

## **Mechanisms for Local Government and Public Participation in the Binational Management of Hazardous Waste in the San Diego-Tijuana Border Region**

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**Abstract** The US-Mexico border region demonstrates the challenge of binational environmental management. The rapid economic and population growth of the region advanced by the North American Free Trade Agreement has caused numerous stresses upon the environment, including an increase in maquiladoras, manufacturing plants that assemble foreign components for re-export. Hazardous waste from maquiladoras represents a critical environmental issue in the San Diego-Tijuana border area due to the high concentration of these factories and their workers in the region, which has limited development of infrastructure to handle hazardous waste. A further complication in binational hazardous waste management stems from the political and economic differences between the two nations. Bilateral and trilateral institutions that were created to contend with such issues have designed mechanisms for public participation as part of their mission to have open and transparent organizational processes. The principal goal of this research is to establish a basic understanding of the mechanisms used by the binational organizations and programs to encourage public and local government participation in the San Diego-Tijuana border region. The obstacles and benefits of binational environmental cooperation are also assessed. Research methods included an integration of archival data analysis, a stakeholder analysis, and interviews with representatives from the environmental binational institutions, San Diego local government, and San Diego and Tijuana non-government organizations. The study concludes with policy recommendations for improvements in binational environmental cooperation and integration of public participation in binational programs and policies.

## **Introduction**

The intersection of political boundaries and environmental degradation is problematic on multiple levels. The political nature of borders often impedes cooperation between neighboring countries on environmental issues, but the physical divide between nations is rarely a barrier to transborder pollution (Ingram 1994, Kourous 2000). The United States and Mexico face the characteristic political scenario of bordering countries with different sets of laws, institutions, and decision-making processes that can obstruct binational environmental cooperation.

**Political Background** The two countries must contend with the unique dynamics of their existence as an industrialized nation and a developing country that share a border and mutually dependent economies. An increased focus on cross-border collaboration in the US-Mexico border region has been the general response to the trend of economic globalization in the two countries, advanced by agreements such as the North American Free Trade Agreement (NAFTA) (Husted 1996). Concerns voiced by environmentalists and border citizens of the intensified environmental degradation associated with an expected increase in trade led to the creation of the North American Agreement for Environmental Cooperation (NAAEC), which was passed with NAFTA's inception in 1993. The NAAEC, dubbed the Environmental Side Agreement to NAFTA, called for the establishment of multinational institutions to promote sustainable development and the protection and conservation of the environment of North America; to strengthen cooperation between the three North American governments on the improvement and enforcement of environmental regulations; and to promote "transparency and public participation in the development of environmental laws, regulations, policies" (NAAEC, Article 1).

Three multilateral institutions were created to support the objectives and policies instituted under the NAAEC. These include (1) the trilateral North American Commission for Environmental Cooperation (CEC), which facilitates general consultations on environmental issues to prevent potential trade and environmental conflicts; (2) the bilateral US-Mexican Border Environmental Cooperation Commission (BECC), which identifies, evaluates and certifies infrastructure projects in a community participation process; and (3) the North American Development Bank (NADBank), which provides loans to BECC-certified projects in US-Mexican border communities.

As part of the movement towards transborder environmental cooperation between the US and Mexico, two federal programs were jointly established by the US Environmental Protection

Agency (US-EPA) and the Mexican Environmental Ministry (SEMARNAP): (1) HAZTRAKS, which was created pre-NAFTA to track the movement of hazardous waste between the U.S. and Mexico, using documents shared by the two countries and (2) the Border XXI Program that consists of nine binational workgroups designed to address specific environmental problems in the context of ensuring interagency cooperation, participation by state and local institutions, and public involvement in the protection of the border environment. A central tenet to each of the binational organizations and programs' charter documents is the inclusion of public participation in programs and policies.

**The San Diego-Tijuana Border Region** The California-Baja California region constitutes the most populous and rapidly growing region of the US-Mexico border area. The industrial development of this area and the associated urban concentration of the border population has put considerable strain on the natural resources of the area and has resulted in increased environmental degradation. The rapid urbanization of the San Diego-Tijuana region, in particular, has limited the development of adequate infrastructure to cope with environmental problems. (Liverman 1999). The Mexican government's implementation of the Border Industrialization Program in 1965, with its subsidized infrastructure, provisions for lax environmental and tax regulations, and cheap labor, allowed for the creation of *maquiladoras*, or assembly factories located in low-wage regions in which workers assemble imported materials for export. (McMichael 1996). As of 1999, Tijuana had the largest concentration of maquiladora industry in Mexico, with 788 plants and over 145,000 employees (*Secretariat of Economic Development* 1999).

The growth of the maquiladora industry in Tijuana has contributed to the increase in hazardous waste from both point and non-point sources. More than fifty percent of Tijuana's maquiladoras are from sectors involved in electronics or plastics that generate significant quantities of waste, including hazardous chemicals such as toluene and benzene (*Secretariat of Economic Development* 1999). According to the repatriation requirement under Mexican regulation, foreign-owned maquilas are obligated to return hazardous waste generated in Mexico to the country of origin, usually the United States. Continued problems with hazardous and industrial waste are related to the lack of adequate capacity and infrastructure in Mexico and the California border region, the high cost of proper disposal, lack of enforcement of existing

regulations, and the challenge of accurately tracking transborder hazardous waste movement (O'Neill, 1999, Reed, 2001).

**Hazardous Waste Management** Border environmental administration and regulation for hazardous waste management in the San Diego-Tijuana border region involves a confusing assortment of international, federal, state, and local agencies and jurisdictions. Environmental regulations that are local responsibilities on the US side are often state or federal responsibilities on the Mexican side, leading to a lack of direct government or administrative counterparts (Carruthers 1996). The binational and trinational organizations created in conjunction with NAFTA and the emergence of environmental agencies in Mexico at the state and local level add to the complex dynamics of administering environmental laws and regulations. In recent years, non-government organizations (NGOs) from both countries and border citizens' groups also have become increasingly active in border environment issue (Carruthers 1996).

The many bureaucratic layers of government that oversee hazardous waste management on the federal and state levels can encumber communication between the federal binational organizations and local San Diego and Tijuana government. The federal binationals have created several mechanisms to address their mission of public participation and involvement in their programs and policies. These mechanisms include public meetings or open houses; members of NGOs or public citizens on their advisory boards; grant programs for non-government organizations; community approval required for funding of environmental infrastructure projects; and a Citizen Submissions process for filing complaints regarding lack of enforcement of environmental laws.

The first decade of free trade under NAFTA is coming to an end, and the binational institutions are continuing to evolve and reassign their responsibilities. As the binationals use their mechanisms of public participation to evaluate and analyze their programs over the past several years, it is necessary that these organizations also evaluate the mechanisms themselves. In the years since NAFTA, a number of assessments have been made of the binational organizations and their progress to date. These studies provide valuable information as to the complex dynamics governing the border region, the challenges that the binationals face in overcoming the political dimensions of the border, and the strong element of democratization that has guided the binational organizations' efforts to incorporate public involvement. (Liverman 1999, Kourous 1999, Mumme 1999). There exists a lack in the literature of

evaluations that include the perspective of local government and non-government organizations in the border region. Preliminary evidence suggests that local organizations and citizens feel excluded and lack a prominent voice in binational policies and programs. (Kourous 1999, Bolinger 1997)

**Study Focus** The purpose of this study is to examine the mechanisms for public participation currently used by the federal binational environmental organizations, addressing the perspectives of the binationals and the local government and non government organizations. The assessment includes an analysis of the efforts by the binationals to involve local government and non-government organizations in their programs and an investigation as to how the local organizations view their interaction with the federal binational organizations. The research methods integrated an analysis of past and current programs and policies, a stakeholder analysis, and semi-structured interviews with representatives of the federal binational organizations and programs as well as members of local San Diego government and San Diego and Tijuana non-government organizations.

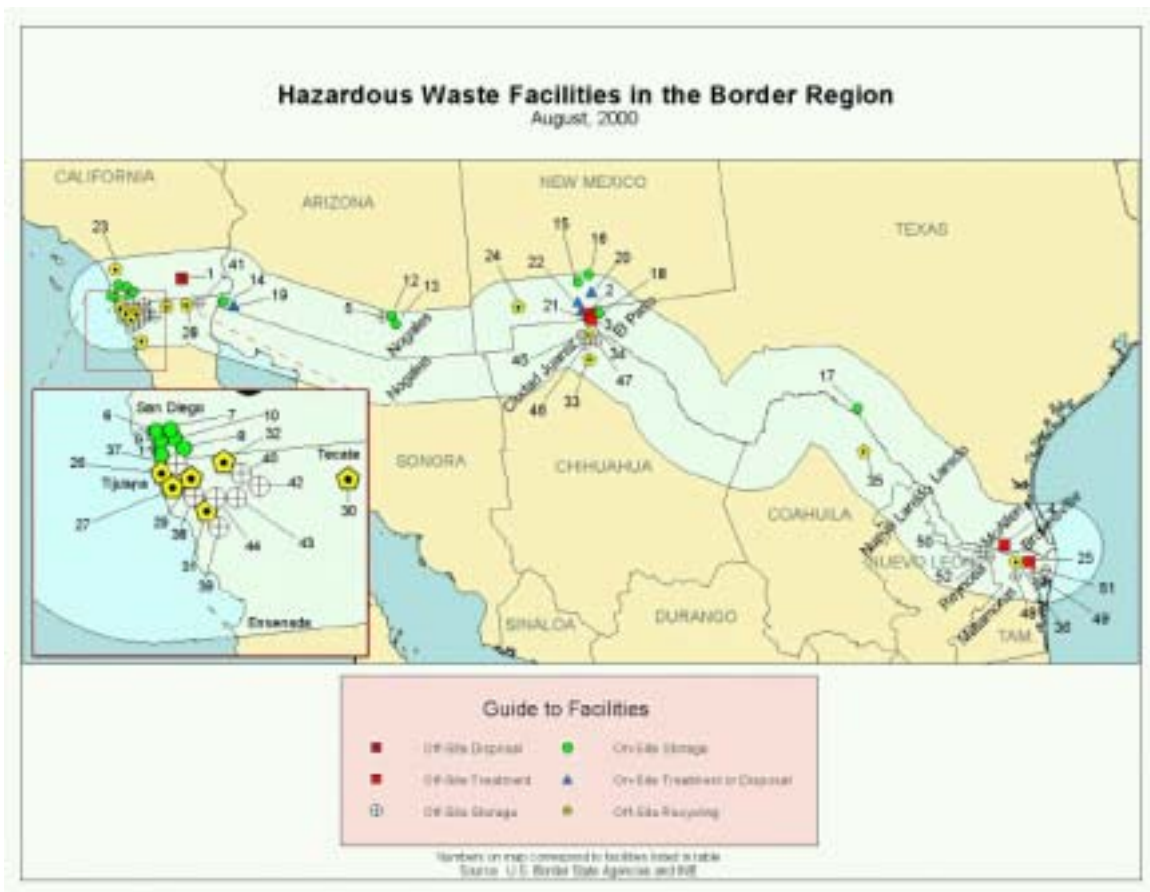
The following hypotheses guided this research: (1) the federal binational organizations' current mechanisms for public participation do not achieve the intended high level of community input and (2) local San Diego government does not have an active role in federal binational organizations' current programs in the local border region.

The study is a preliminary analysis of each of the binationals' successes in their current approach to hazardous waste programs and policies, areas for improvement, and emerging trends in programs and regulations. The assessment concludes with basic policy recommendations for binational environmental cooperation, hazardous waste management, and mechanisms for better inclusion of local government, non-government organizations, and residents of the San Diego-Tijuana border region.

## **Methods**

**Study Site** The main study sites of this project are the cities of San Diego and Tijuana. The city of San Diego is located in southern California with a population calculated as 1,100,000; the county of San Diego had a population of 2,700,000 in 1997 (San Diego Chamber of Commerce, 2000). The city of Tijuana refers to both the large city on the U.S. Mexican border and one of the four municipalities in the Mexican state of Baja California. The city of Tijuana lies along the

Tecate River near the Pacific Ocean and is 12 miles (19 km) south of San Diego, California. The estimated 2000 population for Tijuana is 1,100,000, approximately the same as San Diego (Institute for Regional Studies of the Californias, 1998). Figure 1 shows a map of the hazardous waste facilities in the San Diego- Tijuana region. The high concentration of treatment, disposal, and recycling facilities indicated in the area is due to the high number of US-owned maquiladoras that are required to repatriate hazardous waste generated in Mexico.



**Figure 1 Hazardous Waste Facilities in the Border Region**  
(Source: US Border State Agencies and INE, 2000)

**Study Subjects** The institutions evaluated by this study are the federal binational and trinational environmental organizations established under the North American Agreement for Environmental Cooperation: The Commission for Environmental Cooperation, The Border Environmental Cooperation Commission, and the North American Development Bank. In addition, the study assessed the federal binational programs sponsored by the US Environmental Protection Agency: the Border XXI Program and HAZTRAKS.

**Methods and Materials** The main methods used to conduct this research were an analysis of archival data, a stakeholder analysis, and semi-structured interviews. The integration of the results from these methods allows for an evaluation of the federal binationals' incorporation of local government and public participation.

**Archival Data Review** The materials used in the initial research of the binational environmental organizations were source materials such as the North American Agreement for Environmental Cooperation (1993) and the La Paz Agreement (1983). The border organizations' websites and documentation for their programs and policies allowed for a preliminary assessment of the history of environmental binational organizations and their past attempts to increase public participation. The source documents, journal articles, and policy studies of the border assisted in identifying the critical factors and obstacles in hazardous waste management. These documents guided the stakeholder analysis and the formulation of informed questions for the interview guide.

**Stakeholder Analysis** Grimble et al (1996) defines *stakeholder analysis* as an holistic approach or procedure for gaining understanding of a system and assessing the impact of changes to that system, by means of identifying stakeholders and assessing their respective interests in the system. Key stakeholders can be primary stakeholders, those ultimately affected by the system, or secondary stakeholders, the intermediaries in the aid and delivery process (Grimble 1996). The stakeholder analysis performed for this study focuses on hazardous waste management in the San Diego-Tijuana border region, using the assessment of stakeholder type according to Grimble's definition.

**Stakeholder Categories** Each stakeholder was assessed according to its influence and interests in hazardous waste issues in the San Diego-Tijuana border region. The categories evaluated included the organization's:

- Self-defined mission or goals
- Structure
- Functions
- Projects and Programs
- Partnerships with other organizations
- Stakeholder type
- *Potential Project Impact*

The organizations' self-defined mission, structure, functions, and partners were determined from each organization's mission statement, framework document, official documents, project implementation plans, and project evaluations. The partnerships were cross-referenced to ensure that both organizations communicated and viewed each other as partners.

The *potential project impact* was an assessment of the stakeholders ranked as high, medium, or low in their influence on the system and determined from the organization's mission statement and goals, structure, functions, projects, and partners. The three levels of high, medium, and low project impact are defined in Appendix A.

**Semi-structured interviews** Semi-structured interviews are partially structured by a flexible, written interview guide that ensures the interview stays focused but is conversational enough to allow participants to introduce and discuss issues that they deem relevant (Bernard 1995). The interview guide was designed to analyze the interaction between federal binational environmental organizations and local government and community groups in the San Diego-Tijuana region. Three UC Berkeley faculty members who had combined expertise in interview methodology, US-Mexico border issues, and the transboundary movement of hazardous waste evaluated the guide.

The final guide consisted of nine general questions that were asked of all interview subjects (Table 1). Between five and ten additional questions that addressed organization-specific issues were added for each interview.

TABLE 1  
General Interview Questions from Interview Guide

1)	What do you view as the main responsibilities of your organization in relation to hazardous waste in the US-Mexico border region?
2)	Who are the main border organizations with whom you collaborate on a regular basis?
3)	How are your activities coordinated with US/Mexico's federal and local governments?
4)	In your view, who are the main stakeholders in hazardous waste management in the border region?
5)	<i>For Binationals or Government Organizations:</i> Describe the mechanisms by which the public/community groups/NGOs have input in your programs/policies. (Give examples of your experience with these mechanisms) <i>For NGOs:</i> Describe the mechanisms through which your organizations gain access to the CEC, BECC, NADB, Border XXI, HAZTRAKS. (Give examples of how you have used these mechanisms)
6)	What do you consider to be critical factors in the success of binational environmental cooperation? The obstacles or challenges?
7)	Is there an organization with which your organization should increase involvement? <i>Followed by:</i> In your view, is there a group that is underrepresented in hazardous waste management in the San Diego/Tijuana border region?
8)	How does your organization evaluate the effectiveness of its programs and policies? (Explain the advantages and disadvantages of this monitoring system)
9)	Are there any hazardous waste/environmental regulations scheduled to change that will affect your organization's programs or policies?



The semi-structured interview guide was used for in-person and telephone interviews with representatives from eleven border organizations: the three federal binational organizations, the two federal binational programs, San Diego local government and non-government organizations, and a Mexican non-government organization. Each of the organizations had been evaluated by the stakeholder analysis as having a high or medium potential project impact. A list of the organizations is provided in Appendix B.

Representatives of the stakeholder organizations were interviewed in March and April 2001. All five of the in-person interviews were tape-recorded and transcribed with the consent of the subjects; three of the six phone interviews were tape-recorded and transcribed with subjects who gave consent. Notes were taken at all of the interviews with the consent of the interview subjects. Interview responses were compared on a regular basis for trends and exceptions, and adjustments to the interview guide were made when needed. Informal discussions were held within a week of the interviews with each of the subjects to provide feedback on the results and analysis of the interviews. Due to time considerations and language barriers, only federal and local government officials on the US side of the border were formally interviewed. Thus, the results were expected to be slightly skewed towards a US perception of binational environmental cooperation. Informal interviews with Mexican local and federal government officials as well as a formal interview with a representative of a Mexican NGO were conducted to provide some balance of perspective. In order to protect the confidentiality of the interview subjects to as great an extent as possible, I have not referenced their comments specifically in the discussion section.

#### *Encuentro Fronterizo: Third Annual Meeting on the Border Environment*

On April 26-28, 2001, I attended the Third Annual Encuentro Fronterizo in Tijuana, Baja California, Mexico. Though the conference was not a part of the formal methodology of this study, two panel presentations and workshops provided useful recommendations for future binational programs and commentary on the current levels of public participation with the federal binational organizations, which will be referenced in the discussion section.

## **Results**

The stakeholder analysis for hazardous management in the San Diego-Tijuana region identified a variety of government and non-government stakeholders. Table 2.1 shows the different key stakeholders and their main functions.

TABLE 2.1  
Description of Main Functions of Key Stakeholders Interviewed

Stakeholder	Self-Reported Functions
<b>Federal Binational Organization/Program</b>	
Border Environmental Cooperation Commission (BECC)	<ul style="list-style-type: none"> <li>▪ Provide assistance to border communities to help with infrastructure project development activities including master plans, project design, environmental, financial, technical assessment and community participation.</li> <li>▪ Certify applications for financing to be submitted to the NADBank</li> </ul>
Border XXI Program, Hazardous and Solid Waste Workgroup	<ul style="list-style-type: none"> <li>▪ Improve monitoring of transboundary movement of hazardous wastes and substances in the border region and enforcement activities related to illegal practices</li> <li>▪ Improve waste management practices and promote solid and hazardous waste minimization and recycling</li> </ul>
Commission for Environmental Cooperation (CEC)	<ul style="list-style-type: none"> <li>▪ Sound Management of Chemicals Program: a) identify priority chemical pollution issues of regional concern; b) develop and oversee North American Regional Action Plans (NARAPs) to address these priority issues</li> <li>▪ North American Pollutant Transfer and Register: a) publish an annual report on North American pollutant releases and transfers (<i>Taking Stock</i>); b) improve access and enhance understanding of PRTR data in collaboration with stakeholder groups</li> </ul>
HAZTRAKS	<ul style="list-style-type: none"> <li>▪ Use the HAZTRAKS computerized tracking system as a compliance monitoring and enforcement tool to provide the border region with an objective means of assessing hazardous waste generation and transportation</li> </ul>
North American Development Bank (NADB)	<ul style="list-style-type: none"> <li>▪ Use loan, grant, and guaranty program to provide financing for BECC-certified environmental infrastructure (water, wastewater, solid waste, or related areas) projects for communities located within 100 km of the U.S.-Mexico border.</li> </ul>
<b>Local Binational Program</b>	
Border Waste Wi\$e	<ul style="list-style-type: none"> <li>▪ Provide business assistance (waste reduction assessments, training for specific businesses); training and outreach; information resources (a bilingual website, San Diego and Tijuana Solid Waste Recyclers Directories, data on solid waste entering the Tijuana landfill that Border Waste Wi\$e partners)</li> </ul>
<b>US Federal Government</b>	
US EPA Region 9, US-Mexico Border Team, Waste Management Division	<ul style="list-style-type: none"> <li>▪ Enforce US environmental laws and regulations in border region</li> <li>▪ Functional role of overseeing Border XXI Hazardous and Solid Waste Workgroup programs and indicators</li> <li>▪ Sponsor (1) grant program to fund Border Waste Wi\$e and (2) grant program to CA Department of Toxic Substances Control for an inspector at US port of entry and for waste minimization trainings for industry</li> </ul>
<b>US Local Government</b>	
San Diego County, Department of Environmental Health	<ul style="list-style-type: none"> <li>▪ Ensure that hazardous materials and bio-medical waste are properly handled, stored, and transported in compliance with hazardous waste regulation (including working with the CA Department of Toxic Substances Control agent at the US port of entry at the border)</li> </ul>
City of San Diego, Environmental Services Binational Planning Environment SubCommittee	<ul style="list-style-type: none"> <li>▪ Develop informational and educational exchanges of city waste management and environmental code regulations.</li> </ul>
<b>US NGO</b>	
Environmental Health Coalition (EHC), Border Environmental Justice Campaign	<ul style="list-style-type: none"> <li>▪ Inform and organize impacted communities to achieve Right to Know and advocate for amendment to NAFTA (i.e. organize education trainings, file Citizen's Submission)</li> <li>▪ Demand officials enforce laws and clean up abandoned toxic waste sites</li> </ul>
<b>Mexican NGO</b>	
Proyecto Fronterizo de Educacion Ambiental (PFEA)	<ul style="list-style-type: none"> <li>▪ Promote Right to Know and municipal environmental legislation</li> <li>▪ Provide education: teacher trainings classes in schools, workshops for health officials in maquiladoras</li> <li>▪ Organize annual Encuentro border environmental conference to inform, educate, and provide a forum for border environmental organizations</li> </ul>

In Mexico, the federal stakeholders include Mexico's primary federal environmental agency, the *Secretaría del Medio Ambiente, Recursos Naturales y Pesca* or SEMARNAP (Secretary of the Environment, Natural Resources, and Fishery), the SEMARNAP's federal enforcement branch PROFEPA, and one of SEMARNAP's largest administrative departments, INE. The state of Baja California is not a key government stakeholder because of Mexico's centralized government, but the *Dirección General de Ecología*, the DGE, is involved in some enforcement of environmental regulations. The municipality of Tijuana also has little jurisdiction in enforcement but has recently developed and approved a set of environmental regulations. The primary stakeholders in hazardous waste management in the border region are the residents of San Diego and Tijuana, the maquiladora industry, and the maquiladora workers.

Table 2.2 indicates the binational stakeholders' potential to impact hazardous waste management in the San Diego-Tijuana border region.

TABLE 2.2  
Binational Stakeholders' Potential Project Impact

Stakeholder	Potential Project Impact
<b>Federal Binational Organization/Program</b>	
BECC	High
Border XXI	Medium
CEC	Medium
HAZTRAKS	High
NADB	High
<b>Local Binational Program</b>	
Border Waste WiSe	High
<b>US Government</b>	
US EPA Region 9	Medium
<b>Local Government</b>	
San Diego County	Medium/Low
City of San Diego	Medium/Low
<b>US NGO</b>	
EHC	Medium
<b>Mexican NGO</b>	
PFEA	Medium/High

The trends that emerged from the interviews with the local San Diego and Tijuana organizations are summarized in Table 3. Table 4.1 shows the mechanisms for public participation used by the federal binational organizations. These mechanisms were determined by reviewing the border organizations' documents and interviews with representatives of

organizations. The trends in statements by representatives from the federal binational organizations about these mechanisms are summarized in Table 4.2.

TABLE 3  
Summary of Trends in Interview Statements by Local Government and Non-government Organization

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**San Diego Local Government**

Positive Aspects of Binational Environmental Cooperation

Sociocultural

- (1) Relationships between individuals of organizations have allowed informal mutual aid between San Diego and Tijuana

Negative Aspects of Binational Environmental Cooperation

Political

- (1) Lack of continuity between administrations in Mexico
- (2) Lack of long-term planning programs in Mexico
- (3) Limited relationship with federal binational organizations and programs
- (4) Conflict between federal, state, and local government priorities

Economic

- (1) Limited funding for cross-border projects
- (2) Current funding is allocated often to policy conferences instead of tangible projects

Sociocultural

- (1) Lack of communication with current city administration in Tijuana

**San Diego and Tijuana Local Non-Government Organizations**

Positive Aspects of Binational Environmental Cooperation

Political

- (1) The borderlands have become viewed as a region, providing them with more political power
- (2) Focus on cross-border cooperation has brought public officials, programs, and funding to the border region
- (3) Facilitation of communication across and along the border has occurred

Economic

- (1) Grants given to NGOs by the federal binational organizations have made environmental programs possible along the border

Sociocultural

- (1) Mexican educational institutions encourage border community participation and educate community members in monitoring and sampling techniques

Negative Aspects of Binational Environmental Cooperation

Political

- (1) Lack of mechanisms to enforce environmental regulations in the border region
- (2) Issues of jurisdiction lead to non-action in the border region
- (3) Information given by the federal binational organizations is inadequate or difficult to use
- (4) Lack of adequate monitoring or evaluation systems for binational policies and programs
- (5) Local community groups are often underrepresented in policies and programs

Economic

- (1) Non-competitive loan rates make it difficult for communities to take loans to fund infrastructure projects
- (2) Loans to public sector projects are not profitable and therefore not used
- (3) Loans and grants are not readily available to NGOs
- (4) The Mexican side of binational programs has less funding available

**TABLE 4.1**  
**Binational Organization and Program's Mechanisms for Public Participation**

Organization or Program	Mechanism for Public Participation			
	Public Meetings	Grant/Loan Program	Citizen Submissions Process	Citizen's Group on Advisory Board
BECC	X			X
Border XXI	X	X		
CEC	X	X	X	X
HAZTRAKS				
NADB	X	X		X

**TABLE 4.2**  
**Summary of Trends in Statements by Binational and Trinational Organizations and Programs**

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**Federal Binational/Trinational Organizations**

**BECC**

Positive Aspects of Mechanisms for Public Participation

- (1) Citizen members of Advisory Board live in border communities
- (2) Extensive community outreach efforts for project certification access a substantial portion of the community
- (3) Votes, surveys, exit polls for public project meetings ensure an accurate measure of community input

Negative Aspects of Mechanisms for Public Participation

- (1) No BECC-operated mechanism for monitoring or evaluating projects post-certification

**CEC**

Positive Aspects of Mechanisms for Public Participation

- (1) Sound Management of Chemicals workshops facilitate communication between federal and local governments
- (2) Public meetings have provided valuable criticisms of programs that have led to program revisions

Negative Aspects of Mechanisms for Public Participation

- (1) Lack of enforcement step in the Citizen Submissions Process

**NADB\***

Aspects of Mechanisms for Public Participation

- (1) Main public participation occurs at the BECC level
- (2) No mechanisms for public participation after post-certification of project; NADB independently monitors and evaluates programs that have been financed

**Federal Binational Programs**

**Border XXI**

Positive Aspects of Mechanisms for Public Participation

- (1) SubWorkgroup meetings allow local government have input on program or policy design
- (2) Meetings with NGOs provide valuable suggestions for improvement of programs or systems

Negative Aspects of Mechanisms for Public Participation

- (1) Lack of attendance at public meetings and open houses

**HAZTRAKS**

Positive Aspects of Mechanisms for Public Participation

- (1) Public comment on HAZTRAKS system has influenced the revision of the system and increased the software's functionality

Negative Aspects of Mechanisms for Public Participation

- (1) Data is not always of use to public, if community group/individual seeks information about generators of hazardous waste in a community

## Discussion

Representatives from each of the federal binational environmental organizations and programs have demonstrated a strong commitment to incorporating local government and public input in the main functions of their programs and policies (For Functions: Table 2.1). While there are encouraging signs of binational cooperation and community involvement in environmental issues, the existing mechanisms for public participation are not substantial in the view of representatives of local government and non-government in San Diego. Though relationships between local government and the federal binationals exist, there are no clear mechanisms for local government input in binational programs in the border region.

**Mechanisms for Public Participation** *Public Meetings* As part of an open and transparent process, the CEC, BECC, NADB, and the Border XXI Program use public meetings for the dissemination of information about existing programs and policies and potential changes to the programs. These public meetings take the form of monthly open houses, workshops, and semi-annual or annual public forums. Representatives and local NGOs both agree that the Border XXI and US-EPA Border Office public meetings often lack attendance by community members and border residents (Table 3, Table 4.2). A reason given by local NGOs and the binationals is that the meetings are at inconvenient times or locations. One of the chief complaints from local organizations about the public meetings is that despite citizens' opportunity to comment briefly in favor or against a specific program or policy, these border residents do not perceive their complaints as being actively addressed on the local level nor see their input incorporated into a binational program change. Lack of consistent attendance by community groups is a problem that could perhaps be solved by advertising and moderating the meetings in community establishments instead of at the organizations' offices. Changing the format of the meetings to a workshop or roundtable setting may address the lack of inclusion sensed by local residents and NGO representatives and encourage more active participation by the public.

BECC has established an extensive process to promote active public participation in the assessment of infrastructure projects, a requirement for project certification (Table 4.2). This process is viewed as innovative by local and other binational organizations. However, the lack of post-certification evaluation of projects by BECC is disappointing to local organizations and border residents who feel that there is no procedure available to address their concerns about the

progress of a project (Table 4.2). The residents and local organizations do not view NADB as adequately performing project monitoring and evaluation functions.

The CEC does not hold meetings in the local San Diego-Tijuana region. As a result, border residents may not be aware of the progress or result of a Citizen Submission to the CEC or even that there is an opportunity to file a complaint through this organization.

HAZTRAKS data is available to the public, but NGOs find this data difficult to access or inadequate. Because NGOs believe they do not have access to reliable information about hazardous waste movement or generation in the border region, they have little use for the past model of the HAZTRAKS system (Table 3). HAZTRAKS does not have local meetings with the border community. However, the program has made efforts to actively address complaints by the public about software inefficiency and confusing data reports when designing the new version of the HAZTRAKS system, to be released May 2001.

*Grant and Loan Programs* Representatives of NGOs acknowledged grants received from the CEC as enabling them to sustain their organizations' programs. One NGO representative mentioned that grants from BECC and NADB should be accessible to NGOs and citizen's groups in addition to local governments and public utilities. Local government and non-government organizations voiced several complaints about NADB's loan process. These concerns included the lack of affordable loan rates for community infrastructure projects, the reluctance of an outgoing Tijuana municipal administration to pass on debt for a project to an incoming administration, and the perception that Mexico's centralized government requires an intermediary finance institution in order for NADB loans to be provided to local governments and utilities (Table 3). During an interview for this study, the NADB representative explained that the administrative issue had not been relevant in any current or past projects and that a system exists which allows NADB to directly lend to local government, suggesting that NGOs and the public are not fully aware of the financing options available from NADB for infrastructure projects.

*Citizen Submissions Process* The Citizen Submissions process designed by the CEC is a mechanism for public input that has been utilized to a degree and has generated some complaints from local NGOs. Though the Citizens Submissions process has allowed for further investigation of failures to enforce environmental regulations regarding hazardous waste, a major issue of contention from community groups is the lack of a next step to this process (Table 3). A

failure by government to clean up an abandoned hazardous waste site can become part of “the factual record,” but issuing a directive to clean-up the site is outside of the CEC’s current jurisdiction. In order for this mechanism to effectively address a citizen’s protest of the failure of their government to enforce environmental regulations, the environmental ministers of the three signatories to NAFTA must provide the CEC with the authority to require the federal governments of the US, Mexico, and Canada to contend with verified citizen complaints.

*Citizen or NGO Members on Advisory Board* The CEC and BECC have representatives from local border NGOs on their advisory boards or councils, but the representatives interviewed are not fully aware of the purpose of the binationals’ council meetings and do not perceive the meetings as having substantial outcomes. One organization representative mentioned the importance of citizen members’ presence on BECC’s board but admitted that attendance of BECC meetings is not a priority of the interviewee’s organization.

**Binational Environmental Cooperation** Cooperation between the binational organizations and the local governments of the border region should be considered a critical component to any environmental project that takes place in a city on the border. Local and regional environmental planning necessary for sustainable development and the accurate tracking of hazardous waste generation and movement are not possible without support from local government. The obstacles to binational environmental cooperation at the local level as described by the study’s interview subjects fall into three general areas: (1) political, (2) economic, and (3) sociocultural (Table 3).

*Political Obstacles* Mexican laws that prohibit reelection of government officials result in a high turnover of administrative staff every three years with each new municipal president or governor in Tijuana. San Diego local government listed the resulting lack of continuity and shifting priorities of long-term binational planning programs as a significant obstacle to efforts by both cities to establish effective cross-border programs (Table 3). San Diego local government representatives also discussed the conflict between federal, state, and local priorities regarding cross-border policy. Often hazardous waste programs that are politically expedient for a federal or state public official do not address the perceived needs of local government in San Diego. A concrete example given in by a local government interview is the necessity for county-wide emergency compliance planning for potential hazardous waste spills during federally mandated transborder shipment of waste to be repatriated. An additional source of frustration for both US federal and San Diego local government are the lack of mechanisms to ensure that US



industry complies with Mexican and environmental regulations in the Tijuana area, particularly when transborder pollution or hazardous waste movement is an issue (Table 3).

*Economic Obstacles* Representatives from local organizations discussed the disparity in funding for cross-border projects available to Mexico relative to US funding sources. Local government voiced concern that funding on the US side that is currently allocated to cross-border think tanks would be better appropriated if given to local programs that could address practical environmental problems of the region.

*Sociocultural Obstacles* The representatives of San Diego local government had a tendency to criticize Tijuana municipal officials for differences in communication style. They did disclose that the most effective local binational programs have resulted from informal relationships between individuals whom they considered as counterparts.

**Benefits to Binational Environmental Cooperation** A few of the obstacles to binational cooperation on environmental issues have been avoided or overcome through active efforts by border environmental organizations. Clean up of some abandoned industrial hazardous waste sites in Tijuana has occurred because of pressure on US owners of maquiladoras from the US EPA, at the request of Mexico's environmental enforcement agency PROFEPA, despite such matters being outside of the EPA's jurisdiction. The Border XXI program has enhanced this type of informal relationship between US and Mexico's federal environmental agencies, which has led to somewhat better enforcement of US and Mexican environmental laws in the border region. The political obstacle of Mexico's often changing administrative staff also has been mitigated to some extent. According to a San Diego local government representative, when one division of Baja California's planning agency was no longer subject to administrative turnover due to reelection, long-term cross-border and regional projects became feasible and successful.

Furthermore, indirect benefits of binational cooperation have occurred in the border region as of the passage of NAFTA in 1993. A representative of a Mexican NGO discussed the additional resources that entered the border region since this time, including the presence of public officials from both sides of the government and new sources of funding for cross-border projects and binational programs. Representatives of the federal binational organizations also commented that the focus on binational and trinational cooperation that resulted from NAFTA's Environmental Side Agreement facilitated communication across the US-Mexico border as well as between the border states on both sides of the border.

**Policy Recommendations** Policy recommendations and suggestions for improvement fall into two main categories: general recommendations for (1) US-Mexico binational environmental cooperation at the local level and (2) public participation in border hazardous waste management issues.

*Regional Binational Cooperation* The top-down process of the federal binational environmental organizations tends to inhibit binational cooperation on the local level. The binational organizations and programs that have incorporated more local government action should have greater success in the local management of hazardous waste. Moreover, the binational organizations with local offices will be more likely to have ongoing, extensive hazardous waste projects in the San Diego-Tijuana region. The five regions of the US-Mexico border area face different environmental concerns and political and economic contexts in which to contend with environmental problems. Regional binational planning programs and policies would better integrate local efforts and concerns into borderwide efforts and encourage the sustainable development of regional binational cooperation on environmental issues. Regional binational programs appear to be a viable alternative to centralized federal binational programs that have local projects and are currently under consideration by Border XXI as it evaluates and redesigns its program.

An additional recommendation for future local binational environmental cooperation involves allowing the environmental planning departments within Baja California state and Tijuana municipal agencies to be exempt from the electoral process. Based on the current successes of one such planning department, this modification would ensure continuity in San Diego-Tijuana cross-border projects and feasible long-term binational planning for the two cities.

*Public Participation* A recent panel for Citizen Participation of Hazardous Waste Sites at the Third Annual Encuentro Fronterizo Conference for border environmental organizations recommended the following policy changes regarding hazardous waste management: (a) creating a mandatory register in Mexico for emissions and transfers of pollutants; (b) prohibiting the private ownership of municipal landfills; (c) allocating additional financial resources to enforce existing hazardous waste legislation in the border region; (d) continuing improvements in the tracking of hazardous waste across the border; (e) creating Right to Know legislation in Mexico on par with existing legislation in the US; and (f) increasing consumer awareness of the type and amount of hazardous waste generation involved in creating consumer products.

In many ways, this panel illustrates the necessity of better mechanisms for public participation in hazardous waste management in the border region. The panel provides a constructive example of the potential successes of the federal binational programs in improve current hazardous waste management. At this meeting, border residents and citizens' groups had an opportunity to voice concern about current policy and make valuable suggestions for program and policy changes. Public meetings held by binationals would be more successful if held in a participatory workshop or roundtable style setting. A key factor to future achievements in the realm of public participation is ensuring that efforts by binationals to incorporate public input is sincere and results in active changes to federal binational programs and policies when appropriate.

**Future Studies** Limitations to this research included the lack of interviews with Mexican federal, state, and local government and Mexican officials involved in the US EPA-sponsored binational programs, Border XXI and HAZTRAKS. Interviews with additional representatives from each of the border environmental organizations studied would provide further evidence for the study's conclusions. Valuable future research would include interviews with Mexican local government and additional Mexican NGOs and surveys of border residents and community groups that have used the available mechanisms for public participation, i.e. individuals who attend the public meetings held by the federal binationals and participants in loan and grant programs.

**Conclusions** At the end of the year 2000, BECC and NADBank approved expansions in their mandates that would allow for the certification of environmental infrastructure projects for hazardous waste, which is an extension of their historical role in projects solely for the environmental media of water, wastewater, and solid waste. Border XXI is in the process of "sunsetting," or evaluating the past five years of the Program with the goal of redesign. HAZTRAKS will come out with a new version of its system in May 2001, which is expected to be more user-friendly for non-government organizations.

Evidence from interviews suggests that the federal binational organizations have not currently attained high levels of public or local government input in their programs and policies. The centralized nature of the federal binational organizations appears to inhibit bottom-up, grass-roots efforts by border citizens and exclude regional organizations in addressing the needs of

border residents. Nevertheless, in spite of budget and political constraints, the federal binational organizations and programs have made active attempts to incorporate local participation and should be encouraged in their efforts to improve these mechanisms.

### **End Notes**

- The trinational CEC was evaluated with the binational organizations because only US-Mexico relations were considered. All references to the “binationals” include the CEC.
- In Table 4.2, comments by the NADB representative did not address specific positive or negative aspects of mechanisms for public participation and thus are not listed under such subheadings.

### **Acknowledgements**

Many thanks to my interview subjects and contacts on both sides of the border, Kate O’Neill, Harley Shaiken, Matt Orr, John Latto, Tom Dudley, Matt Price, Laura Durazo of the Encuentro Conference and Evelyn Alvarez of the Encuentro Fellowship Program. Thanks to Cliff Draper and Justin Remais for technical assistance. Special thanks to Reuben Deumling, whose consistent guidance and reassurance made this project possible.

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## Appendix A

### Stakeholder Analysis: Description of Criteria for Potential Project Impact Analysis

Potential Project Impact: the influence of a stakeholder in binational hazardous waste management and policies

#### High Impact

- The organization's structure consists of representatives from U.S. and Mexico or has offices or representatives in the San Diego Tijuana border region.
- The organization's objectives must include the goal of transborder cooperation and commitment to preventing environmental degradation in the border region, particularly in relation to hazardous waste.
- The organization is involved with the design and implementation of hazardous waste management programs.
- Among the organization's functions are at least two of the following functions:
  - the dissemination of information about hazardous waste in the border region
  - the facilitation of communication between other border organizations and/or the governments of both countries
  - a role in environmental policy decisions in the border region

#### Medium Impact

- The organizations' structure consists of a majority of representatives from one side of the border.
- The organization is not significantly involved in either the design or implementation of hazardous waste programs.
- Among the organization's functions are at least two of the following functions:
  - the dissemination of information about hazardous waste in the border region
  - the facilitation of communication between other border organizations and/or the governments of both countries
  - a role in environmental policy decisions in the border region

#### Low Impact

- The organizations' structure consists of representatives solely from one side of the border.
- The organization is only marginally involved, if at all, in the design and implementation of hazardous waste programs.
- Its functions include only one of the set criteria for functions:
  - the dissemination of information about hazardous waste in the border region
  - the facilitation of communication between other border organizations and/or the governments of both countries
  - a role in environmental policy decisions in the border region

## Appendix B

### Organizations Interviewed For the Study

#### **Federal Binational and Trinational Organizations**

Border Environmental Cooperation Commission (recorded)

Commission for Environmental Cooperation (recorded)

North American Development Bank (recorded)

#### **Federal Binational Program**

Border XXI Program, Hazardous and Solid Waste Workgroup (recorded)

HAZTRAKS (recorded)

#### **Local Binational Program**

Border Waste Wi\$e

#### **US Federal Government**

US EPA, US-Mexico Border Team (recorded)

#### **Local Government**

San Diego County Department of Environmental Health

City of San Diego, Environmental Services

#### **US and Mexican NGOs**

Environmental Health Coalition (recorded)

Proyecto Fronterizo de Educacion Ambiental (recorded)