

AGRICULTURE AND WATER POLICIES: MAIN CHARACTERISTICS AND EVOLUTION FROM 2009 TO 2019¹

CHILE

This country profile reviews recent changes in agriculture and water policies. The content of the profile is based on a survey conducted in 2019 by the OECD Secretariat² and additional official sources.

A. Agriculture and Water Characteristics

- Chile's agriculture mainly produces fruit, vegetables, cereals, dairy and livestock (OECD, 2020c). The share of livestock in the total agricultural production has also remained steady between 2000 and 2018 at around 31% (OECD, 2020c).
- Agriculture accounted for 83% of total water abstractions in 2006 (FAO, 2020). The share of irrigated land in the total agricultural area has remained stable between 2000 and 2018, at 7% (OECD, 2020c). In 2013, Chile had one of the highest irrigation water application rates in the OECD (OECD, 2016).
- The increased use of fertilisers and pesticides in Chile poses risks to soil and water, and provokes large agricultural runoff which result in nutrients contamination and eutrophication of coastal lakes, wetlands and estuaries³ (OECD, 2016).

Table 1. Main challenges related to water in agriculture

Water use +++	Water pollution ++	Water-related risks ++/+++
In 2013, Chile had one of the highest irrigation water application rates in the OECD. Illegal water abstractions exist at the national level, but they are more important in areas facing water scarcity	Key pollutants from the agricultural sector are nutrients in the central and south area, (phosphorus and nitrates) and pollution discharges	Chile is subject to increasingly intense droughts. In 2019, the south-central part of Chile experienced the country's most severe drought of the last 100 years ⁴

Note: +: Minor issue; ++: Problematic issue; +++: Major issue. Source: OECD (2016, 2019, 2020c).

¹ This document, as well as any data included herein, are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

² For more details, Gruère, G., M. Shigemitsu and S. Crawford (2020), "Agriculture and water policy changes: Stocktaking and alignment with OECD and G20 recommendations", *OECD Food, Agriculture and Fisheries Papers*, No. 144, OECD Publishing, Paris, <http://dx.doi.org/10.1787/f35e64af-en>.

³ In general, little information is available in Chile on water abstraction and use as well as nutrient balances because water quality monitoring stations often collect data on only a few parameters (OECD, 2016).

⁴ Water scarcity and pollution are particularly high in the regions where mining and agriculture are concentrated (the north and central regions, respectively).

B. Key Agriculture and Water Policies & Main Evolution from 2009 to 2019⁵

B.1. Cross-Cutting Agriculture and Water Policies & Governance

Table 2. Key agriculture and water policies and policy changes

Key Policies	<p>Since 1981 of the adoption of the Water Code, the allocation and use of water resources are based on a tradable water-use rights system. The Water Code was reformed in 2005 in order to strengthen regulation on groundwater management and set minimum flow requirements for new water rights to preserve the resilience of water bodies. The General Water Directorate (DGA) allocates water-use rights (DAAs) to users upon request, free of cost and for life (they are inheritable). Water-use rights, which are separate from land titles, can be freely traded.</p> <p>The Water Code allows all users to own water entitlements, including farmers, agroindustry companies, urban water suppliers, rural water systems, mining companies, industrial companies and municipalities. Different institutions are in charge of water allocation, water quality and pollution, regulation of water utilities, irrigation and water ecosystems. Chile has neither river basin institutions nor a system of river basin water quality planning.</p> <p>Chilean agricultural policies focus mainly on the provision of key services for the sector, such as investments in infrastructure for the expansion and improvements of the irrigation systems.</p>
Main Evolution from 2009 to 2019	<ul style="list-style-type: none"> ▶ The creation and assignment of more resources to works above USD 600 000. It enables to close the gap between the minor works implemented through Law 18.450 and the major works constructed by the Ministry of Public Works through the Law of public investment in irrigation infrastructure (Decree of Law N° 1.123) and the Law of public private partnerships (Supreme Decree N° 900). ▶ A special programme focus on small farmers. This program allows to focus the investments of the very small farmers to give them more capacities to use the water in a sustainable way.
Consistency between Agriculture and Water Policies	More resources were made available for medium works and small farmers irrigation projects.

B.2. Policies to Manage Agricultural Water Use (Quantity)

Table 3. Key instruments for the management of water use

<p>Quantified national future targets for the use of water resources in the agriculture sector</p> <p>Yes: Increase technological irrigation systems (without an established goal)</p>	<p>Metering, monitoring and reporting</p> <ul style="list-style-type: none"> ▶ Implementation of the National Agroclimate Network (RAN) ▶ <u>The Agromet portal is information related to the climate and its effect on th3e different productive processes</u> ▶ <u>In 2018, the water law was modified in order to require all users using sensors with online reports to meter and report water extraction level</u>
<p>Quantity targets accounting for climate change</p> <p>Yes</p>	<p>Enforcement mechanisms</p> <p><u>Since 2018, the Water law was modified to increase enforcement faculties to DGA. DGA uses a software for data analysis and to take necessary actions</u></p>
<p>Water entitlements</p> <ul style="list-style-type: none"> ▶ Surface and groundwater: Private Property Rights ▶ DGA allocates the rights at the national level 	<p>Scarcity pricing</p> <p>System of tradable water-use rights since 1981</p>
<p>Proportion of cost recovery</p> <ul style="list-style-type: none"> ▶ The Government applies a charge on water use which is implicitly included in the land tax, because irrigated land has a higher value than non-irrigated land ▶ The User Water Organizations operate and maintain the distribution infrastructure, and the associates pay a fee for these services 	<p>Other policy instruments used to encourage water use efficiency</p> <p>Subsidies of cost recovery for groundwater use (for minor works and for projects for recharging aquifers, implemented by Law 18.450; It allows to recover a minimum of 10% for small farmers and 20% for medium and bigger farmers.)</p>

Note: Underline indicates changes since 2009

⁵ Agriculture and water policies are defined here as all policies that affect the interaction between agriculture production and water.

B.3. Policies to Control Agricultural Water Quality

Since 2011, Chile has adopted secondary (designed for ecosystem protection) surface water quality standards, mostly for nitrogen and phosphorus compounds (eutrophication being an important issue), but only for four river basins (out of 14 significant ones) and two lake catchments.

Table 4. Key instruments to improve water quality

National water quality data collection tools <i>Unspecified</i>	Main policy instruments Regulatory: Supreme Decree N° 90, Decree in Force of Law N° 725, Official Irrigation Standard N° 1.333
Spatial tools (e.g. topological, geometric, or geographic data analysis) to target policies in specific areas <i>Unspecified</i>	Enforcement measures <i>Unspecified</i>

B.4. Policies to Manage Climate-Induced Water Risks

In 2013, the Plan for Adaptation to Climate Change in the Forestry and Farming Sector was launched by the Ministries of Agriculture and Environment. The plan's 21 measures for adapting to climate change are oriented primarily towards (i) water management, (ii) research, information and training, (iii) management of agricultural crops and forests, and (iv) risk management and insurance.

Table 5. Water risks and responses

	Droughts	Floods
Reported Trends	In the last 10-12 years, the incidence and severity of droughts has increased (Chile had the most severe drought of the last 100 years in 2019).	Between 2009 and 2019, the number of major floods in the country has increased, particularly in the northern regions which are drier.
Key Policies	Support payments. The government has a protocol to define drought and activate support instruments. The protocol include a technical brief from the region based on the Standardized Precipitation Index (SPI)	Emergency resources are available when a Catastrophe or Emergency Decree is enacted by the government
Main Changes from 2009 to 2019	-	-
Factoring of Climate Change in Policies	2/5: Measures and instruments concerning water resource use related to agriculture are related to climate change adaptation, but as a complementary objective. Through Law 18.450 and the construction of major dams, the Government has the goal to improve the water use efficiency and enhance the management practices to deal with climate change challenges.	

Bibliography

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