

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

## NETHERLANDS

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

- Dutch agriculture mainly produces plants, flowers, milk, pigs and vegetables (Eurostat, 2019).
- In 2016, agriculture accounted for less than 1% of total water abstractions (FAO, 2020).
- Water quality is an important concern due to pollution by nitrates resulting from effluents of intensive livestock-rearing and dairy farming. The most significant pressures on Dutch surface water bodies come from **diffuse agricultural sources**, with 78% of surface water bodies affected and 52% of groundwater bodies (European Commission, 2019). Between 2000 and 2018, the nitrogen balance decreased from 258 to 187 kg/ha, and the phosphorus balance went down from 23 kg/ha to 2 kg/ha (OECD, 2020a).

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

Water use	Water pollution	Water-related risks
+	+++	+++
Agricultural water abstractions represent less than 1% of total water abstractions; illegal water abstraction is becoming more of an issue as groundwater levels are falling	Key pollutants from the agricultural sector are nutrients and pesticides	The country is vulnerable to flooding from both the sea and major rivers. The Netherlands was affected by a drought in 2018 and encountered problems with low groundwater levels in 2019

Note: +: Minor issue; ++: Problematic issue; +++: Major issue. Source: FAO (2020), OECD (2015, 2019).

<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 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 Bureau of Water Management operates under the Ministry of Transport and Water Management, and has overall responsibility for water management, with particular focus on flood control.</p>
<p><b>Main Evolution from 2009 to 2019</b></p>	<ul style="list-style-type: none"> <li>▶ In 2009, the Dutch Water Act was introduced in order to promote a more integrated approach in water management. This law integrated six separate acts related to water such as the “surface water protection law” and “groundwater protection law”.</li> <li>▶ The 2012 Delta Act established the Delta Programme, the Delta Commissioner and the Delta Fund. The Delta Plan for Agricultural Water Management (DAW) fosters cooperation between Dutch governmental organisations, Waterboards and the Dutch Federation of Agriculture and Horticulture. The objective is to 1) reduce ground- and surface water pollution caused by agricultural activities, 2) improve availability of freshwater for agricultural purposes and 3) improve agricultural production rates.</li> <li>▶ In 2017, a phosphate reduction policy was introduced to reduce the number of dairy cows in order to reach the required level of the phosphate production ceiling.</li> </ul>
<p><b>Consistency between Agriculture and Water Policies</b></p>	<p>Subsidies from the Common Agricultural Policy (CAP) were used to obtain reduction of diffuse sources from agricultural activities.</p> <p>The 4th, 5th and 6th Action Programmes based on the EU Nitrates Directive are dedicated to improving surface and groundwater quality in relation to the WFD. Due to the WFD, the monitoring of surface water has been improved, and measures have been taken to reduce the amount of nutrients and contaminants from agricultural activities.</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 specific target, but the general target is to reduce groundwater extraction by agriculture in areas with vulnerable ecosystems</p>	<p><b>Metering, monitoring and reporting</b></p> <p>Metering: Yes</p> <p>Monitoring: Yes</p> <p>Reporting: Yes</p> <p>All extractions (both for extractions where licences are mandatory and for extractions where licenses are not required) have to be metered and monitored (quantity and quality) under the responsibility of the entity that extracts the water</p>
<p><b>Quantity targets accounting for climate change</b></p> <p>No</p>	<p><b>Scarcity pricing</b></p> <p>No</p>
<p><b>Water entitlements</b></p> <p>Water withdrawals require a licence, but individual farmers have historical rights to extract water (up to a certain threshold for groundwater)</p>	<p><b>Enforcement measures</b></p> <p><u>Due to the drought in 2018, the enforcement capacity was strengthened</u></p>
<p><b>Proportion of cost recovery for surface water</b></p> <ul style="list-style-type: none"> <li>▶ There is no bookkeeping system to determine what the cost recovery rate is for the use of surface water allocation to farmers. However, for regional water quantity management as a whole, cost recovery rate is 100%</li> <li>▶ The amount charged to farmers is based on the value of their land (size, location, soil composition, land use, available infrastructure, proximity to suppliers etc.)</li> </ul>	<p><b>Other policy instruments used to encourage water use efficiency</b></p> <ul style="list-style-type: none"> <li>▶ Subsidies, Water supply cost recovery, Farm advice and research</li> <li>▶ Some Provinces allow groundwater withdrawals for farms only if they have a water plan</li> <li>▶ Subsidies are distributed through the Delta Programme, for which water saving techniques by farmers may apply</li> </ul>

Note: Underline indicates changes since 2009

## 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>▶ WFD monitoring programme (ecological and chemical)</li> <li>▶ Monitoring programme connected to the enforcement of permits (chemical)</li> <li>▶ Monitoring programme targeted on nitrate leaching from root zone of agriculture grounds since 1994</li> <li>▶ National Water Model (based on several water monitoring systems)</li> <li>▶ <u>Since 2009, regional programmes with farmers were started to raise awareness about diffuse pollution from agricultural activities</u></li> </ul>	<p><b>Main policy instruments</b></p> <ul style="list-style-type: none"> <li>▶ <i>Regulatory</i>: Permits, Fertiliser Act and connected regulations, which define the permitted levels of nitrogen and phosphate use (according to the type of soil and crop) by farmers and the way to handle and use manure and fertilisers, the Nitrate Action Programmes in combination with the DAW and WFD measures</li> <li>▶ <i>Economic</i>: <u>Animal production rights; Mandatory manure processing or export of manure (2014); Regulation of Sustainable and Land-based growth (2016); Introduction of phosphate rights for dairy cows (2018)</u></li> <li>▶ <i>Information</i>: Awareness programmes, DAW, Agricultural Nature Conservation Groups</li> </ul>
<p><b>Spatial tools (e.g. topological, geometric, or geographic data analysis) to target policies in specific areas</b></p> <p>For location-specific quality problems, the Netherlands uses customised solutions and policies by implementing WFD measures, the DAW (which uses spatial data) and other regional measures</p>	<p><b>Enforcement measures</b></p> <ul style="list-style-type: none"> <li>▶ Monitoring by the government</li> <li>▶ <u>Building awareness: advisory programmes sponsored by the government in cooperation with agricultural representatives</u></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>	2018 and 2019 were dry years; climate change projections foresee a considerable increase in droughts.	There is some evidence of an increase in the severity of floods.
<b>Key Policies</b>	The Delta Programme is the national planning instrument to respond to the country's challenges to water safety and freshwater supply. It applies measures for drought mitigation (among others for nature, inland shipping, drinking water and agriculture).	Farmers have a legal obligation to create water retention on their land, with an acceptable level of inundation specified by land use (e.g. grassland, arable land, urban areas).  A law for flood relief support (1998) is carried out by the Ministry of Agriculture, Nature and Food Quality (LASER).
<b>Main Changes from 2009 to 2019</b>	The Delta Act on Flood Risk Management and Freshwater Supplies was adopted in 2012.  Farmers have become increasingly interested in water saving options and in increasing and ensuring surface water supply since the dry summers of 2018 and 2019.	Increasing emphasis and future plans to support farm management practices that directly address flood risks.  There are high flood protection standards for 2050 set in legislation, and there are new measures to make sure that the country reaches these standards by 2050.
<b>Factoring of Climate Change in Policies</b>	3/5: Climate change projections indicate a considerable increase in drought and flood damages for agriculture in the future. The main focus of current climate change research is on adaptation strategies.	

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