

This country profile was compiled by the OECD Secretariat and reflects information available as of March 2015. Further information and analysis can be found in the publication: OECD (2015) [Water Resources Allocation: Sharing Risks and Opportunities](#), OECD Studies on Water, OECD Publishing. Country profiles for all of the 37 allocation regimes in 27 OECD and key partner countries surveyed for this project are available for download at: <http://www.oecd.org/fr/publications/water-resources-allocation-9789264229631-en.htm>.

COLOMBIA

Overview and highlights

In Colombia, the Ministry of Environment and Sustainable Development is the legal authority for environmental management, planning, regulation and policy-making. However, Regional Autonomous Corporations (CARs) and Urban Environmental Authorities are endowed with administrative and financial autonomy, patrimony and legal status to administer the environment and natural renewable resources. Some of the latest environmental reforms seek to improve the efficiency, efficacy and effectiveness of environmental management, sustainable development and to the environment by institutional strengthening¹, updating of norms² and regulation of water management³.

Key characteristics of the prevailing allocation regime for Ubaté – Suárez Basin include⁴:

- An extensive hydraulic system, which includes the irrigation and drainage network of Fúquene – Cucunubá;
- Arrangements to deal with scarcity, vulnerability and availability of water resources, including policy guidelines and management basin plans;
- Measures to address illegal water use as well as progress on the process to legalise water resources users;
- Water entitlements legally defined and publicly own, with the sole exception of watersheds that begin and finish within the same inheritance belonging to the owners of the banks;
- Entitlements not used in a given period, are lost (e.g. "use it or lose it");
- New entitlements are subject to an assessment of third party impacts, an environmental impact assessment (EIA), existing user(s) forgoing use and definitions provided in planning instruments (e.g. River Basin Management Plans, Water Resources Management Plans, Watersheds and Aquifer Environmental Management Plans);
- Abstraction charges apply to all types of water users. Charges reflect scarcity following the use of a scarcity index;
- The competent environmental authority is empowered to designate transitional measures in case of exceptional circumstances, including restricting applications or consumption temporarily or establish turns to use water or distribute percentages of usable flows.

¹ 2011: creation of the Ministry of Environment and Sustainable Development (Decree 3570); National Natural Parks of Colombia (Decree 3572); National Authority of Environmental Licenses - ANLA (Decree 3573).

² 2010: environmental licensing (Decree 2820); water uses, liquid wastes and other provisions (Decree 3930).

2012: planning and management of river basins and aquifers (Decree 1640); water charges for direct and indirect uses (Decree 1640).

³ 2004: water rates adoption for use of water and other provisions (Decree 155).

2010: implementation of the defined criteria in relation to the use, reuse, quality, discharge, sewage and soil levels of water resources (Decree 3930).

⁴ For more information on water allocation on a general level in Colombia, please refer to Decree 2811 Act of 1997, which issues the National Code of Renewable Natural Resources and Environmental Protection, the Colombian Civil Code, Decree 1541 of 1978 (Article 18) and Decree 2811 of 1974.

Legal and institutional setting for water allocation

Institution	Scale	Main Responsibilities
Ministry of Environment and Sustainable Development	National	Environmental and renewable natural resources management; guidance and regulation of environmental planning; development of policies and regulations to which the recovery, conservation, protection, organization, management, use and sustainable use of renewable natural resources and the environment will be subject to the nation without prejudice to the functions assigned to other sectors. Water resources, in accordance with the provisions of Article 18 of Decree 3570 of 2014, are included in the above responsibilities mentioned.
CAR (Regional Autonomous Corporations)	Provincial/ State/ Regional	Comprised of territorial entities sharing an equal geographical ecosystem or conforming the same geopolitical, biogeographical or hidrogeographical unit, provided with administrative/ financial autonomy and own patrimony. These public corporations have the legal mandate to administer the environment and renewable natural resources and to promote their sustainable development in accordance with legal provisions and policies of the Ministry of Environment (Law 99 of 1993, article 31).
Urban Environmental Authorities	Provincial/ State/ Regional	Municipalities, districts or metropolitan areas whose urban population is equal to or greater than one million, exercise within the urban perimeter the same functions assigned to CARs. In addition, they control discharges and emissions, solid waste and dangerous waste disposal, dictate the measures for correction or mitigation of environmental damage and promote sanitation and decontamination projects (Law 99 of 1993, article 66).
ANLA (National Authority for Environmental Licenses)	National	Licensing, permission or in process approvals control of environmental projects, works or activities to comply with environmental regulations (Decree 3573, 2011).
National Natural Parks of Colombia	National	Permissions and concessions granting for the use and management of renewable natural resources in national parks and areas within these systems, in accordance to the Constitution and decree 3572 (2011).

Legal context for water allocation: Roman/ Statutory Law.

Legal definition of ownership of water resources: ground and surface water are publicly owned.

Tracking water scarcity

A mapping exercise has been undertaken to identify areas where scarcity is becoming a problem "ENA (National Water Study) 2010". undertaken by the former Ministry of Environment, Housing and Territorial Development, now Ministry of Environment and Sustainable Development and Institute of Hydrology, Meteorology and Environmental Studies (IDEAM).

Allocation Regime Example: Ubaté – Suárez Basin

Physical features of the water resource

The hydrological system of the Valley of Ubaté and Chiquinquirá contains three sub-basins (high, medium and low). Average rainfall in the basin is 962.5 mm. There is a semi-humid cold climate in the North and in the area surrounding the Fúquene lagoon and a cold semi-arid climate in the area of the lagoons of Cucunubá and Palacio and lower part of the rivers Ubaté y Suárez.

In the flat part of the Valley Ubaté-Suárez, covering 26 500 hectares, irrigation has increased with intensive use in livestock. A 437 km network makes up the district's irrigation and drainage system of Fúquene-Cucunubá; a hydraulic system formed by reservoirs, lagoons (Palace, Cucunubá and Fúquene) and major rivers (Ubaté, Suta, Lenguazaque and Suárez).

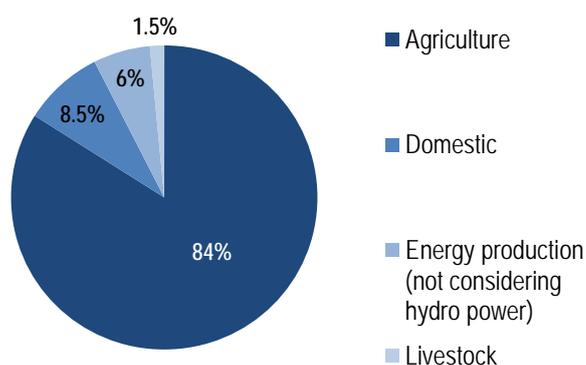
In highly productive areas, no hydraulic conditions are in place to maintain levels that allow for achieving an environmental balance with water supply. Moreover, each year the impacts of drought or flood are felt with greater intensity in the Fúquene lagoon. The basin of the river Ubaté is also characterised by increasingly noticeable scarcity and vulnerability of water resources (IDEAM, 2004). In the summer, there is a marked water deficit in some areas of 15.85 million m³ per year. This is mainly attributed to the low capacity of regulation of water resources in the basin.

There are several other factors affecting water availability. First, erosion and sediment yield resulting from loss of vegetation cover and land works. Secondly, water quality issues. The Fúquene, Cucunubá and Palace lagoons are in state of eutrophication due to the contribution of nutrients (particularly nitrogen and phosphorus) coming from its tributaries and surface watersheds; domestic and industrial related discharge activities.

The **flow rate is managed or controlled** fully, as water systems are completely regulated.

There is no **significant non-consumptive use** in this water system.

Mean annual inflow/recharge consumed per use:



Defining the available resource pool

Are limits on consumptive use defined? Yes.

- In terms of the volume and the proportion (e. g. percentage) of water that can be abstracted and who can abstract water (but based on the nature and duration of the economic activity)⁵. This limit is linked to public planning documents (e.g. Water Resources Management Plans) prepared by CAR-Cundinamarca. They are statutory instruments that must be followed.

Are environmental flows clearly defined? No.

- However, in the present an ongoing process is being developed to generate a document of technical support that includes criteria, guidelines, and general procedures for the definition of environmental flows in different types of projects (environmental licensing, flow ordering).

Are there arrangements to deal with impacts of climate change? Yes.

- Formulation of the document prepared by the National Committee for Economic and Social Policy (CONPES 3451, 2006) which establishes policy guidelines to recover and conserve the ecosystem of the Fúquene, Cucunubá and Palace lagoons.
- Update of the Arrangement and Management Basin Plan of Ubaté-Suárez, incorporating risk management components and conditions of climate variability.

What is the status of resource pool? Over-used.

- Taking into account the existence of an irrigation district with about 6,000 users and multiple applications, the use of water is subject to weather conditions, associated with high rates of illegal use, results in conflicts during dry times. Measures to address illegal use include the environmental authority moving forward on the process to legalise the use of water resources, in order to allow a better allocation of flows according to weather conditions.

Factors taken into account in the definition of the available resource pool

Factor	Taken into account?	If taken into account, how?
Non-consumptive uses (e.g. navigation, hydroelectricity)		There are no non-consumptive uses in the basin.
Base flow requirements	✓	Accounted for in determining the available water supply and the needs of other users in the basin, especially municipal aqueducts and irrigation districts of Fúquene and Cucunubá.
Return flows (how much water should be returned to the resource pool, after use)		
Inter-annual and inter-seasonal variability	✓	Weather conditions determine the available amount to users throughout the year.
Connectivity with other water bodies	✓	The availability of the resource downstream determines the hydrological conditions for groundwater.
Climate change	✓	In terms of extreme events by drought or floods.

Entitlements to use water

Definition of entitlements	Characteristics of entitlements
Are entitlements legally defined? Yes.	If the entitlement is not used in a given period, the entitlement will be lost (e.g. "use it or lose it").

⁵ Note: according to the way in which the environmental authority manages water, the concession in some cases is subject to a % of the supply flow.

Are private entitlements defined? No, as the Colombian Legal System (Decree 2811, 1997) establishes that the domain and water use is of public domain, with the sole exception of watersheds that begin and finish within the same inheritance belonging to the owners of the banks (Decree 1541, 1978). Collective entitlements (to an institution representing water users (e.g. associations and community enterprises)) can be granted, allocating water among individual users within a group of users proportionally to satisfy their needs.

Nature of entitlement: Defined as purpose that water may be used for, maximum area that may be irrigated, maximum volume that may be taken in a nominated period and proportion of any water allocated to a defined resource pool⁶. in accordance to Decree 2811 (1974) article 51, the right to use renewable natural resources can be acquired by "Ministry of Law"⁷, permission, concession and/ or association.

Period granted for: according to article 60 of Decree 2811 (1974), depends on the nature and length of economic activity and the need to make the respective exploitation economically profitable and socially beneficial. Moreover, article 39 Decree 1541 (1978) states concessions will be granted for a term not to exceed ten (10) years, except for those intended to provide public services or the construction of public or social interest that may be issued for periods up to fifty (50) years.

Return flow obligations: According to Decree 1541 of 1978, article 62, the competent environmental authority sets in each of the resolutions water concessions obligations relating to water use and environmental preservation, to prevent deterioration of water resources also referred to in Article 23 of Decree-Law 2811 of 1974.

Are entitlements differentiated based on the level of security of supply (or risk of shortage)? Yes. Taking into consideration minimum environmental flows and water quality, availability of net water supply (which is necessary to calculate the shortage index) is obtained to inform the necessary total water supply.

Is there a possibility to trade, lease or transfer entitlements? Yes, according to article 50 of Decree 1541 (1978) rights can be transferred totally or partially with prior authorization. However, the competent environmental authority, may deny it when reasons of public utility or social interest deem appropriate.

Type of users not required to hold a water entitlement to abstract water: according to article 53 of Decree 2811 (1974), all inhabitants of the national territory do not need permission and have the right to use free of charge and non-exclusively natural resources of public domain, to meet their basic needs, their families' and their animals for domestic use, not violating legal provisions or rights of third parties.

Requirements to obtain a new entitlement or to increase the size of an existing entitlement: conditional on assessment of third party impacts, environmental impact assessment (EIA), existing user(s) forgoing use and definitions provided in planning instruments (e.g. River Basin Management Plans, Water Resources Management Plans, Watersheds and Aquifer Environmental Management Plans).

⁶ Note: depending on the use it is intended to give to the resource, the corresponding administrative act regulates the conditions, rights and obligations of the user or users, in accordance with legal provisions on this matter.

⁷ Ministry of Law refers to "all the inhabitants of the nation, without needing permission, have right to use free of charge and non-exclusively natural resources of public domain, to meet their basic needs, their families' and their animals for domestic use, not violating legal provisions or rights of third parties".

Abstraction charges

User category	Abstraction charge?	Basis for charge	Reflects water scarcity?
Agriculture	✓	Decree 155 (2004) regulates charges on surface waters, considering estuary waters and groundwater (including coastal aquifers). Maritime waters are not subject to charges.	✓
Domestic	✓		✓
Industrial	✓		✓
Energy production (not including hydro power)	✓		✓
Hydro power	✓		✓
Other. Specify:	✓		✓

How pricing arrangements reflect scarcity: [resolution 865 \(2004\)](#) indicates the methodology adopted for the calculation of the index of scarcity for surface water referred in Decree 155 (2004) and other provisions.

Dealing with exceptional circumstances

Distinction between the allocation regimes used in “normal” and extreme/severe water shortage times? Yes.

How is the amount of water made available for allocation adjusted: granted volumes depend on the particularities of each case and as set in the respective administrative acts through which the concessions is given.

Definition of “exceptional” circumstances: according to the technical reports granting the concession. If not defined and in case of any extreme situation, the competent environmental authority is empowered to designate transitional measures to face the problem, restricting applications or consumption temporarily; it can establish turns to use water or distribute percentages of usable flows.

Legal bodies declaring the onset of “exceptional” circumstances: the competent environmental authority. Stakeholders are not involved in the process.

Pre-defined priority classes



Monitoring and enforcement

Responsible authority: the competent environmental authority and the Institute for Hydrological, Meteorological and Environmental Studies (IDEAM).

Types of withdrawals monitored: agriculture, domestic, industrial, energy production, and environment.

Monitoring mechanisms: according to article 199 of Decree 1541 (1978) "all collection or delivery of water shall be supplied with measuring devices or other elements that permit at any time establish the amount derived as well as consumed; the plans referred to in this title shall include such appliances or items".

Sanctions: Act 1333 (2009), institutes an environmental penalty regime for violation of environmental laws or environmental damage.

Conflict resolution mechanisms? Yes. The Ministry of Environment and Sustainable Development is charged with resolving environmental discrepancies between entities for the use, management and exploitation of renewable natural resources. If not, disputes will be resolved in courts. Moreover, article 79 of the Constitution of Colombia, empowers the community to take part in decisions that affect it. Similarly, Decree 1640 (2012), establishes basin councils to represent and advice all actors who live and develop activities within the basin to “contribute with alternative solutions in processes of conflict management related to the formulation or adjustment of the River Basin Management Plan and the management of the renewable natural resources of the basin”.