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Raúl M. Sánchez

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# MEXICO'S EL CUCHILLO DAM PROJECT: A CASE STUDY OF NONSUSTAINABLE DEVELOPMENT AND TRANSBOUNDARY ENVIRONMENTAL HARMS

RAÚL M. SÁNCHEZ\*

Water development and management should be based on a participatory approach, involving users, planners and policy makers at all levels. The participatory approach involves raising awareness of the importance of water among the policy-makers and the general public. It means that decisions are taken at the lowest appropriate level, and with full public consultation and involvement of users in the planning and implementation of water projects.<sup>1</sup>

This Article,<sup>2</sup> which examines certain aspects of Mexico's El Cuchillo Dam on the San Juan River<sup>3</sup> and related infrastructure

\* Associate Professor and Director of the Inter-American Legal Studies Program at the St. Mary's University School of Law in San Antonio, Texas. The author expresses his gratitude to several colleagues at the St. Mary's University School of Law for their collaboration: Monica Schurtman, Co-Director of the Immigration and Human, Associate Professors Emily Hartigan and Reynaldo Valencia.

1. Dublin Statement, Principle No. 2, International Conference on Water and the Environment, Jan. 31, 1992, in *GLOBAL WATER RESOURCE ISSUES* 162 (Gordon J. Young et al. eds., 1994). The Dublin Statement, which addresses critical issues concerning water and sustainable development, was adopted by the International Conference on Water and the Environment, held in Dublin, Ireland, January 26-31, 1992. Approximately 500 individuals participated, including government-designated experts from one-hundred countries and representatives from eighty international, intergovernmental and nongovernmental organizations. *Id.* at 161. At the outset, Principle No. 2 offers a measure against which the facts of the El Cuchillo Dam Project may be compared.

2. The author acknowledges the collaboration of the Border Center for the Promotion of Human Rights (Centro Fronterizo para la Promoción de los Derechos Humanos, A.C.) (CEFFRODHAC), a nongovernmental human rights organization, and its founder and president, Mr. Arturo Solis, of Reynosa, Tamaulipas, Mexico, in documenting the case of the El Cuchillo Dam Project. See CEFFRODHAC, *CRISIS EN TAMAULIPAS "PRESA EL CUCHILLO"* (Oct. 1996).

3. The San Juan River, a tributary of the Rio Grande River, originates in the mountains of the northern Mexican state of Nuevo León and flows north through the state of Tamaulipas. The northern border of Tamaulipas, formed by the Rio Grande

(El Cuchillo Project or Project) in relation to international law, is the first in a series of articles concerning the same case-study. The complexities and repercussions of a large infrastructure project, particularly one located near an international border, raise a multitude of concerns requiring legal analysis.<sup>4</sup> The author's symposium presentation focused primarily on the El Cuchillo Project, and some of its environmental harms, as compelling examples of why the right to a healthy environment<sup>5</sup> should be regarded as a human right.<sup>6</sup> The case-study also focused on: the El Cuchillo Project's environmental and other related impacts in Mexico and the United States; the responses of governmental authorities on both sides of the Rio Grande River; the role of the Inter-American Development Bank (IDB), which financed a large portion of the Project; and associated violations of domestic and international law. This abstract primarily seeks to present a general factual overview of the case-study and a summary of the author's investigation and research in this area.<sup>7</sup>

The El Cuchillo Project was completed in less than six years during the administration of former President Carlos Salinas de

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River, starts to the northwest of the city of Nuevo Laredo and extends eastward to the Gulf of Mexico.

4. The author is preparing five articles covering distinct aspects of the same case-study, with the following working titles: *The Impacts of Mexico's El Cuchillo Dam Project in the State of Tamaulipas: A Study in Non-Sustainable Development and Authoritarian Government*; *Mexico's El Cuchillo Dam Project and the Agreements on Water Between the Governors of the States of Nuevo León and Tamaulipas: Water Sharing or Water Grabbing?*; *Governmental Reaction to Impacts of Mexico's El Cuchillo Dam Project in the United States: Hear No Evil, See No Evil . . .*; *The Inter-American Development Bank's Financing of Mexico's El Cuchillo Dam Project: Bankrolling the Privatization of Water Infrastructure and Environmental Destruction in the U.S.-Mexico Border Region*; and *Mexico's El Cuchillo Dam Project: An Example of Why Planning, Management, and Regulation is Necessary for the Entirety of an International Watercourse*.

5. During the last twenty years, human rights advocates and others have advanced claims for the existence of a "third generation" of solidarity rights, including the right to development, the right to peace, and the right to a healthy environment. See Burns H. Weston, *Human Rights*, in *HUMAN RIGHTS IN THE WORLD COMMUNITY* 14 (Richard Pierre Claude & Burns H. Weston eds., 1992). Such rights are suggested by Article 28 of the Universal Declaration of Human Rights, which proclaims that "everyone is entitled to a social and international order in which the rights set forth in this Declaration can be fully realized." *Universal Declaration on Human Rights*, G.A. Res. 217, U.N. Doc. 8/811 (1948).

6. See, e.g., *INTERNATIONAL ENVIRONMENTAL LAW ANTHOLOGY* 61, 61-69 (Anthony D'Amato & Kirsten Engel eds., 1996).

7. Most of the facts concerning the El Cuchillo Project were obtained from Mexican press reports; CEFPROD HAC, *supra* note 2; project-related documents obtained from the IDB; interviews conducted by the author; and private correspondence. All documents are on file with the author.

Gortari from 1988 to 1994. The Project's goal was to increase the availability of water for residential and industrial purposes in the city of Monterrey, the capital of the state of Nuevo León. Most of the region in Nuevo León and Tamaulipas affected by the El Cuchillo Project is arid to semi-arid. The El Cuchillo Dam, the cornerstone of the Project, is located on the San Juan River, approximately fifty miles south of the U.S.-Mexico border and sixty-one miles northeast of Monterrey, near the town of China, Nuevo León. The San Juan River, a tributary of the Rio Grande River, flows south to north and is wholly within Mexican territory. The new El Cuchillo Reservoir possesses a maximum storage capacity of 1.46 million acre/feet over an area of 40,000 acres and is an area forty-five times larger than the second largest reservoir that provides water to Monterrey. The Project also includes a steel-pipe aqueduct and five pumping stations which carry water from the El Cuchillo Dam uphill for sixty-four miles to the city of Monterrey. Additionally, the Project includes infrastructure and equipment to facilitate water delivery to customers in the surrounding Monterrey area.

Another major element of the El Cuchillo Project consists of the planned construction of sewage systems to collect untreated sewage and wastewater from an area north and east of Monterrey; historically, such effluent has flowed into the San Juan River. The collected sewage is to be pumped to three new sewage treatment plants which, in turn, will send the treated effluent into the Pesquería River. The Pesquería River flows north of and, more or less, parallel to the San Juan River. Both rivers flow out of Nuevo León and into Tamaulipas, where the Pesquería River then flows into the San Juan River.

Sending treated effluent from the Monterrey area into the Pesquería River will prevent contamination of the new El Cuchillo Reservoir, and purportedly, will maintain the water level of an older downstream reservoir located behind the Marte R. Gomez Dam, approximately thirty miles west of Reynosa, Tamaulipas.<sup>8</sup> The Marte R. Gomez Dam, built in the 1930s, is situated approximately five miles south of the U.S.-Mexico border and forty-five miles downstream of the El Cuchillo Dam. The need to maintain the level of the Marte R. Gomez Reservoir

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8. The city of Reynosa is located on the Rio Grande River across from McAllen, Texas.

with treated effluent delivered by the Pesquería River was confirmed by an agreement signed in 1990 by several federal agencies and the governors of Tamaulipas and Nuevo León (the 1990 San Juan River Basin Agreement).<sup>9</sup> Through this agreement, the two governors pledged, in general terms, to ensure the effective management of the San Juan River Basin and to maintain the water level of the Marte R. Gomez Reservoir. The need to provide water to the Twenty-Sixth Irrigation District, which surrounds the Marte R. Gomez Reservoir and is bordered by the Rio Grande River to the north, was expressly addressed. Over 10,000 independent Tamaulipan farmers live in the Twenty-Sixth Irrigation District.

The construction of a canal to enable Reynosa to draw its drinking water from the Rio Grande River was the final significant element of the Project. Reynosa had utilized the Marte R. Gomez Reservoir as its chief source of drinking water before the El Cuchillo Dam was built. Project designers must have known that, upon completion of the El Cuchillo Dam, the downstream flow of the San Juan River would be inadequate to satisfy the irrigation needs of the Twenty-Sixth Irrigation District and the potable water needs of Reynosa.

Development of the El Cuchillo Project progressed at break-neck speed during the presidency of Carlos Salinas, who assumed office in January 1988. The Project was designed, environmental impact studies were undertaken, financing was received from the IDB, and construction on the El Cuchillo Dam was completed by October 1994, at which time President Salinas inaugurated the dam.<sup>10</sup> Construction costs of the El Cuchillo Project are estimated at approximately U.S. \$650 million. The IDB provided loans totaling approximately U.S. \$325 million.<sup>11</sup>

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9. *Acuerdo de Coordinación que Celebran el Ejecutivo Federal Atraves de las Secretarías de Programación y Presupuesto, Contraloría General de la Federación, de Agricultura y Recursos Hidráulicos, de Desarrollo Urbano y Ecología, la Comisión Nacional del Agua y los Ejecutivos de los Estados Libres y Soberanos de Nuevo León y Tamaulipas, Para la Realización de un Programa de Coordinación Especial Para el Aprovechamiento de la Cuenca del Río San Juan, con el Objeto de Satisfacer Demandas de Agua Para Usos Urbanos e Industriales de la Ciudad de Monterrey y Preservar las de Usos Múltiples del Distrito de Riego No. 026, en el Estado de Tamaulipas*, dated May, 1990 (on file with the author).

10. By comparison, construction of such a project in the United States probably would have been preceded by more than ten years of litigation simply to settle disputes concerning potential environmental impacts.

11. Total costs of the Project are currently unclear. The IDB initially intended to

In the fall of 1993, the area and residents downstream began to suffer devastating impacts when the floodgates closed to fill the new reservoir, particularly in the state of Tamaulipas.<sup>12</sup> One devastating result has been the drastic reduction in the water level of the Marte R. Gomez Reservoir to less than twenty percent of its prior level. Also, the San Juan River has completely dried up between the El Cuchillo Dam and the point downstream where the Pesquería River joins the San Juan River. No significant flows of water have been permitted past the El Cuchillo Dam. Monterrey began siphoning away water almost as quickly as the new reservoir began to fill.

As of November 1996, the new Monterrey sewage treatment plants were not operating at full capacity, if at all. Untreated sewage and wastewater were collected to prevent contamination of the El Cuchillo Reservoir, but were dumped into the Pesquería River largely without treatment. As a result, much of the water which remains in the Marte R. Gomez Reservoir is highly polluted.

The situation has been severely aggravated by a devastating drought which has laid siege to northern Mexico for the last three to four years. The coincidence between the start-up of the El Cuchillo Dam and the regional drought has provided Mexican authorities with the convenient excuse that Tamaulipas' water problems are a product of the drought. Undoubtedly, the drought has made matters much worse; however, but for the El Cuchillo Dam, the water level of the Marte R. Gomez Reservoir would be much higher and not as contaminated.

The drastic drop in the water level of the Marte R. Gomez Reservoir has devastated northern Tamaulipas. Many of the approximately 300 families which earned their living by fishing in the Marte R. Gomez Reservoir have lost their traditional livelihood. The farmers of the Twenty-Sixth Irrigation District have no irrigation water and, thus, have lost their crops over several planting seasons. In 1995, after they protested vociferously, these farmers received the equivalent of approximately U.S. \$15

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finance the new Monterrey sewage treatment plants; however, sources at the IDB indicate that the Japanese Overseas Economic Cooperation Fund provided last minute financing. The precise sums involved are not known at this time.

12. IDB officials contend that populations affected by the El Cuchillo Project were effectively consulted by Mexican authorities. In all likelihood, if any genuine consultations were undertaken, they took place only in Nuevo León.

million in compensation, or approximately 870 pesos per hectare<sup>13</sup> of cultivated land—the approximate cost of one ton of corn. The affected farmers estimate their actual losses to be several times above the compensated amount.<sup>14</sup> By contrast, the fishing families have received no compensation.

Many Tamaulipan residents, dependent on the Marte R. Gomez Reservoir for their livelihoods of fishing or farming, sold their instruments of the trade, boarded up their homes, and moved to the United States. Many are reported to be working in Texas as undocumented laborers. Colonies of former Tamaulipan residents have been established in Houston and San Antonio, Texas.

Some reports indicate that a few local residents who are unable to fish or farm have turned to an even more lucrative employment alternative—drug trafficking. Local residents are familiar with shortcuts and country paths leading up the U.S. border. Such knowledge is invaluable to traffickers, who need local guides to help move drug shipments northward.

Local merchants, who earned a living based on recreational fishing at the Marte R. Gomez Reservoir, have also lost their livelihood. Restaurants and rustic inns in the area have been forced to shut down. Piers and boat launches are now hundreds of yards from the water's edge.

Centro Fronterizo para la Promoción de los Derechos Humanos, A.C. (CEFPRODHC)<sup>15</sup> filed a complaint before the National Human Rights Commission (Comisión Nacional de Derechos Humanos) (CNDH)<sup>16</sup> and federal district court on behalf of the farmers of the Twenty-Sixth Irrigation District and the fishermen who lost their livelihoods. CEFPRODHC alleged violations of the 1990 San Juan River Basin Agreement and an earlier presidential decree, dated 1952, which had granted the use of the San Juan River to the state of Tamaulipas.<sup>17</sup> By November 1996, both complaints were dismissed on questionable

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13. See CEFPRODHC, *supra* note 2, at 16.

14. *Id.* CEFPRODHC has sought to document such amounts.

15. See generally *supra* note 2.

16. The CNDH is Mexico's national governmental human rights entity charged with investigating human rights violations. Its mandate includes jurisdiction over complaints concerning environmental harms.

17. Unconfirmed reports claim that much of the water being drawn from the El Cuchillo Reservoir for use in Monterrey is being consumed by industrial users.

grounds.<sup>18</sup>

Residents, who remained in the vicinity of the Marte R. Gomez Reservoir, have been forced to turn to alternative water sources. Some have drilled authorized or unauthorized wells, which may be lowering the water table in both the area and Texas. Moreover, some farmers of the Twenty-Sixth Irrigation District have pumped water directly from the Rio Grande River without authorization.

In response to worsening draught conditions in Mexico, the United States and Mexican governments signed an emergency water loaning agreement in October 1995. The United States agreed to loan U.S. water in the binational reservoirs located on the Rio Grande River to Mexico for drinking and home use.<sup>19</sup> By April 1996, severe drought conditions had spread to Texas. Unauthorized pumping from the Mexican side of the Rio Grande River, known as diversions, had reached such proportions that the Lower Rio Grande Valley Water District Manager's Associa-

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18. The CNDH rejected the complaint regarding the 1990 San Juan River Agreement on the grounds that the one-year statute of limitations period under which the CNDH operates expired one year after the agreement was signed. The CNDH ignored the fact that the alleged harms were ongoing.

The complaint in federal court was dismissed because the complaining parties had no standing to complain of a breach of what was essentially an agreement between two contractual parties. Moreover, the contractual parties, i.e., the two state governors, had reached an understanding over any alleged breaches to the 1990 San Juan River Agreement in another agreement signed in February 1996.

The claim concerning the alleged violation of the presidential decree of 1952 was dismissed because the various agreements between the two state governors did not constitute violations of the decree. Ignoring the facts, the court noted that the El Cuchillo Project was designed to provide irrigation water to the Twenty-Sixth Irrigation District via the Pesquería River.

The CNDH has been widely accused of acting with political motives as have Mexico's courts. See, e.g., Raúl M. Sánchez, *Mexico's Government Human Rights Commissions: An Ineffective Response to Widespread Human Rights Violations*, 25 ST. MARY'S L.J. 1041 (1994). In January 1996, the problems surrounding the El Cuchillo Project began receiving significant national public attention in Mexico. The press widely reported public protests and the exchange of insults between the Governors of Nuevo León and Tamaulipas. Both Governors filed legal actions against the other state. The National Water Commission (Comisión Nacional del Agua)(CNA) intervened and, after the February 1996 agreement was reached between the two state governors, the matter was no longer discussed publicly. Many observers believed that a political solution was being prepared. Yet, a third agreement was signed by the two state governors in November 1996. This agreement was soon denounced by numerous citizen organizations in Tamaulipas, including farmers of the Twenty-Sixth Irrigation District, as inadequate and a political sellout.

19. Mark Smith, *Bush Will Remind Mexico to Honor Water-Sharing Accord*, HOUSTON CHRONICLE, May 31, 1996.

tion (Rio Grande Water Association or Association) wrote to the U.S. section of the International Boundary and Water Commission (IBWC),<sup>20</sup> on behalf of twenty-three water districts holding the majority of water rights below Falcon Dam.<sup>21</sup> This letter expressed the Association's "serious concern and protest concerning the diversion of water on the right [Mexican] bank of the [Rio Grande] River by individuals in Mexico ... ."<sup>22</sup>

The Rio Grande Water Association sought an accounting of the amount of water released from the Falcon Reservoir, which the IBWC had allegedly authorized to cover water diversions documented by the IBWC. The Association noted a severe water shortage was affecting south Texas, and that Mexican diversions from the Rio Grande River disrupted proper and efficient water management of the available water supply. The Association's letter closed with the statement: "United States water users are losing water on a daily basis due to these Mexican diversions."<sup>23</sup> The state government of Texas also became involved and complained directly to the Mexican section of the IBWC.<sup>24</sup>

Diversions from either bank of the Rio Grande River historically have not presented a serious problem between the United States and Mexico. The Mexican and U.S. sections of the IBWC usually agree to subtract the diverted amounts from the relevant water allocations which remain in the Falcon or Amistad Reservoirs; however, by early 1996, the water remaining in the binational reservoirs, which was allocated to Mexico, had dropped to less than twenty percent. By August 1996, the amount allocated to Mexico in the Falcon Reservoir reached less than ten percent, according to the IBWC. In the future, Mexico may have no allocated water from which to subtract diversions, thus, creating a situation which may lead to dramatic conflicts with the United

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20. The IBWC, a binational agency, manages binational water resources according to the terms of binational water treaties signed by Mexico and the United States. One principal IBWC task on the Rio Grande River is to manage releases of water, allocated to either Mexican or U.S. water users, from the Amistad Reservoir, on the upper portion of the river, and the Falcon Reservoir, on the lower portion of the river.

21. Falcon Dam, located southeast of Laredo, Texas, is one of two binational dams on the Rio Grande. The other is Amistad Dam. *See also supra* note 20.

22. Letter from Wayne Halbert, President of the Rio Grande Water Association, to The Honorable John Bernal, Commissioner of the United States Section of the IBWC, (Apr. 17, 1996)(on file with the author).

23. *Id.*

24. The Mexican section is also referred to by its Mexican acronym, CILA (Comisión Internacional de Límites y Aguas).

States.

The Mexican government, through the Mexican section of the IBWC, responded with assurances that Mexico would honor all treaty obligations concerning the Rio Grande River. It also agreed to take steps to control diversions. By November 1996, the two sections of the IBWC still had not negotiated a resolution to the diversions of which the Rio Grande Water Association had complained.

Other widespread negative effects of the El Cuchillo Project are likely. The creation of the new reservoir and the disappearances of a large portion of the Marte R. Gomez Reservoir and a long segment of the San Juan River have, undoubtedly, affected the habitats of numerous plant and animal species. The ranges of some animals are limited to the areas of Mexico and Texas, which are affected by the El Cuchillo Project. Some animals travel among several nations, as in the case of migratory fowl and are legally protected by international treaties. Erosion of dry river and lake beds and previously irrigated crop lands has increased. Groundwater levels in the United States and Mexico have been affected. The city of Reynosa, Tamaulipas must now pump its drinking water from the Rio Grande River, which is extremely polluted with raw sewage, heavy metals, and other industrial wastes. The possibility of spreading disease has increased. Anecdotal evidence, attributable to reduced availability of clean water, points to higher incidences of gastro-intestinal diseases, cholera, and dengue fever in northern Tamaulipas.

The extent of the economic and environmental impacts of the El Cuchillo Project has not been assessed because authorities in the United States and Mexico have not even acknowledged that a problem exists. Mexican authorities insist that the current drought, plaguing much of northern Mexico, is to blame. In the United States, officials are either ignorant of the situation altogether or have focused on "bigger" problems which affect the United States and Mexico, like the toxic wastes and raw sewage dumped into transborder waterways, including the Rio Grande River. Because the San Juan River is a "Mexican" river, some officials conveniently label any problems which flow therefrom as "Mexican" problems and of no official concern to the United States. Consequently, U.S. authorities are not disposed to file a diplomatic note with Mexico concerning its use of the San Juan River and are even more disinclined to seek redress for harms to

U.S. citizens in an international legal forum.

Thus far, the government of Mexico has not fully apprised its citizens or the U.S. government of the El Cuchillo Project's many impacts. Meanwhile, state and federal officials in the United States have not expressed any concerns, *sua sponte*, regarding such impacts. A few officials have confidentially stated that the situation is "too political." Such silence is especially troubling given that U.S. taxpayers indirectly contributed to the El Cuchillo Project, through the Project's financial support from the IDB.<sup>25</sup>

As of yet, the IDB has not acknowledged that any problems exist with the El Cuchillo Project. IDB officials blame the drought in northern Mexico for any water shortages in the state of Tamaulipas. Nevertheless, IDB officials have acknowledged that the new Monterrey sewage treatment plants have not been completed, and that untreated effluent has been sent down the Pesquería River to Tamaulipas as a consequence of the El Cuchillo Project, which the IDB helped finance. Environmental impact statements, drafted by Mexican authorities and released by the IDB, reveal that potential impacts in Tamaulipas and Texas were never contemplated. It remains to be seen if the IDB will assume any responsibility for the economic, social, and environmental harms, which are now so obvious.

The instant case-study concerning the El Cuchillo Project is a study of government failures. These failures include:

- failure to respect domestic laws, national constitutions, international customary law, and treaties concerning environmental matters;
- failure to honor citizen rights to information, governmental consultation, health, and a healthy environment, to prompt and fair compensation, to petition the government, and to earn a living;
- failure to correctly assess and internalize predictable costs or both to the environment and a region's inhabitants caused by a large, infrastructure project in an international trans border setting;

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25. The IDB receives its largest capital contributions from the U.S. government.

- failure to develop appropriate legislation where existing legislation is inadequate;
- failure to mitigate harm once it has occurred;
- failure to advise a neighboring government and its inhabitants with respect to impending and ongoing harms;
- failure to provide for public involvement in project planning; and
- failure to assess harm caused by a neighboring government's infrastructure project.

This case-study also considers these issues:

- Mexico's domestic governance and overall development policies;
- U.S. government policies concerning Mexico;
- the planning, management, and regulation of the Rio Grande River, and all of its tributaries and related groundwater sources, as a shared international watercourse;<sup>26</sup>
- the strategies, procedures and policies of multilateral lending institutions, including the IDB;
- the role of non-governmental organizations in pressuring governments to act lawfully;
- the need for developing existing legal regimes (including the Inter-American Commission for Human Rights, the Inter-American Court of Human Rights, and the new North America Commission on Environmental Cooperation created under NAFTA) to address the issues raised by the case-study; and
- the need for developing new legal regimes and hemispheric legal institutions for protecting the environment in the Americas.

In the U.S.-Mexico border region, the governments of the United States and Mexico are often too willing to tolerate high levels of environmental degradation and the violations of international law, which may accompany such degradation, for the sake of short-sighted trade and industrial development. The case of the El Cuchillo Project is but one example of how citizens

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26. See, e.g., Stephen C. McCaffrey, *The International Law Commission Adopts Draft Articles on International Watercourses*, 89 AM. J. INT'L L. 395 (1995).

on both sides of the Rio Grande River are left without immediate or effective remedies for many of the environmental harms they must endure, which are permitted and perpetrated by their governments.