

Water for Nature: The Necessary Discourse between North and South

By: Odeh Al-Jayyousi, IUCN ROWA Regional Director, Amman-Jordan.

In global meetings for water and environment, experts argue for the need for water for domestic uses “water for all” and agricultural uses “water for food”. However, little is heard about the water needs for environment or water for nature. This emphasis on water for food and people, especially in the southern part of the globe, is mainly driven by urgency and the adoption of “quick fixes” to many aspect of development. This in turn will provide a good recipe for conflict among competing users due to severe water scarcity and deterioration of water quality.

In the popular movie Chinatown, Hollywood capitalized on the drama of Los Angeles sucking farms dry in the Owens Valley. The American writer, Mark Twain captured the west’s tension over water with his statement “***whiskey is for drinking, water is for fighting about***”. Obviously, as water becomes more scarce, the stakes are rising- not just in the western United States, but in many parts of the world as well.

Globally, irrigation accounts for about two thirds of all water moved from rivers, aquifers, lakes. As opportunities to expand water supplies dwindle, competition over existing supplies is mounting. At the end of the day, this competition is about livelihood, food security, human wellbeing, social stability and the ability of the aquatic environment to continue supporting a diversity of life. The question is “*how to balance all water needs and raise the profile and discourse for “water for nature” in many parts of the developing world?*”

To answer this question, we need to be aware of the fact that in recent years, ecologists, environmentalists, and concerned citizens have sounded alarms about the decline of rivers, lakes, wetlands, and other freshwater ecosystem. Increasingly, these groups are calling not only for fewer new dams and river diversions, but also for returning to natural systems some of the water now going to human activates-including irrigation.

During just this decade, public values have changed markedly in favor of protecting natural ecosystem and the multitude of benefits they offer, especially in wealthier countries. Fishing and other recreational pleasures top most people's interests in healthy rivers, but there is also greater awareness of the so-called ecosystem services provided by intact freshwater system. Theses services include controlling floods, purifying water supplies, maintaining fish and wildlife habitat, and conserving species richness.

As more scientists, citizens, and political leaders speak out about the need to protect these functions of rivers and natural ecosystem, the balance of power governing water use is changing in ways that could revolutionize water management. Engineers built the hundreds of thousands of dams that now block the world's rivers with four principal goals in mind-*flood control, hydroelectric power production, water supply, and irrigation.*

Almost without exception, they paid little attention to the downstream effects of altering river environments. Now that scientists have uncovered serious damage from dam, levees, and other hydraulic infrastructure, and the public has spoken out about its increasing environmental concerns, the water equation is shifting. Legislatures, courts, and the public increasingly view the natural environment as having a legitimate claim to water, and they are deciding to return some water to nature. IUCN- The World Conservation Union through its global programme on Water for Nature had developed several tools and approaches on knowledge management, environmental flows, water governance, economics and civil society participation in river basin management.

The challenge is to construct a shared reality and vision among experts from various disciplines like water, environment, economics, biology, law and policy on how to co-create a balance between economic development and conservation. This simply needs a shift in the conventional paradigm which only sees one-dimension of the issue at hand.

The needed shift in the paradigm (or worldview) seeks to communicate to all disciplines a very simple message ,i.e, ecosystem services are a fundamental component of the infrastructure. Hence, fair and adequate water allocation for the environment is a necessary condition to protect and sustain our socio-economic development. Careful assessment and evaluation of the impact of dams and diversions on aquatic habitat is needed. Such hydraulic structures may have both positive and negative impacts which need to be viewed in a sound “trade-off” analysis.

The argument against dams is that they change the temperature of a river's water and its pattern of flow throughout the year. They also prevent a river from performing most of its natural functions, such as delivering nutrients to the seas to sustain fisheries, absorbing floodwaters by spreading them over its floodplain, protecting wetlands and their ability to filter pollutants, providing habitat for a rich diversity of aquatic life, maintaining salt and sediment balances, offering myriad recreational opportunities, and providing some of the most inspirational natural beauty on the planet.

Worldwide, one out of every three fish species is threatened with extinction, compared with one out of every four mammals, one out of every five reptiles, and one out of every nine birds. In the United States, the most striking finding of the most comprehensive assessment to date on native plant and animal species is the dire condition of species that depend on aquatic systems for all or part of their life cycle.

In Australia, concern about the deteriorating health of the Murray-Darling River system is forcing an overhaul of water use and management there. Australia's largest river system Murray-Darling supplies about three fourths of all the water used nationwide. It is the main source of water for 16 cities, including Adelaide and Canberra, and some 70 percent of Australia's irrigated agriculture occurs within the basin.

Together, farms, cities, and industries drain off 75-80 percent of the river's annual flow, leaving little for fish and other instream needs, especially during dry periods. The Murray-Darling harbors some 29 indigenous fish species, and - as in the United States - dams and river diversions are destroying their habitats. No national law akin to the U.S.

Endangered Species Act safeguards these fish. A few Australian states have legislated the listing of threatened species, but have not followed up with management plans. In New South Wales, fish are not eligible for listing under threatened species legislation. Queensland has no legislation at all.

The Murray-Darling basin states have recognized the dire condition of the river system, and have agreed to allocate 25 percent of the river's natural flow to maintaining the system ecological health. This action is an important step forward, but its implementation – including negotiating each state's respective quota – will not be easy. In 1995, a basinwide freeze was placed on withdrawals for irrigation. In 1997, the Murray-Darling Basin Commission recommended capping allocations to major cities and towns at projected year-2000 levels of water use. The Commission is suggesting that cities meet any demands above this level by purchasing water from irrigators. Thus in Australia, as in the western United States, farmers practicing irrigated agriculture will either learn to make do with less water or take land out of production.

In developing countries, where demands for food and water are rising rapidly, environmental claims generally have a lower priority, but at least few regions are considering reallocating water back to nature as the cost of ecosystem deterioration becomes more apparent.

The five principal countries of the Aral Sea basin, for example, have agreed that the sea itself should be regarded as an independent water user, and that the ecosystem deserves an allocation of river water just as the countries do.

Any serious restoration of the Aral Sea would require a massive shift of water out of irrigated agriculture. To free up this much water by retiring farmland, more than half of the basin's irrigated cropland would have to come out of production. Discussions have generally focused on more modest restoration of the sea and the river deltas. Such efforts might require on the order of 13-19 billion cubic meters a year of river inflow to the sea – still a large portion of agriculture's current supply.

Meanwhile even though political leaders have agreed on the need to shift back to the environment, four out of five basin countries have plans to expand irrigation to new lands. Such action would set the stage for even more intense competition between agriculture and the environment in the years ahead.

In sum, a lot can be learned from the experiences in the North in terms of environmental laws, institutional set-up, standards and norms of allocating water for nature. What every stakeholder needs to know is that “we all live downstream” and if our ecosystems are destroyed our socio-economic development is at risk.