

Toward An Integrated Approach to Transnational Waterbasin Pollution Control

by
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INTRODUCTION

Water pollution is a growing cause of water waste on an international level. As nations increase their control of domestic resources, develop their economies, and provide a longer and higher standard of living for their citizens, other nations are affected. Competition for finite resources increases. Where resources are shared or lie along common borders, the competition can become keen. Where the resource is water, conflicts can arise over its apportionment and use. Water pollution control on this level is an increasingly important means of avoiding waste and international conflict.

Transnational water pollution is an interdisciplinary problem. It invites efforts from a variety of fields, including international law, geography, politics, hydrology, geology, environmental science, microbiology, civil and mechanical engineering, agriculture, economics and industry. Analysts from these fields have used their particular skills to propose solutions to and develop a public awareness of the problem.

This field-specific progress is praiseworthy, but has not led to a coordinated or integrated approach to transnational pollution control. Instead, numerous pollution control models have been developed, which ignore factors beyond the proponents' expertise. While these field-specific models may work for certain areas under particular circumstances, they may be completely useless in others. Since the utility of these models varies with the peculiar local circumstances actually influencing a particular system, their general utility is extremely limited.

For example, a strictly political water pollution control model for North America would address the boundaries between the United States, Canada, Mexico and the various Latin American and Caribbean nation-states in detail. The economic structure, military power, developmental status, religious orientation and governmental structure would all be factored into this model, as each affects international politics, which in turn affects water pollution control efforts. Unfortunately, a strictly political model would ignore quantitative water purity and utility standards, the legal

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context of existing treaties and agreements, and the actual location, size and circumstances of water resources. Fortunately, no recorded international water pollution control system has been based on such a model.

Most recent models address the transnational water pollution problem on a common scale, the international waterbasin. This waterbasin is either a river or lake basin in which all precipitation and water runoff tend toward a common terminus, usually an ocean or lake. A waterbasin can include several large rivers and their tributaries, lakes and reservoirs, the land from which runoff drains into those bodies of water, and usually includes underground rivers and groundwater deposits which cycle water into the rivers and lakes. An international waterbasin encompasses parts or all of two or more countries.

Considering the mounting need for water pollution control and the increasing interdependence of nation-states, the time has come to address the multi-disciplinary dimensions of the problem and to formulate an integrated model framework. The recent field-specific models have addressed five basic principles which can be incorporated into an integrated model. These elements are: Sovereignty, Comity, Quality, Community and Liability. From these elements the skeleton of a functional model of water pollution control systems can be developed which better mirrors reality on the international waterbasin scale than the existing one-dimensional approaches. A brief survey of these elements and their component parts follows.

SOVEREIGNTY: THE HARMON DOCTRINE AND STATE IMMUNITY

A basic legal feature of transnational problems is the principle of territorial sovereignty of nation-states. By this principle individual states possess the unfettered right to act in self-interest, regardless of the laws, morals and declarations of other states. This right is directly applied to transnational water pollution control by the corollary Harmon Doctrine. The Harmon Doctrine is named after the United States Attorney General who invoked the sovereignty principle in an 1895 dispute with Mexico over the salination of Colorado River water by upstream users. In essence, the Harmon Doctrine states that "the rules, principles, and precedents of international law impose no liability or obligation" upon a particular state policy. Under the Harmon Doctrine, states may wilfully exploit interior waters, regardless of any harm or potential injury to neighboring states or subsequent users of those waters. This traditional doctrine permits unlimited transnational pollution without violation of international law.

Related corollary doctrines, self-determination and sovereign immunity, shield the sovereign state from the liability claims of external states and all non-state entities, except as such claims are allowed by the state. In this way the sovereignty principle can effectively prevent actions in both municipal and international law to control transnational water pollution, except as such actions further the state's political ends and ambitions.

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In an integrated functional pollution control model sovereignty is an inhibiting factor, the intensity of which varies with particular circumstances. These circumstances may include perceived national risk, political stability, municipal consensus and internal homogeneity. Each of these circumstances fleshes out the model's skeletal framework to be developed here.

COMITY: EQUITY, NEIGHBORSHIP AND SIC UTERE TUO

The legal principle comity developed in reaction to the harsh traditional state sovereignty principle. Comity is the mutual respect which sovereign nations grant, not out of obligation, but out of a recognition of common interest. Various corollaries to the comity principle have been applied to the transnational pollution control problem. Among them are doctrines of equity, *voisinage* (neighborship), and *sic utere tuo ut alienum non laedus* ("use your own property in such a manner as not to injure that of another"), which call for promotion of the common good through differing degrees of limitation on state territorial sovereignty. Equity is a general doctrine of fairness extending beyond the bounds of legal duty. Various practices have developed under equity to provide a morally acceptable standard remedy to water pollution injuries. The more common practices are declaration of a common trust, mutual compensation, equivalence allowances, one-way benefits, and equal alien access to municipal courts. These practices are adopted among the various nation-states as a mutual "softening" of the territorial sovereignty doctrine. Examples of each are given below.

Following a common trust declaration, states with a common territorial resource such as a waterbasin regard that resource as a common trust for mutual benefit. This principle promotes the maximum utilization of the resource, and provides that accruing benefits, costs and developments are apportioned equally or proportionately among the various nations. Apportionment factors include the amount of individual state resources committed, limitation of alternative options, site-specific benefits received, and resultant injury to state resources. The common trust doctrine also requires that no one state exploit common resources without the positive cooperation of the other states. This cooperation requirement has made application of the practice in developing nations particularly difficult. Feared loss or detrimental apportionment of scarce resources, development options and territorial rights play significant roles.

For example, the 1969 La Plata Riverbasin Treaty created a common trust between Argentina, Bolivia, Brazil, Paraguay and Uruguay. However, the treaty has not yet been used to create a coordinated basin development plan. The historic disharmony between the nations involved has been blamed for the treaty's stagnation. It is hoped that the recent creation of a local common market and establishment of more stable, less authoritarian government regimes will foster increased application of the doctrine under the treaty.

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Mutual compensation is awarded as a fiscal exchange between states for harm caused to property, individuals or state interests. In practice, the polluting state pays the injured state for the harm it causes, minus any prior payments owed by the injured state. This practice is generally adopted in a two-nation context where there is substantial damage to both states caused by acts in the other state. This practice becomes more complex when a number of states and sources of pollution are involved. It is most fully utilized by the International Joint Commission of Canada and the United States in its control of toxic pollution in the St. Lawrence River/Great Lakes basin. A more complex "polluter pays" regime is in force in the Rhine riverbasin, which lies in parts of Switzerland, Italy, the Federal Republic of Germany, France, Belgium, Luxembourg, Austria and Liechtenstein.

The equivalence practice prevents unwarranted compensation claims between states for water resource abuse by permitting the substitution of equivalent inflows from other sources to offset a downstream state's equitable claim to international river flows, as long as there is no resultant compromise of water quality. Thus, water may be taken from an international river by an upstream state if an equivalent amount of water of comparable quality is returned to the river before it enters another state. This practice was formally condoned in the 1956 International Court of Justice *Lake Lanoux Case*. In this instance, France was allowed to divert some of the waters of Lake Lanoux in France to run a hydro-electric plant, as long as an equivalent amount of water was returned to the lake's outlet, the Carol River, before it flowed into Spain. The court held that a state's use of internal waters is limited by the downstream user's expectations of sufficient quantities of unpolluted water, rather than of a particular water volume. In this way, allowed claims are limited to actual injuries caused by detrimental water changes, the true basis of water pollution, rather than to harmless exchanges.

The one-way benefit practice applies to flowing waters in an international waterbasin, usually as a response to rivercourse development. Where a state does not do actual injury to upstream or downstream states, but causes other states to lose future options for development, the developing state may provide a benefit to the detrimentally affected states. This may take the form of a one-time fiscal transfer, or an on-going payment of a portion of the gains accrued from the development. An example of this proportionate gain transfer is seen in the Columbia River Treaty of 1961 between the United States and Canada, under which Canada continues to receive a portion of United States dam-generated hydroelectric energy in return for the grant of dam development rights to the United States. In granting the development rights, Canada gave up a future interest in developing upstream dams and using upstream lands inundated by the United States dam. One-way benefit practices thus expand the equity principal to include both common still (lake or reservoir) and flowing (river or stream) waters in an international waterbasin context.

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A further, though less common, equitable practice is the right of equal alien access to state municipal courts. This right allows foreign governments (and government officials and agencies), foreign and international non-governmental organizations, and alien individuals to prosecute claims for out-of-state injuries and out-of-state acts resulting in injuries. It also allows aliens to participate equally with nationals in hearings to assess the potential of particular state actions to cause future injury, or measure the extent of harm such actions have already caused. In effect, the jurisdiction of the state municipal courts expands to allow alien participation, and the sovereign immunity shrinks to allow alien suits. Though this practice reduces costs, increases benefit assessment accuracy and expedites claims, few states have been willing to condition state sovereign immunity to achieve these ends. Among these states are Austria and the Netherlands.

The doctrine of *voisinage* or neighborhood is less concerned than the common trust practice with proportionality in the allocation of benefits. Rather, it sets a minimum standard for equitable behavior between states. Under this doctrine any substantial detriment to the quality of one state's water by another state's act renders the acting state liable for the detriment. Thus, the neighborhood doctrine requires states to prevent injury to neighbor states, but does not set limits upon the internal development of shared resources or attempt to foster maximum utilization of resources in the waterbasin without regard to political boundaries. In essence, neighborhood is an international extension of nuisance law, absolutely requiring the individual state to preserve its neighbors' right to non-interference and to compensate its neighbors for substantial infringement. The absolute nature of the neighborhood doctrine may deter states from adopting it.

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Sic utere tuo ut alienum non laedus, or more simply *sic utere tuo*, is a Roman maxim meaning "Use your own property in such a manner as not to injure that of another." As applied to international law, this is the most generally accepted comity doctrine. It simply means that a state exploiting its resources is liable for the harm that it thereby causes other states, without specifying minimum thresholds of substantiality or procedures for calculating liability. A limitation on this doctrine is that it may be voided "where the nature of the relations between states, as modern international law understands them, is opposed to its adoption." Karl Neumeyer, *Ein Beitrag zum internationalen Wasserrecht*, in *Festschrift Fuer Georg Cohn*, 1915, at 143 *et seq.* Thus, under *sic utere tuo* conflict or declared warfare between states may negate any water pollution liability claims.

The principle of comity became firmly established as a water pollution factor in this century. Efforts made since the end of the 19th Century to temper the traditional element of state territorial sovereignty have been widely accepted. The *sic utere tuo* doctrine has been most widely adopted, as it creates the greatest harmony with the least risk to the sovereignty of individual states.

By the 1950s even the United States was turning from its official Harmon Doctrine policy with regard to Mexico and asserted that the Harmon Doctrine had never been followed either by the United States or by

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any other country in actual practice. Although the element of sovereignty was still generally regarded as the formal basis of international relations, the element of comity, particularly as expressed in the *sic utere tuo* doctrine, controlled actual interstate practice, at least on a bipartite level.

Further adoption of comity to include the normative principles of neighborhood and equity is presently isolated to a handful of Middle Eastern, African and South American states. A binding balance between the two elemental poles of sovereignty and comity has yet to find general acceptance among the states. In a functional model, the interplay between sovereignty and comity may be used to define a single finite dimension or multiple fractal dimensions of risk, cooperation, trust and ambition. Either dimensional approach can adequately represent the fundamental tension between the two principles.

QUALITY: FACTORS, USES AND PRIORITIES

Quality as an element of the transnational water pollution control problem derives from the scientific field of hydrology rather than from international law. Hydrologists have developed a number of objective factors that measure the utility of specific water resources for particular purposes. Essentially, these factors are detriment tests designed to discover water pollution, and measure it if found. These factors permit standards to be set and verified in both international and municipal pollution control efforts. At least ten such factors have been identified.¹ Hydrologists have also segregated several types, sorts and conditions of water use², which allow a prioritization of uses to be made by the various user states. This in turn allows exploitation of the water resources to proceed according to a policy informed of water quality risks.

Implicit in these categorizations is the need for accurate information gathering, interpretation and dissemination³. All this work requires funding as well.⁴ Water quality cannot be determined, much less informed policies drafted, in the absence of hard data. In the context of the transnational waterbasin pollution problem, correlation and information exchange are also needed to prevent unnecessary conflict and facilitate unified policy assessment.⁵ Where accurate information is available, whether from municipal or international government fact-finding entities, private municipal or international organizations, or private individuals, equitable enforcement of water quality standards is possible.

The present wide variety of sources issuing pollution information on a voluntary or regimented basis⁶, and the proliferation of new watchdog organizations⁷ indicate that the problem is receiving increased attention, with a heightened expectation of policy enforcement on both the municipal and international levels. Each of these conditions can be factored into the functional model under the quality principle heading.

Quality considerations most squarely confront the elements of comity and sovereignty where available information indicates transnational pollution control policy violations caused by state-sheltered industries (e.g., nuclear power generation). In such cases these opposing elements have seldom had opportunity to be balanced, much less managed by an international pollution control regime, as states continue to be reticent to surrender immunity in such politically sensitive areas, especially in an international context.

COMMUNITY: SCOPE, COMMONALITY AND TOLERANCE

Adding to the complexity of the problem is the element of community. This element addresses the scope of control in a transnational waterbasin. Control may be shared simply by two of several states with a single common waterbasin. It may be among all common waterbasin states. Or key norms may be established for all states in a particular region (or of a particular market economy or political persuasion) with such waterbasin areas in their territories. Or a worldwide solution may be sought. Depending on the community considered, diverse attendant factors become relevant. In any case, the scale of the solution cannot be ignored, as it informs the scope of acceptable controls.

Communities may have parties with opposing interests which may form a serious, if not insurmountable, obstacle to the drafting of a solution acceptable to both states: opposed development strategies (agrarian/industrial)⁸, government structures (federal/unitary)⁹, market systems (socialist/capitalist), political ends (self-determination/expansion)¹⁰, legal systems (civil/common), religious beliefs (Muslim/Hindu)¹¹ or ethnic customs. Common interest or common need must be great to bring about a positive result. Other factors that may prevent or impede community efforts are enmity between states (i.e., war, sanctions, or embargo) and trade inequities (i.e., tariffs, taxes or product dumping) and state bureaucratic inflexibility or sovereign intransigence.

In a multi-partite community, such differences may be better tolerated, with a resultant lower standard of commonality required for a solution. Conversely, new and possibly irreconcilable disharmonies may attend the introduction of additional states, hindering progress. To date, transnational pollution control agreements have been made primarily for bipartite communities with a high degree of commonality.¹² Amid the present waves of falling walls, opening borders and developing communities, expansion of water pollution control agreements to the multi-partite level may soon become more acceptable.

In the functional model, community may be the universe within which international pollution control agreements potentially exist. Community would thus be the embryonic sac in which the other factors may combine into

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a viable working system. This universe would expand or contract as the various circumstances indicate commonality of interest and purpose among states in a particular waterbasin over time.

LIABILITY: THE KEY TO CONSISTENCY

The final and most ignored element is liability. Consideration of the above elements has resulted in over 80 international attempts to control transnational water pollution, with most recent treaties grounded in a waterbasin approach to the problem¹³. Unfortunately, most of these attempts have no provision for enforcing the covenants exchanged. Where the liability factor is missing, treaties become mere "feel-good" documents.¹⁴ Such regimes may elicit occasional relief, but cannot give consistent satisfaction; they are not truly functional agreements.

The principle of liability has evolved from a variety of social contexts and presents an array of doctrinal alternatives.¹⁵ Liability's application is also greatly influenced by the other elemental factors. Outside a community, liability is usually inactive (denied), but may be imposed by powerful sovereign nations. Where the community influence is weak and sovereignty factors powerful, recognition of liability is generally limited, as where states make reparations for admitted injuries on an *ad hoc*, negotiated basis.¹⁶ Conversely, where community and comity influences are great, liability is usually applied on a systemic legal basis.¹⁷

The application of these alternatives has historically also depended on the particular type of pollution considered and its possible harmful effect on the individual state and among the concerned community of states. In this way the quality factor plays a significant role. Unusually harmful substances with potentially widespread or concentrated effects generally "create" a community of otherwise disaffected states, and a high order of liability is ordinarily applied. Thus, strict liability is more often applied to highly toxic chemical, oil and liquified natural gas pollution than spills of inert materials. In the functional model, a sliding scale of liability thresholds for various types, amounts, concentrations and placements of pollutants may incorporate the quality and liability elements.

Liability functions on multiple scope levels within the international waterbasin pollution control problem area. Substantial transnational pollution is caused not only by the state governments themselves in pursuing individual political goals, but also by resident citizens and aliens, and domestic and foreign enterprises situated in the states' territory. Even in the case of a fully-centralized economy, not all harm is directly linked to government policy or oversight. Where a government link is absent, the liability factor applies on both the municipal and international level. Internal harm caused by domestic enterprises and resident citizens is usually a matter for the municipal organs of the state concerned. Harm caused elsewhere raises issues of prescriptive jurisdiction, choice of law and venue among the concerned states. The ultimate representation of the liability factor in

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municipal systems depends upon the particular character and power of the waterbasin states' internal liability systems, and upon the influence of the states' sovereignty and comity claims on these internal systems.¹⁸

SUMMARY: COORDINATION THE KEY TO AN ACCEPTABLE INTEGRATED SOLUTION

In summary, the problem of transnational waterbasin pollution control is multidimensional. The complexity of the problem is generally not addressed by the various interests primarily concerned only with specific aspects of the problem. Lawyers and jurists deal with legal issues, economists with economic issues, and so forth. This uncoordinated, one-dimensional approach has precluded an integrated analysis of the problem's elements, and a charting of essential interrelationships. Without such analysis, progress toward a general functional model has been severely limited.

The recent turn from a strict policy of sovereign self-interest in foreign affairs suggests states can no longer remain self-interested in the context of transnational water basin pollution. This paper proposes that a functional international waterbasin pollution control framework based on five elemental principles--sovereignty, comity, quality, community and liability--may be the basis for interaction among specialists. Now is the time for a concerted effort toward rational integrated models.

(For references and endnotes, see p. 51)

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