

# AGRICULTURE AND WATER POLICIES: MAIN CHARACTERISTICS AND EVOLUTION FROM 2009 TO 2019<sup>1</sup>

## SWITZERLAND

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 Secretariat<sup>2</sup> and additional official sources.

### A. Agriculture and Water Characteristics

- Switzerland's agriculture mainly produces cereals, milk, eggs and cattle. **Livestock** represented 54% of the total agricultural production in 2018 (OECD, 2020c).
- Agriculture accounted for 8% of total water abstractions in 2012 (FAO, 2020). Swiss agriculture is largely rain-fed, and irrigated lands represent 2% of the agricultural land (OECD, 2020c).
- Nutrient surpluses have declined substantially in the 1990s, notably for phosphorus, but have remained stagnant since the 2000s. Pollution from fertilisers and pesticides used in agriculture continues to pose a significant threat to inland water sources: eutrophication affects water quality in many lakes (OECD, 2017). The nitrogen balance has slightly increased between 2000 and 2017 from 61 to 66 kg/ha, whereas the phosphorus balance has remained stable at 3 kg/ha during the same period (OECD, 2020a).

**Table 1. Main challenges related to water in agriculture**

Water use +	Water pollution ++	Water-related risks +
Switzerland has abundant water resources. Agricultural water abstractions represent 8% of total water abstractions	Key pollutants from the agricultural sector are nitrogen, phosphorus and plant protection products	Switzerland has recently experienced droughts

Note: +: Minor issue; ++: Problematic issue; +++: Major issue. Source: OECD (2017, 2019, 2020c).

<sup>1</sup> 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.

<sup>2</sup> 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>.

## B. Key Agriculture and Water Policies & Main Evolution from 2009 to 2019<sup>3</sup>

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

**Table 2. Key agriculture and water policies and policy changes**

<p><b>Key Policies</b></p>	<p>The 1991 Waters Protection Act (WPA) aims at safeguarding water quality, maintaining adequate residual flows and preventing harm to waters. A 1998 ordinance to the WPA lays down the main rules for water quality preservation, outlining protection measures and governing residual flows and sewage treatment.</p> <p>The 1998 Federal Act on Agriculture (AgricA) requires the Confederation to ensure that the agricultural sector makes a significant contribution towards among others the reliable provision of the population with foodstuffs and preserving natural resources through sustainable and market-orientated production. According to AgricA, the proof of ecological performance (PEP) are fulfilled by nearly 99% of the farmers which conduct a balanced use of fertilizers, an adequate proportion of land set aside for biodiversity, regular crop rotation, appropriate soil protection and specific choice and application of plant protection products.</p> <p>In 2008, the Federal Office of Agriculture and Federal Office for the Environment have set environmental objectives for agriculture.</p>
<p><b>Main Evolution from 2009 to 2019</b></p>	<p>With the reform 2014-17, the Confederation set intermediate agri-environmental targets for 2021 (from a 2007/09 baseline), including reducing nitrogen/phosphorus surpluses by 17%/31% and ammonia emissions by 16%, increasing nitrogen/phosphorus efficiency by 4%/9%, and dedicating a minimum of 65 000 ha biodiversity promotion area (BPA) in the plain region, 40% of BPA with biological quality and 50% in network projects. To achieve the targets:</p> <ul style="list-style-type: none"> <li>▶ Direct payments for the efficient use of resources are paid to promote the sustainable use of resources such as soil, water and air, as well as to improve efficiency with regard to the use of production means.</li> <li>▶ Direct payments to regional and branch-specific projects aimed at improving sustainability in the use of natural resources (projects covering water-relevant issues were launched after 2009).</li> <li>▶ Action Plan for the reduction of risk of the use of plant protection product</li> </ul> <p>Since 2011, the Confederation and the cantons have jointly run the National Surface Water Quality Monitoring Network (NAWA) to evaluate water body quality on a national level.</p>
<p><b>Consistency between Agriculture and Water Policies</b></p>	<p>The article 62a of WPA states that within the limits of the approved credits (for direct payment for agriculture), the Confederation shall grant compensatory payments for measures in agriculture to prevent washing away or leaching of substances.</p>

<sup>3</sup> Agriculture and water policies are defined here as all policies that affect the interaction between agriculture production and water.

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

Table 3. Key instruments for the management of water use

<p><b>Quantified national future targets for the use of water resources in the agriculture sector</b></p> <p>No</p>	<p><b>Metering, monitoring and reporting</b></p> <ul style="list-style-type: none"> <li>▶ Metering: Partially</li> <li>▶ Monitoring: Partially</li> <li>▶ Reporting: No</li> </ul> <p>Cantons have data on quantitative use, but the data are not centralised</p>
<p><b>Quantity targets accounting for climate change</b></p> <p>No</p>	<p><b>Scarcity pricing</b></p> <p><i>Unspecified</i></p>
<p><b>Water entitlements</b></p> <p>The Cantons and communities have sovereignty on water rights and they can limit or prohibit abstractions in dry periods. The use of permits varies depending on fixed or mobile irrigation installations</p>	<p><b>Enforcement measures</b></p> <p><i>Unspecified</i></p>
<p><b>Proportion of cost recovery for surface water</b></p> <p><i>Unspecified</i></p>	<p><b>Other policy instruments used to encourage water use efficiency</b></p> <ul style="list-style-type: none"> <li>▶ Water supply cost recovery, Farm advice and research</li> <li>▶ Upgrading irrigation facilities</li> </ul>

## B.3. Policies to Control Agricultural Water Quality

Table 4. Key instruments to improve water quality

<p><b>National water quality data collection tools</b></p> <ul style="list-style-type: none"> <li>▶ National Groundwater Monitoring (NAQUA)</li> <li>▶ National Surface Water Quality Monitoring (NAWA)</li> <li>▶ Cantonal Data</li> <li>▶ Monitoring on water quality in the framework of regional and branch-specific projects aimed at improving sustainability in the use natural resources</li> <li>▶ <u>The national network for observing surface water quality has been improved since 2009</u></li> </ul>	<p><b>Main policy instruments</b></p> <ul style="list-style-type: none"> <li>▶ <i>Regulatory</i>: Approval of plant protection products and corresponding enforcement measures</li> <li>▶ <i>Economic</i>: subsidies are paid to promote the sustainable use of resources such as soil, water and air, as well as to improve efficiency with regard to the use of production means, for example farm practices that reduce the risk associated with plant protection product are encouraged</li> <li>▶ <i>Information</i>: National Groundwater Monitoring (NAQUA), National Surface Water Quality Monitoring (NAWA), and extension services on the canton level</li> </ul>
<p><b>Spatial tools (e.g. topological, geometric, or geographic data analysis) to target policies in specific areas</b></p> <ul style="list-style-type: none"> <li>▶ No specific tool, although <u>the recent modification of the Federal Constitution of the Swiss Confederation suggests that locally customised agri-environmental policies could be developed (Article 104 on agriculture was complemented with 104a on food security, stating that food production should be adapted to local conditions and use natural resources efficiently)</u></li> <li>▶ <u>For 2025 the possibility of implementing regional strategies that will integrate site-specific agri-environmental policies is being investigated</u></li> </ul>	<p><b>Enforcement measures</b></p> <ul style="list-style-type: none"> <li>▶ Approval of plant protection products</li> <li>▶ Action Plan for the reduction of risk of the use of plant protection product</li> </ul>

Note: Underline indicates changes since 2009

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

**Table 5. Water risks and responses**

	Droughts	Floods
<b>Reported Trends</b>	No evidence of a trend, but recent drought events have triggered investment in irrigation infrastructure.	-
<b>Key Policies</b>	Support for irrigation facilities to address water scarcity problems. Some farmers are adapting cropping systems to grow less water demanding crops.	Investment support for conservation and maintenance of small water courses to help control floods, and compensation for farmland used for flood prevention.
<b>Main Changes from 2009 to 2019</b>	In 2014, the Federal Council approved the second phase of its National Climate Change Adaptation Strategy, as well as an action plan for 2014-19 including water management measures such as multipurpose reservoirs, adequate space for the rivers and river rehabilitation.	-
<b>Factoring of Climate Change in Policies</b>	3/5: Climate change research includes specification of need for additional irrigation, and shifts in regional water balances. The Federal Council has adopted the first component of its National Climate Change Adaptation Strategy in 2012.	

## Bibliography

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