

AROUND THE GLOBE

Water Resources in Colombia: Challenging Issues at a Glance

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Colombia is a country blessed with abundant water. Located in the Inter Tropical Convergence Zone in northwestern South America, with coasts on the Atlantic and Pacific and an estimated water yield of nearly 57,000 m³/person/year (IDEAM, 2004), Colombia should not expect the same kind of problems that affect semi-arid regions.

However, if we look not only in terms of hydrology, but of water resources as a whole, then many economic, social, legal, and environmental challenges and concerns become evident, some of them very similar to those in the Southwest.

Pressure over Local Resources

Despite the relative abundance of water per capita, more than 75 percent of the Colombian population lives in urban centers, sometimes overexploiting the local water resources (some areas actually show a deficit in their annual water balance), and impacting not only the quantity of water available but also its quality.

Although the main cities and many municipalities in the country have

managed public and private water supply systems reasonably well, many others still require service improvements mainly in sewage and water disposal. Although all municipalities are required in their municipal development plans to provide these basic services in the next decade, fulfilling this goal remains a challenge for future administrations.

Droughts

In recent years, Colombia also has suffered droughts. The most notorious event occurred in 1991, a year when both the water supply and hydropower generation were continuously rationed due to a generalized depletion of all reservoirs.

Economic losses caused by the unreliable hydropower generation system forced subsequent governments to establish a more robust and versatile scheme of water resources management, promoting electric power interconnectivity with Ecuador and Venezuela, as well as the adoption of alternative energy sources. The situation also highlighted the importance of improving knowledge about regional impacts of climatic events like El Niño.

Conversely, more “normal” precipitation years often bring heavy rains and flooding, which present different challenges for the nation. The consequences of alternating droughts and floods may be exacerbated

in the near future, considering factors such as deforestation and soil erosion, depleted water yields in high watersheds, seasonally unregulated discharges, and reduced soil productivity.

Environmental Challenges

Ecosystems that depend on rivers, natural inland waters, and seawater are coming under increased pressures from the developing federal infrastructure, which promotes economic development, urban growth, acquisition of land for farming, and the exploitation of natural resources such as wood, coal, and petroleum. Recent and controversial examples of social and environmental impacts created by human intervention include the disruption of the natural river-sea water circulation in the Ciénaga Grande de Santa Marta – a major mangrove ecosystem in the Caribbean region – due to the construction of a national highway; the water pollution of Cartagena Bay with hydrocarbons, industrial wastes, and human disposals; and the multipurpose Urrá Reservoir Dam over the Sinú River. In the last example, voices in favor were raised by the official sector and voices opposed were raised by environmental and social organizations, including the indigenous community of Embera Katios, whose reserved lands were directly affected by the project.

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Despite improvements in environmental legislation since 1993, it is not easy for the governmental bodies (known as “Regional Autonomous Corporations”) to exert permanent control or regulation over the natural resources. Conflicts between users and uses of water, as well as general internal – and often violent – social conflicts, add complexity to the legal and social treatment and resolution of these issues.

Transboundary Waters

More than three-quarters of Colombia’s borders are delimited by water. The country shares river waters with four other nations: Venezuela, Ecuador, Brazil, and Peru. In fact, most Andean rivers that originate in the Colombian Cordillera are part of the international Orinoco and Amazon basins.

Consequently, managing these rivers is a complex diplomatic process that creates opportunities for both international cooperation and conflict.

Future Challenges

The challenge for Colombia in years to come will be the development of a robust infrastructure for water supply and power generation that addresses governmental and economic concerns while employing effective environmental legislation, thereby ensuring sustainable economic development.

Colombian society must preserve water resources as an integral part of its biodiversity, recognizing water’s importance by managing it similar to the way that oil resources are currently preserved and managed in many countries worldwide. Such a task will require joint efforts with neighboring countries, based on common regional planning criteria and reliable political agreements.

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Reference.....

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