AGRICULTURE AND WATER POLICIES: MAIN CHARACTERISTICS AND EVOLUTION FROM 2009 TO 2019[1]

SLOVAK REPUBLIC

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[2] and additional official sources.

A. Agriculture and Water Characteristics

- Slovak Republic's agriculture mainly produces cereals, non-food crops and forage plants (Eurostat, 2019).
- Agriculture accounted for 5% of total water abstractions in 2018 (OECD, 2020b). Agriculture is largely rain-fed, so the use of irrigation is limited, accounting for 1% of the total farmland area, mainly for horticulture. Most water for irrigation is drawn from surface waters (OECD, 2011).
- In some regions, **agriculture runoff pollution** is a concern, especially in western Slovakia, as there has been a rise in surpluses of nitrogen due to a growing use of nitrogenous fertiliser since 1999 (OECD, 2011). In 2018, the most significant pressures on surface water remain diffuse agriculture, with 33% of surface water bodies affected. Nutrient pollution affects 13% of river water bodies (European Commission, 2019). The nitrogen balance decreased between 2000 and 2017 from 45 to 27 kg/ha, and the phosphorus balance went down from 0 kg/ha to -6 kg/ha during the same period (OECD, 2020a).

Table 1. Main challenges related to water in agriculture

Water use	Water pollution	Water-related risks
+	++	++
Slovakia has abundant water resources. Agricultural water abstractions represent 5% of total water abstractions	Key pollutants from the agricultural sector are nutrients that are both directly discharged into water bodies and diffuse pollution by run off	Slovakia is frequently affected by damaging floods. The issue of drought has also become problem

Note: +: Minor issue; ++: Problematic issue; +++: Major issue. Source: European Commission (2019), OECD (2011, 2019).

[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.

B. Key Agriculture and Water Policies & Main Evolution from 2009 to 2019[3]

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

Table 2. Key agriculture and water policies and policy changes

Key Policies	The existing EU legislation imposes a protective framework with standards for all water bodies in EU countries and addresses specific pollution sources, including agricultural pollution. The three main directives involved are the Water Framework Directive (WFD) (2000/60/EC) (on water resources management), the Nitrates Directive (91/676/EEC) and the Floods Directive (2007/60/EC). The 2004 Water Act[4] transposed the WFD and other relevant water related EU directives into national law. Since 2010, River Basin Management Plans (RBMPs) have been developed (Danube and Vistula) in 6-years planning cycles and measures identified to achieve good water quality status. About 60% of Slovakia's farmland is designated as a Nitrates Vulnerable Zone, and the 2004 Water Act was amended in 2006 to set more stringent technical requirements (e.g. regarding manure storage and application) to reduce water pollution in these areas.
Main Evolution from 2009 to 2019	► In 2010, the Water Plan of the Slovak Republic was adopted. The Plan covered RBMPs for two river basin districts, the Danube and the Vistula. It aimed to achieve the comprehensive protection of water quality and water availability throughout the country in line with WFD requirements. Within the frame of the 2nd cycle of RBMP planning, the Water Plan of the Slovak Republic, updated in 2015, was adopted in 2016 and the implementation of set up measures in this plan are ongoing. Since 2018, the steps necessary for the preparation for 3rd management cycle (2022-2027 planning period) are undertaken.[5] ► Nitrate Vulnerable Zones are re-evaluated each 4-years. Since 2009, the methodology for vulnerable zone revision and designation was improved. The last reassessment of the zones was carried out in 2016 and 1 344 Nitrite Vulnerable Zones were designated in 2017. In comparison with previous period, this number represents a reduction NVZ - The main reason for the reduction was documented in particular very low concentrations of nitrates in monitored facilities located in the zones, as well as reporting a long-term declining or stable trend of nitrate development in monitoring facilities. ► The monitoring network of Nitrate Vulnerable Zone has densified, improving the water quality and quantity monitoring. The monitoring is executed in line with Framework water monitoring program for Slovakia for the period 2016-2021, which is annually supplemented as needed. ► Monitoring of water quality (irrigation and drainage water) through annual research monitoring. ► In order to protect waters from pollution from agricultural sources, agricultural entities operating in defined vulnerable areas are obliged to comply with defined management conditions. Since 2009, actions programs relevant for vulnerable zones and management conditions were re-evaluated with aim to protect water and environment in more efficient way. Since 2016 the management condition were incorporated to the Fertilizers Act. The control of the fulfilment of the management conditions by the affected farmers is performed by the Central Agricultural Inspection and Testing Institute. ► Continuous implementation of the Code of Good Agricultural Practice - Protection of waters against nitrate pollution from agricultural sources, the Code of Good Agricultural Practice for Soil Protection and the Code of Good Use of Fertilizers, which were adopted in the Slovak Republic in 2001 as a one of the first tools for fulfilment the EU requirements in the field of agriculture and water protection.
Consistency between Agriculture and Water Policies	► Water tariff for irrigation ► The several strategic and planning documents facilitated consistency between water and agriculture: • Water Plan of the Slovak Republic (adopted in 2010) • Concept of agricultural development of the Slovak Republic for the years 2013-20 (adopted in 2013) • Rural Development Program of the Slovak Republic 2014-20 (adopted in 2014) • Slovak Republic Water Management Policy by 2027 (adopted in 2015) • Water Plan of the Slovak Republic – updating 2015 (adopted in 2016) • Concept of implementation of Agenda 2030 in the international environment (adopted in 2017) • Action plan to address the consequences of drought and water scarcity (adopted in 2018) • Strategy for the Adaptation of the Slovak Republic to Climate Changes (adopted in 2018) • Strategy of the Environmental Policy of the Slovak Republic until 2030 (adopted in 2019)

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

[4] No. 364/2004

[5] The last update of RBMP for Danube and Vistula basins was available for public consultations in December 2020. The adoption is anticipated in December 2021.

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

Table 3. Key instruments for the management of water use

Quantified national future targets for the use of water resources in the agriculture sector No	**Metering, monitoring and reporting** ► Dataflow defined under Water Act No. 364/2004 Coll. ► Water monitoring in line with Framework Water Monitoring Program for Slovakia for the Period 2016-2021 and its annual supplements ► Data collection and reporting via Central Water Register ► Data reported in yearly books of Slovak Hydro-meteorological Institute, the State of Environment Reports and other relevant reports, on-line available data and information.
Quantity targets accounting for climate change No	**Scarcity pricing** *Unspecified*
Water entitlements Water is a state property according to the Constitution of Slovak Republic	**Enforcement measures** ► Water Act No. 364/2004 Coll. ► Conditions specified in water abstraction permits ► Controls carried out by water inspectorate with penalties
Proportion of cost recovery for surface water *Unspecified*	**Other policy instruments used to encourage water use efficiency** Pillar 2 of the Common Agricultural Policy (CAP), calls on irrigation systems reconstructions and repairs

Note: Underline indicates changes since 2009

B.3. Policies to Control Agricultural Water Quality

Table 4. Key instruments to improve water quality

National water quality data collection tools ► Annual monitoring of nutrients and heavy metals in irrigation and drainage water ► Annual water quality and quantity monitoring in line with monitoring programme. ► Central Water Register	**Main policy instruments** ► Water Act No. 364/2004 Coll. ► Water Plan of the Slovak Republic – updated in 2015 (Danube River Basin Management Plan and Vistula River Basin Management Plan)
Spatial tools (e.g. topological, geometric, or geographic data analysis) to target policies in specific areas ► Commonly available GIS tools used in different internal information systems of relevant institutions ► National Geoportal and INSPIRE Geoportal	**Enforcement measures** ► Water Act No. 364/2004 Coll. ► Conditions specified in water discharging and water use permits ► Controls carried out by water inspectorate with penalties

Note: Underline indicates changes since 2009

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

Table 5. Water risks and responses

	Droughts	Floods
Reported Trends	The increasing incidence of droughts is leading to higher costs for agriculture.	Increasing incidence of floods events.
Key Policies	Support for irrigation infrastructure, CAP policy, water retention measures.	In 2004, Slovakia adopted an action programme for sustainable flood protection in the Danube basin to manage flood risk so as to protect human life and property.
Main Changes from 2009 to 2019	► Action plan to address the consequences of drought and water scarcity (2018) ► Strategy for the Adaptation of the Slovak Republic to Climate Changes (2014, 2018).	In 2010, Slovakia adopted the Flood Protection Act, transposing the 2007 EU Directive on Assessment and Management of Flood Risks. In addition, Slovakia adapts ► Preliminary flood risks assessment (2012, 2018) ► Flood hazard maps and flood risk maps (2013) ► Flood Risk Management Plans (2015) ► Strategy for the Adaptation of the Slovak Republic to Climate Changes (adopted in 2018).
Factoring of Climate Change in Policies	Not estimated	

Note: Underline indicates changes since 2009

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