

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

HUNGARY

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

- Hungary's agriculture mainly produces cereals, poultry and oilseeds, which altogether accounted for about half of Hungary's total output value in 2018 (Eurostat, 2019).
- Agriculture accounted for 12% of total water abstractions in 2017 (FAO, 2020) whereas irrigated lands represented 2% of the Hungarian agricultural area in 2019 (European Commission, 2019).
- The most significant pressures on surface water bodies are physical alteration of water bodies due to agriculture (with 41% of surface water bodies being affected) and diffuse agricultural pollution (36% of surface water) (European Commission, 2019). In Hungary, the nitrogen balance has decreased between 2000 and 2017 from 40 to 33 kg/ha, whereas the phosphorus balance fluctuated between -3 kg/ha and 4 kg/ha over the same period (OECD, 2020a).

Table 1. Main challenges related to water in agriculture

Water use	Water pollution	Water-related risks
+	++	++
Agricultural water abstractions represent 12% of total water abstractions	Key pollutants from the agricultural sector are nutrients (nitrogen, phosphorus), pesticides, organic matter and suspended solids (e.g. from fishponds)	Hungary is frequently faced with major water imbalances because of droughts and floods

Note: +: Minor issue; ++: Problematic issue; +++: Major issue. Source: Eurostat (2019), FAO (2020), OECD (2018, 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 2019³

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

Table 2. Key agriculture and water policies and policy changes

<p>Key Policies</p>	<p>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).</p> <p>The National Water Strategy is the pillar of Hungary's water, irrigation and drought management policy. It was revised in 2017. It aims at integrating agriculture and nature conservation issues into water resources management, as well as developing climate change adaptation measures. The Fourth National Environmental Programme (NEP) for 2015-20 includes objectives for conservation of water resources and prevention of water pollution. In accordance with EU requirements, Hungary has developed one national river basin management plan (RBMP) for the Danube River Basin, covering the whole country.</p>
<p>Main Evolution from 2009 to 2019</p>	<ul style="list-style-type: none"> ▶ Since 2014, the Ministry of Interior has been responsible for water management and water protection. The responsibility of the Ministry of Agriculture is limited only on issues relating to agriculture and irrigation development. ▶ The Hungarian government set the goal to develop irrigation in the country and to increase irrigated area significantly. Since 2017, several Government Decisions concerning irrigation and water management were made. ▶ In 2017, water abstraction charges were extended to all uses, including agriculture.
<p>Consistency between Agriculture and Water Policies</p>	<p>The consistency between water and agriculture policies is ensured through the development of the water price policy which re-established the water resource fee for water use in the agricultural area in 2017. There is also a new legislation concerning the unified methodology calculating the cost of agricultural water services.</p>

³ 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>Quantified national future targets for the use of water resources in the agriculture sector</p> <p>Yes: Hungary set the aim to significantly increase the irrigated area, by 100,000 hectares by 2024, mainly from <u>surface water</u></p>	<p>Metering, monitoring and reporting</p> <ul style="list-style-type: none"> ▶ <u>Metering: Yes, since 2010, agricultural water users are required to meter water extraction, In 1 October 2016, accepted metering methods were also regulated</u> ▶ <u>Monitoring: Yes, mainly based on the WFD requirement</u> ▶ <u>Reporting: Yes, farmers have to pay for the abstracted water and report the water use</u> <p><u>The second River Basin Management Plan 2015 contains quantitative status assessments of surface and groundwater bodies, including the environmental flow to be maintained in rivers.</u></p>
<p>Quantity targets accounting for climate change</p> <p>Yes: Irrigation is considered as an adaptation method for agricultural areas, and it has to take into consideration the ecological and quantitative status of the water bodies, and the programme of measures of the 2nd RBMPs</p>	<p>Scarcity pricing</p> <ul style="list-style-type: none"> ▶ Yes: According to the Article 9 (“resource cost”) of the WFD, <u>a new “pressure multiplier” was introduced in 2017 for groundwater bodies where the quantitative status is at risk or already at bad condition, and quantitatively poorer status or potentially less than “good” for surface water bodies</u> ▶ <u>Since 1 January 2017, in case of above mentioned water bodies, users have to pay 20% higher water resource fee, because of using the pressure multiplier. If a user makes a water saving investment on a water body at risk or less than “good” quantitative conditions, they are exempted from the extra 20% payment for three years</u>
<p>Water entitlements</p> <ul style="list-style-type: none"> ▶ Under Water Management Act, water licences needed for all water using activities, and approval for building any irrigation infrastructure. ▶ Water permits (licenses) are issued by the Regional Water Authorities, based on the Regional Water Directorate’s assessment of the quantitative and ecological status of both surface and groundwater bodies ▶ <u>New licenses for irrigation from groundwater are issued for water saving technologies (e.g. drip irrigation) only</u> 	<p>Enforcement measures</p> <p><i>Unspecified</i></p>
<p>Proportion of cost recovery for surface water</p> <ul style="list-style-type: none"> ▶ The cost recovery of agricultural water services was 78% in 2012 and 115% in 2013 ▶ <u>The water pricing policy has changed in 2016; for surface waters, the water charge concerning the water service has also changed. According to the new legislation, the economic analysis of agricultural water use is ongoing in 2019.</u> 	<p>Other policy instruments used to encourage water use efficiency</p> <ul style="list-style-type: none"> ▶ Subsidies for construction and renewal of irrigation infrastructure are conditional on meeting water and energy saving criteria ▶ Water supply cost recovery & Farm advice and research

Note: Underline indicates changes since 2009

B.3. Policies to Control Agricultural Water Quality

Hungary set water quality objectives in the national RBMP for all sectors. The environmental objectives are also set at the water body level.

Table 4. Key instruments to improve water quality

<p>National water quality data collection tools</p> <ul style="list-style-type: none"> ▶ Ecological and chemical monitoring according to EU WFD ▶ <u>The integration of regulations of 'Sustainable use of pesticides' directive into WFD monitoring is ongoing</u> ▶ Remote sensing ▶ Real-time sensing ▶ Modelling (e.g. MONERIS model: diffuse pollution modelling) ▶ National databases (chemical, biological data) 	<p>Main policy instruments</p> <ul style="list-style-type: none"> ▶ <i>Regulatory:</i> Environmental Protection Act, Water Management Act. <u>The methodology for designating Nitrate Vulnerable Zones (NVZ) was revised and NVZs significantly enlarged in 2013.</u> ▶ <i>Economic:</i> Agri-environment measures provide payments to farmers who subscribe to environmental commitments related to the preservation of the environment and maintaining the countryside. Compensation payments counterbalancing the regulations of agricultural-water-environmental and ecological farming, Natura 2000 and WFD are also available ▶ <i>Information:</i> Farm Advisory System (supported by the farm information service by the Hungarian Chamber of Agriculture), trainings, awareness raising for farmers
<p>Spatial tools (e.g. topological, geometric, or geographic data analysis) to target policies in specific areas</p> <p>Yes: agricultural pressures have been identified by using:</p> <ul style="list-style-type: none"> ▶ Land use map: CORINE (Coordination of Information on the Environment) Land Cover inventory (<u>updates were introduced in 2012 and 2018</u>) ▶ Topological map: hydroDEM 	<p>Enforcement measures</p> <ul style="list-style-type: none"> ▶ In case of non-compliance, the water authority imposes fine and farmers become ineligible for subsidies

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	In recent years, there has been a distinct rise in the incidence and severity of droughts, with a steady overall rise in the National Drought Index.	The incidence and severity of flooding has increased.
Key Policies	<p>Farmers may apply for investment support for irrigation development projects. In case of significant damages, farmers may receive damage mitigation compensation in the agricultural risk management system.</p> <p>A Drought Committee has been established to study the effects of climate change on agricultural production. Key elements of the National Climate Strategy (2008-2025) include retaining water storage on farmland, and wetland and aquatic ecosystem protection.</p>	<p>Support for flood water storage reservoirs (and irrigation) on low value agricultural land; and support for wetland eco-farming and extensive pasture in the flood plain area.</p> <p>National programme for developing infrastructure works for flood prevention, affecting agriculture and others implicated by flood risks.</p> <p>Relief support depends on the flood event and the total cost of damages.</p>
Main Changes from 2009 to 2019	-	-
Factoring of Climate Change in Policies	Not estimated: A Climate Change Strategy has been developed for 2008-2025, and a National Climate Action Programme is prepared every 3 years.	

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