TRI program in Washington, such efforts can begin with information-sharing and assistance in understanding the comprehensive approach that EPA HQ may take.

Integrate data with opportunities to participate and enforce the law

EPA’s myRTK takes a significant step in identifying how citizens can report concerns to regional offices, state hotlines, the Occupational and Safety Health Administration, or the EPA Office of Enforcement and Compliance Assurance. This is a crucial state in helping average citizens enforce the law. Integration of such information can and should occur across all of EPA’s data tools, especially those most relevant to communities where enforcement is lax (such as TRI).

While such hotlines are useful for after-the-fact interventions for pollution, EPA can work to centralize information on all federal hearings for permitting, impact assessment, and more on its existing websites. Initially, such integration can take place on myRTK and myEnvironment. Such information should also work as an RSS feed or as an email alert for concerned community members and should be sortable by a standard set of tags.

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