Using Internet to Save the World's Water

By Frank A. Campbell

An innovative environmental project known as IW:LEARN (International Waters: Learning Exchange And Resource Network) is using the Internet to help preserve the world's water for present and future generations. Sponsored by the Global Environmental Facility (GEF), the project aims "to build an Internet-based 'global knowledge community' to protect, restore and sustain the world's aquifers, great lakes and river basins, coastal zones, seas and oceans."

Protection of the world's waterways is urgently needed. Today, a billion people lack access to safe water. Another billion live in urbanized coastal areas that threaten marine fisheries, the primary source of protein for one fifth of the earth's population. According to the GEF, "The earth's great water systems are in crisis. In every region of the globe, fisheries are declining. Lakes, rivers and oceans are being polluted by industries and urban sprawl."

This natural resource challenge is complicated by the fact that these waters generally traverse national boundaries. In fact, 40% of us live in transnational river basins, and more than 30 nations receive a third or more of their water from outside of their borders. Hence, nations must co-operate to sustain their common waters. With the GEF financial support, even countries with a history of enmity work side by side in to find common solutions to their transboundary water concerns.

In the wake of the 1992 Earth Summit in Rio, the GEF emerged as the largest single source of financial support for addressing international waters (IW) issues. It has supported some 50 IW projects representing more than $1 billion in investments from its own coffers and through co-financing by governments, multilateral donors, NGOs and private enterprises. Altogether, more than 100 countries have been reached through GEF-supported activities.

Financial assistance is necessary but not sufficient to resolve this multifaceted challenge of protecting and restoring international waters. This is especially true given that GEF projects span "a broad spectrum of countries, languages, cultures and levels of development." IW:LEARN asserts that "water resource expertise must be learned and transferred around the world in order for us to collectively sustain Earth's water resources." The GEF created IW:LEARN to help IW projects "recycle the knowledge they produce" by creating opportunities to share knowledge and learn from one another.

In 1996, the IW projects established by GEF identified training and education as their number one shared priority. According to its Web site (http://www.iwlearn.org), IW:LEARN responds to this need by developing and delivering "in person and on-line training opportunities to International Waters projects and their partners." IW projects are

offered a number of training opportunities promoted by IW:LEARN itself as well as a catalog including educational opportunities offered by other bodies.

IW:LEARN's fall 2001 IW Web developers workshop demonstrates how Internet technology can be used for knowledge sharing within the International Waters community.

According to Mr. Mario Buenfil Rodriguez of the Faculty of Engineering of the Universidad Nacional Autonoma de Mexico, weak institutions and inadequate knowledge of water resources produce "a persistent state of confusion and pressure to keep solving immediate emergencies, and rarely planning and attacking root causes." Such concern led Mr. Buenfil Rodriguez to enroll in IW:LEARN's fourth multi-week technical workshop to build capacity among water resource managers in developing countries.

During the workshop, he joined 24 others from over a dozen countries on-line in identifying their respective IW technical problems, capacity needs and resources. Several weeks later, they then met in Panama City for three days of intensive needs-based training, with sessions led both by their peers and by IW:LEARN's technical personnel. Each participant left Panama with a personal plan to implement specific results within 60 days. With email help from their peers, they are well on their way to realizing their goals before the end of 2001. "It is not just a matter of our training them, but they are also training one another," says Dr. Dann Sklarew, Chief Technical Advisor for IW:LEARN.

Successful workshop participants are then invited to join IW:LEARN's multi-country Implementation Team and share their knowledge, insights and enthusiasm with the global effort on a more sustained basis. These team members will, in turn, be key players in the development of a global network of Web sites that create, share, and disseminate pertinent International Waters knowledge.

IW:LEARN also piloted a formal distance learning MSc program in conjunction with the University of London to enable students to obtain gain advanced international waters training with minimum financial investment and the least possible time away from their home country. Among the first five graduates was a Sudanese who, according to IW:LEARN, "overcame persistently intermittent power and Internet connectivity at his office at Port Sudan to graduate with distinction. He also received a Geography Department prize for his rigorous coral reef ecology study." IW:LEARN is also exploring innovative "sustainable financing" mechanisms to ensure such students can continue to participate in such distance learning opportunities.

Finally, IW:LEARN is involved in developing a suite of informal distance learning modules – dealing with issues as diverse as Red Sea marine protected areas, Black Sea nutrient management, and Strategic Action Plan (SAP) development.

IW:LEARN officials note that "cost often prohibits regular face-to-face meetings among countries' staff for a given transboundary water project." So IW:LEARN has tested various Internet tools which could provide "cost-effective real-time international

communication between project offices." These "teleconferencing" tools include some available free on the Internet. Take iVisit. This software facilitates real-time voice communication, just like a telephone conversation – without long-distance charges. Or an IW official can use "instant messaging" via computer or cell phone to converse – typing a question, say, and getting an immediate response from a colleague sitting at his or her computer in another country.

Now managers can interact with one another at a meeting as well as with those participating "virtually," through electronic links. This was the case, for example, at the GEF's first International Waters Conference held in Budapest, Hungary in October 2000. In addition to demonstrating real-time trans-Atlantic communications via the Internet, IW:LEARN provided participants Web-based access to conference proceedings. IW:LEARN also established a set of active electronic lists to support inter-project discourse and needs-based planning for the GEF's next International Waters Conference in fall 2002. IW:LEARN is thus fostering a global collaborative community of transboundary waters projects, enabled by both conventional face-to-face meetings and electronic communications.

The international response to these efforts suggests that IW:LEARN is not only unique but also effective and necessary. UNDP's Dr. Andrew Hudson, who chairs IW:LEARN's Steering Committee, praises the staff for providing strong leadership. He says of the project that "there is nothing else like it to meet the needs of GEF's portfolio of over 50 ongoing and emerging transboundary waters project."