

SHARED USE OF TRANSBOUNDARY WATER RESOURCES

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Water is needed in all aspects of life. The general objective [of all countries] is to make certain that adequate supplies of water of good quality are maintained for the entire population of this planet . . . In the case of transboundary water resources, there is a need for riparian States to formulate water resource strategies, prepare water resource action programmes [sic] and consider, where appropriate, the harmonization of those strategies and action programmes.

- Agenda 21, IUCN Environmental Policy and Law Paper 27, 1993.

Abstract. The sharing of water resources between separate political entities is a significant source of conflict. Resolution of these conflicts in the United States has occurred through a variety of mechanisms, ranging from physical warfare to Supreme Court adjudication to written agreement. This latter has been the preferred mechanism, primarily because it offers a large degree of certainty and a limited degree of risk. Unfortunately, the number, style and content of these various written agreements have left their own degree of uncertainty because there has been no consistency to these agreements. The American Society of Civil Engineers has recognized this shortfall and has instituted a process to standardize the shared use of transboundary water resources both in the United States and in the international community.

INTRODUCTION

Agenda 21, published in 1993 as a result of the United Nations Conference on Environment and Development, sounded a call to action. Action was needed to confront the worldwide scourges of hunger, ill health and illiteracy, and the continuing deterioration of the environment. One of its primary themes is the need for "adequate supplies of water of good quality." Translated, the quote above calls for effective agreements to manage the shared use of transboundary water resources (SUTWR). Whether one agrees with this sense of urgency or not, integrated management of transboundary water is an appropriate goal.

History is replete with conflicts over water resources. Yet, with all the conflict that has been a part of both American and World history, no defined guidance or standards for equitable sharing of water have been developed. Had such standards been available, economic progress of the affected regions would probably have been better served.

The need for these guidelines is clear. The history of economic development in the American West is as much

about transboundary water sharing controversy as it is about finding gold or raising cattle. The conflict over Colorado River water still reverberates today in new water-sharing conflicts. Resolution of the dispute between Alabama, Florida and Georgia is predicated on adoption of an effective water sharing agreement. The conflicts are not restricted to the United States. The deficiency of adequate supplies of water is evident throughout much of the rest of the world, and the transboundary sharing of water resources is a major source of conflict. Conflict exist between Turkey, Iraq and Syria in the Tigris Euphrates basin; between Jordan and Israel regarding their opposite bank sharing of the Jordan River; and between nations in the Nile River Basin. The breakup of the Soviet Union has caused conflict between former members, especially in the arid regions east of the Caspian Sea. Conflicts between the nations sharing the waters of the Ganges River Basin in Southwest Asia and the Mekong River Basin in Southeast Asia impede effective regional development.

MEETING THE NEED FOR STANDARDIZATION

Recognizing this lack of standardization, the American Society of Civil Engineers (ASCE) has commissioned a special tasking committee to formulate principles and standards to equitably share transboundary water resources. The ASCE program approaches the development of standards for shared use of transboundary water resources (SUTWR) in a systemic manner, integrating surface and groundwater sharing; water quantity and water quality; and the disciplines of law, engineering, ecology and economics. The official ASCE Committee Purpose is:

To establish equitable principles and standards to manage shared use of water resources for the purposes of minimizing transboundary conflicts. These

principles and standards will be developed for adoption in international agreements, interstate compacts or state-tribal agreements for regulatory purposes along intergovernmental boundaries.

Development of a definitive, specific set of standards to be applied in all hydrologic circumstances, between different legal or cultural systems, in any region of the world, is clearly unachievable. Consequently the committee is drafting a document formulated to be descriptive of an ASCE "guideline standard." Such a standard focuses on the process of creating or modifying a transboundary water sharing agreement. It sets guidelines to ensure all pertinent factors are included in formulating the agreement. Different political systems and/or different cultures and/or different water use customs must be accommodated by the "standard." Otherwise the "standard" would gather dust on the shelves of a few libraries.

Three principles form the basis of the ASCE standard:

(1) **Simplicity:** The final product of our efforts should be as simple as possible (ie, be direct and in language both engineers and lawyers understand);

(2) **Sustainability:** The final product should focus on the principle of sustainability as outlined in the United Nations Environmental Policy & Law Paper No. 27, Agenda 21: Earth's Action Plan, Oceana Publications, Inc., 1993.

(3) **Conformity:** The final product should conform to the individual circumstances of the transboundary shared use so that it can be applied to all circumstances (ie. be "generic").

This last principle arises from the recognition that engineers from the European, water-rich traditions often fail in their attempts to optimize water usage in other regions with different hydrologic, social and/or economic conditions.

.. Farmers practising (sic) these (dryland farming) techniques know more about their problems and their solutions than scientists ever will. For these reasons dryland farmers need "not messages but methods, not precepts but principles, not a package of practices but a basket of choice, not a fixed menu table d' hote but a choice a la carte.

- Robert Chambers

FEATURES OF THE ASCE STANDARD

ASCE will set a "standard" for the process that all states and/or nations must use when they create or modify a transboundary water sharing agreement. It will establish what must be considered prior to actually putting the agreement into law.

Resource Assessments.

The first step in drafting a SUTWR agreement is an assessment of the resources impacted by the shared water resource: the sources and uses of the water resource, the ecological matters that will be affected by the transboundary

use and the economic units that may be affected. The ASCE standard states each element that must be considered.

Water Sharing Mechanisms.

The ASCE document will provide alternative mechanisms to allocate the water resource among the parties, with special emphasis on the extreme events (droughts or floods). Expected consequences of each of these mechanisms will be provided and a recommended choice for use among the American states will be given. A recommended choice for global use probably will not be possible. The document will describe alternative standards for water quality and consequences for specific choices will be described.

Administrative and Institutional Provisions.

The document present alternative administrative mechanisms to manage the agreement and provide different means for dispute resolution. Choosing the dispute resolution is the most critical of all choices the drafters must make in developing a effective transboundary water sharing agreement.

Recommended Agreements.

The ASCE standard will then provide recommended agreements that generally optimize shared use. Three different guidelines are needed in order to allow unrestricted "repetitive" use of the document. Because the legal structure of all states within the United States is similar, there will be specific "options" to the drafters of an interstate (or tribal-state) agreement that are not available to the drafters of an agreement between nation-states (e.g. Israel & Jordan, Mexico & U.S., Paraguay & Brazil, etc.). Because most of the lawyers on the committee are quite familiar with the basics of interstate agreements, they will focus on drafting a detailed model of interstate water sharing. Because Mexico and Canada have different legal systems, a NAFTA agreement will necessarily be different than the interstate agreement. The drafting of the NAFTA agreement can, however, be an adaption of the interstate agreement. The general international agreement can then be adapted from the NAFTA agreement. All three may be quite different however.

Conclusion

This ASCE Standard for the shared use of transboundary water resources seeks to fill a void in water resources planning and management that has existed for decades. Responding to what he believed was a looming water crisis, Senator Frank Moss called for the establishment of comprehensive, integrated interstate water sharing agreements throughout America's river basins. After 28 years, ASCE has initiated steps to make water resources planning and management better prepared to achieve the goal of insuring adequate supplies of water of good quality are maintained for the entire population of this planet.

The ASCE tasking committee officially began its study efforts in October of last year. Including a 12-month review phase, the ASCE Standard Guidelines for the Shared Use of Transboundary Water Resources is scheduled for publication by October 1, 1996.

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