

20 **New Zealand**

Support to agriculture

Since the reform of its agricultural policies in the mid-1980s, production- and trade-distorting policies almost disappeared in New Zealand, and the level of support to agricultural producers has been the lowest among OECD countries. Over the past decade, this support consistently accounted for less than 1% of farm receipts, with an average of 0.7% during 2018-20. Almost all prices align with world market prices. Exceptions are fresh poultry and table eggs, and some bee products, which cannot be imported into New Zealand due to the absence for these products of Import Health Standards (IHS), the biosecurity standards that products considered to pose a biosecurity risk must meet in order to be imported into New Zealand. These restrictions result in some market price support – the only form of support to individual commodities in New Zealand – amounting to 15% and 37% of respective gross farm receipts for these commodities in 2018-20 and representing the majority of the low level of producer support. Support for on-farm services mainly related to animal health and for disaster relief provide additional producer support to a small extent.

The main focus of agricultural policies in New Zealand is on animal disease control, relief payments in the event of natural disasters, and the agricultural knowledge and information system. The government also provides support to community-scale off-farm investments in irrigation systems. Over the past decades, the share of agricultural land under irrigation expanded significantly.

Support for general services equalled just over 4% of agricultural value-added during 2018-20, slightly less than the OECD average. Overall, for most of the past two decades, more than 70% of all support was for general services, with the remainder benefitting producers individually. On average, total support to the sector represented 0.3% of the country's GDP during 2018-20, roughly half the share calculated for the whole OECD.

Recent policy changes

Recent policy changes in New Zealand focused particularly on several adverse events that occurred in 2020, on- and off-farm support for mitigating and adapting to climate change and other environmental challenges, the signing of the Regional Comprehensive Economic Partnership, and responses to the COVID-19 pandemic.

A flooding event in Otago and Southland, and a significant drought affecting large parts of the country that was classified as a large-scale adverse event, triggered public support for recovery and relief, and support for individual farmers in hardship through Rural Assistance Payments.

A number of activities, both strategic and through specific measures, focused on improving the environmental and economic performance of the agricultural sector, and its preparedness for climate change, including:

- A ten-year roadmap for boosting primary-sector export earnings while reducing New Zealand's biogenic methane emissions in accordance with the 2019 Zero Carbon Act.

- The He Waka Eke Noa – Primary Sector Climate Action Partnership, which seeks to reduce agricultural greenhouse gas (GHG) emissions and enhance the sector’s resilience with respect to climate change.
- The 2020 Resource Management (National Environment Standards for Freshwater) Regulations, which identifies activities that pose risks to freshwater and freshwater ecosystems.
- Funding for a number of projects under the Sustainable Land Management and Climate Change Research Programmes, focusing in particular on freshwater protection and climate adaptation.

Once in force, the newly signed Regional Comprehensive Economic Partnership (RCEP) will combine and deepen a number of New Zealand’s bilateral and regional trade agreements, providing benefits particularly in areas of trade facilitation and non-tariff trade barriers. RCEP partners account for more than half of New Zealand’s agro-food exports and imports.

The COVID-19 Response and Recovery Fund Foundational Package included NZD 50 billion (USD 32 billion) economy-wide allocations to support job creation, conservation projects, and employment and upskilling schemes. Projects in the agriculture sector, amounting to NZD 185 million (USD 117 million), focus on facilitating job transition, boosting horticultural activity and growth, containing wallabies and weed wilding pines, and preventing food waste.

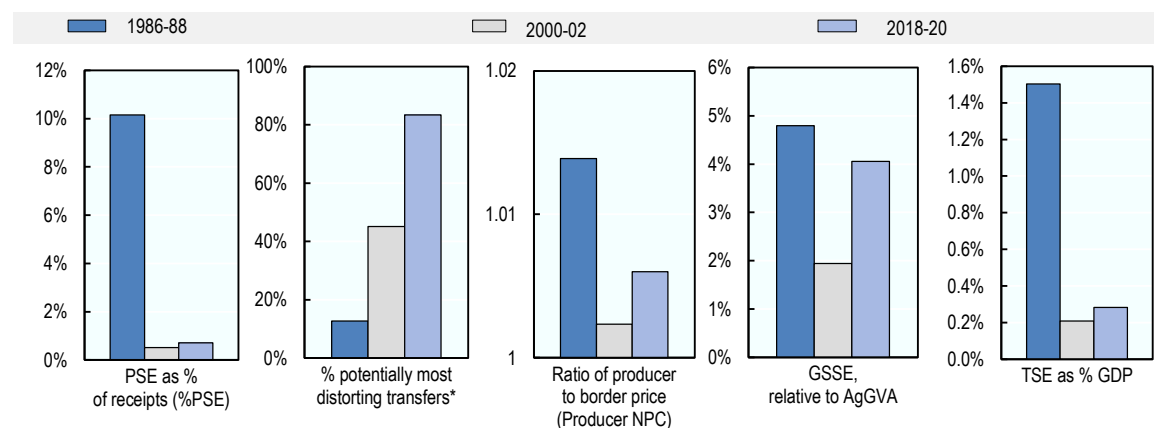
Additional financial support, for unemployed New Zealanders taking on seasonal work, aims to tackle labour shortages in the primary sector due to travel restrictions. The government also allocated funding to infrastructure improvement, and to food and welfare assistance. Finally, a total of NZD 372 million (USD 236 million) was allocated to the International Air Freight Capacity scheme to ensure the provision of required international air connectivity, mainly to maintain freight capacity for exports and for essential imports.

Assessment and recommendations

- New Zealand’s open agricultural sector remains focused on foreign markets and trade. Its export orientation, underlined by the country’s low level of producer support, is buoyed by New Zealand’s engagement in a large number of free trade agreements (FTA), including the recently signed RCEP, the world’s largest FTA to date, which combines a number of existing bilateral and regional agreements, creating benefits through trade facilitation related to non-tariff barriers in particular.
- New Zealand’s IHS represents a key tool to ensure the country’s biosecurity vis-à-vis imported products. While required for all imported products considered to pose a biosecurity risk, some livestock products, including eggs, fresh chicken meat, and honey do not have IHS, meaning that these products cannot be imported into New Zealand. While representing a small share of New Zealand’s agricultural output, this deprives consumers of lower prices and larger choice. The development of relevant IHS would benefit consumers while ensuring required biosecurity standards.
- Kiwifruit exports to markets other than Australia by entities besides Zespri, the main company, continue to be regulated by requiring authorisation by Kiwifruit New Zealand. New Zealand should aim to change these restrictions as they burden the participation in kiwifruit exports by other firms wishing to do so, and thus reduce competition and efficiency in kiwifruit trade.
- New Zealand’s policy mix focusses on key general services. In addition to pest and disease control, significant investments target the country’s agricultural knowledge and innovation system, which should improve agricultural productivity growth, estimated at comparatively low levels in recent years. Mandatory funding from private investors often complements public expenditures for general services, which can help to ensure effective allocation of these investments, and contributions to the provision of services by those who benefit from them.

- Almost half of all GHG emissions in New Zealand originate from the agricultural sector. With the passage of the 2019 Zero Carbon Amendment Act and proposed pricing of livestock and fertiliser emissions from 2025, New Zealand is one of the first countries to bind its climate commitments into law and include objectives for agriculture as an integral component. The country's engagement in a number of climate-related research activities at national and international levels complements planned economic incentives for emission reductions.
- Available data suggests that New Zealand's agricultural sector faces large and, in the case of nitrogen, increasing nutrient surpluses related to the country's large livestock sector and increased fertiliser use, representing risks to soil, water and air quality. While the 2020 Resource Management Regulations aim to limit agricultural pollution of freshwater ecosystems and could reduce such pressures, this might require greater attention.
- Recent OECD work identified New Zealand's good practices in building resilience and managing natural hazards, including clear and consistent policy signals that farmers are primarily responsible for managing natural hazard risk; investments in stakeholders' resilience capacities; and a holistic approach to building agricultural resilience that takes into account social and cultural factors (Casalini, Bagherzadeh and Gray, 2021^[1]). Nevertheless, New Zealand could place greater emphasis on identifying and assessing natural hazard risks, including improved data collection on disaster impacts. Extension services could also play a greater role in informing stakeholders about changes in the risk landscape.

Figure 20.1. New Zealand: Development of support to agriculture

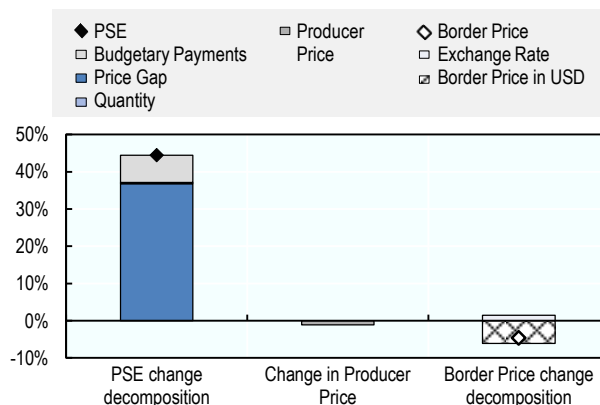


Note: * Share of potentially most distorting transfers in cumulated gross producer transfers.

Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), <http://dx.doi.org/10.1787/agr-pcse-data-en>.

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Figure 20.2. New Zealand: Drivers of the change in PSE, 2019 to 2020



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), <http://dx.doi.org/10.1787/agr-pcse-data-en>.


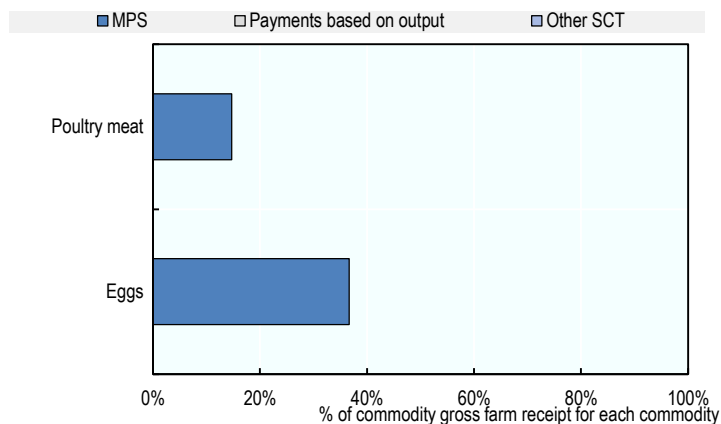
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Figure 20.3. New Zealand: Transfer to specific commodities (SCT), 2018-20



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), <http://dx.doi.org/10.1787/agr-pcse-data-en>.


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Table 20.1. New Zealand: Estimates of support to agriculture

Million USD

	1986-88	2000-02	2018-20	2018	2019	2020p
Total value of production (at farm gate)	4 067	6 371	19 659	19 557	19 711	19 711
<i>of which: share of MPS commodities (%)</i>	72.1	73.1	73.3	74.3	73.2	72.3
Total value of consumption (at farm gate)	1 624	2 626	9 936	9 508	9 871	10 429
Producer Support Estimate (PSE)	424	33	139	92	135	192
Support based on commodity output	54	15	116	70	115	163
Market Price Support ¹	53	15	116	70	115	163
Positive Market Price Support	53	15	116	70	115	163
Negative Market Price Support	0	0	0	0	0	0
Payments based on output	1	0	0	0	0	0
Payments based on input use	179	17	23	20	19	29
Based on variable input use	2	0	0	0	0	0
with input constraints	0	0	0	0	0	0
Based on fixed capital formation	154	0	0	0	0	0
with input constraints	0	0	0	0	0	0
Based on on-farm services	23	17	23	20	19	29
with input constraints	0	0	0	0	0	0
Payments based on current A/An/R/I, production required	26	1	0	1	0	0
Based on Receipts / Income	26	1	0	1	0	0
Based on Area planted / Animal numbers	0	0	0	0	0	0
with input constraints	0	0	0	0	0	0
Payments based on non-current A/An/R/I, production required	165	0	0	0	0	0
Payments based on non-current A/An/R/I, production not required	0	0	0	0	0	0
With variable payment rates	0	0	0	0	0	0
with commodity exceptions	0	0	0	0	0	0
With fixed payment rates	0	0	0	0	0	0
with commodity exceptions	0	0	0	0	0	0
Payments based on non-commodity criteria	0	0	0	0	0	0
Based on long-term resource retirement	0	0	0	0	0	0
Based on a specific non-commodity output	0	0	0	0	0	0
Based on other non-commodity criteria	0	0	0	0	0	0
Miscellaneous payments	0	0	0	0	0	0
Percentage PSE (%)	10.2	0.5	0.7	0.5	0.7	1.0
Producer NPC (coeff.)	1.01	1.00	1.01	1.00	1.01	1.01
Producer NAC (coeff.)	1.11	1.01	1.01	1.00	1.01	1.01
General Services Support Estimate (GSSE)	119	85	426	393	483	403
Agricultural knowledge and innovation system	60	46	202	170	244	190
Inspection and control	31	28	191	174	211	189
Development and maintenance of infrastructure	27	11	34	49	27	24
Marketing and promotion	0	0	0	0	0	0
Cost of public stockholding	0	0	0	0	0	0
Miscellaneous	0	0	0	0	0	0
Percentage GSSE (% of TSE)	21.0	72.0	74.4	81.1	78.2	65.6
Consumer Support Estimate (CSE)	-53	-13	-107	-70	-109	-143
Transfers to producers from consumers	-51	-13	-112	-68	-109	-161
Other transfers from consumers	-2	0	-2	-3	0	-2
Transfers to consumers from taxpayers	0	0	6	0	0	19
Excess feed cost	0	0	0	0	0	0
Percentage CSE (%)	-3.4	-0.5	-1.1	-0.7	-1.1	-1.4
Consumer NPC (coeff.)	1.03	1.01	1.01	1.01	1.01	1.02
Consumer NAC (coeff.)	1.03	1.01	1.01	1.01	1.01	1.01
Total Support Estimate (TSE)	542	118	572	485	618	614
Transfers from consumers	53	13	114	70	109	162
Transfers from taxpayers	491	105	460	417	509	454
Budget revenues	-2	0	-2	-3	0	-2
Percentage TSE (% of GDP)	1.5	0.2	0.3	0.2	0.3	0.3
Total Budgetary Support Estimate (TBSE)	489	103	456	414	503	451
Percentage TBSE (% of GDP)	1.4	0.2	0.2	0.2	0.2	0.2
GDP deflator (1986-88=100)	100	138	205	200	204	210
Exchange rate (national currency per USD)	1.71	2.25	1.50	1.45	1.52	1.54

Note: p: provisional. NPC: Nominal Protection Coefficient. NAC: Nominal Assistance Coefficient.

A/An/R/I: Area planted/Animal numbers/Receipts/Income.

1. Market Price Support (MPS) is net of producer levies and excess feed cost. MPS commodities for New Zealand are: wheat, maize, oats, barley, milk, beef and veal, sheep meat, wool, pig meat, poultry and eggs.

Source: OECD (2021), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), <http://dx.doi.org/10.1787/agr-pcse-data-en>.

Description of policy developments

Overview of policy trends

Prior to the 1970s, while New Zealand exported more than half its agricultural production to the United Kingdom, support for agricultural producers was largely inexistent, with the exception of some import-competing sectors such as eggs and poultry. In turn, New Zealand's Statutory Marketing Boards, operating since the end of World War I, enjoyed significant rights to regulate supply and trade of several key export products. Overall, relative to the more protected manufacturing sectors, agriculture was implicitly taxed (Anderson et al., 2008^[2]).

The accession of the United Kingdom to the European Economic Community in 1973 worsened New Zealand's access to its most important market, and the oil shock of the mid-1970s generated significant foreign exchange shortfalls given the country's dependence on oil imports. In response, the government introduced support measures to encourage farmers to increase production (MPI, 2017^[3]). These included input subsidies, minimum prices supported by import barriers and export incentives, tax concessions, low-interest loans and development grants (MPI, 2017^[3]; Harris and Rae, 2004^[4]).

Following macroeconomic problems, including the unsustainable fiscal costs of these support measures, a new government undertook significant economic reforms implemented during the second half of the 1980s. By the end of that decade, production and trade distorting policies supporting the farm sector practically disappeared (Table 20.2). In the context of these reforms, New Zealand's Statutory Marketing Boards lost most of their original authority or were dissolved (Nayga and Rae, 1993^[5]).

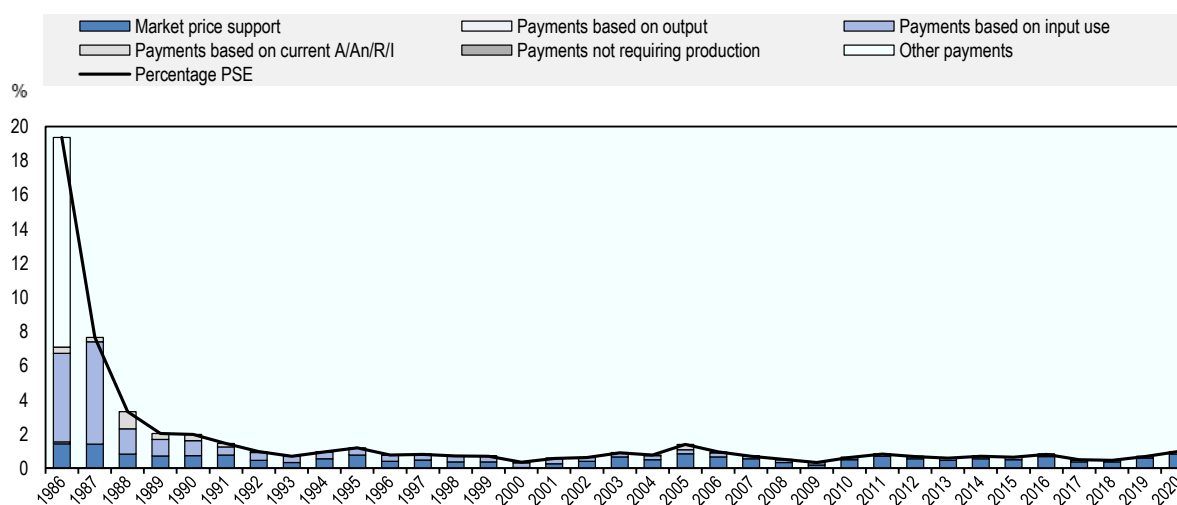
Table 20.2. New Zealand: Agricultural policy trends

Period	Broader framework	Changes in agricultural policies
Prior to 1975	Export-oriented agriculture with little policy intervention. Implicit taxation notably of exporting agriculture relative to the manufacturing sector	Statutory Marketing Boards with significant authority to regulate production and trade of key export products Agricultural and manufacturing import tariffs Limited farm support, including some input subsidies
1975-1984	Incentivising agricultural production	Introduction of significant farm support measures: price support, input subsidies, tax concessions, low-interest loans, development grants
Late 1980s	Reforms to market and trade liberalisation	Dismantling of price support and most other forms of direct farm support, along with economy-wide reforms liberalising the manufacturing industry as well Restricted function or dismantling of the Statutory Marketing Boards. Exit packages and debt restructuring programmes for farmers who had to stop operating
1990-present	Continuing trade liberalisation	Focus on general services and disaster aid

Since the policy reforms in the late 1980s, New Zealand's level of support to agricultural producers has been the lowest among OECD countries (Figure 20.4). Consequently, for the last three decades, total support to the sector was driven mainly by policies related to general services to agriculture, such as agricultural research and biosecurity controls for pests and diseases.

Figure 20.4. New Zealand: Level and PSE composition by support categories, 1986 to 2020

As a percentage of gross farm receipts



Note: A/An/R/I: Area planted/Animal numbers/Receipts/Income.

Payments not requiring production include Payments based on non-current A/An/R/I (production not required) and Payment based on non-commodity criteria. Other payments include Payments based on non-current A/An/R/I (production required) and Miscellaneous payments.

Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), <http://dx.doi.org/10.1787/agr-pcse-data-en>.

Main policy instruments

New Zealand limits its agricultural support largely to expenditures on general services, such as agricultural research, and biosecurity controls for pests and diseases. A significant share of the costs of regulatory and operational functions, including for border control, is charged to beneficiaries or those who create risks.

Practically all of New Zealand's agricultural production and trade is free from economic regulation. Since the phasing out of restrictions on dairy exports to specific tariff quota markets by the end of 2010, such **export rights** were allocated to dairy companies based on the proportion of milk-solids collected. **Export regulations** continue to exist for kiwifruit: the New Zealand company Zespri has the default, but not exclusive right to export kiwifruit to all markets other than Australia. Other traders can export kiwifruit to non-Australian markets in collaboration with Zespri, subject to approval by the relevant regulatory body, Kiwifruit New Zealand. Kiwifruit exporters to Australia are required to hold an **export licence** under the **New Zealand Horticulture Export Authority Act 1987**, which provides for multiple exporters to that market.

The 2017 amendments to the **Kiwifruit Export Regulations 1999** allow Zespri shareholders to set rules around maximum shareholding and eligibility for dividend payments; clarify the activities Zespri can undertake as a matter of core business; and enhance the independence and transparency of the industry regulator, Kiwifruit New Zealand.

The **Food Act 2014** came into force on 1 March 2016. Since March 2019, all business operates under this new law. The Food Act 2014 applies a risk-based approach focused on the outcome of safe and suitable food, rather than using prescriptive regulation. It aligns the domestic food system with the risk-based approach of other New Zealand food statutes that have more of an export focus, and with international trends in food regulation.

Import Health Standards (IHS) are issued under the **Biosecurity Act 1993**. They state the requirements to meet before importing risk goods into New Zealand. Risk goods can be imported only with an IHS in place, and with the product meeting all relevant IHS measures. For some products (table eggs, uncooked chicken meat, honey), no IHS is in place. These products therefore cannot be imported, leading to some market price support as their domestic prices are above the world market level.

“**Industry good**” activities¹ (such as research and development, forming and developing marketing strategies, and providing technical advice) previously undertaken by statutory marketing boards are now managed through producer levy-funded industry organisations under the **Commodity Levies Act 1990**. Under this legislation, levies can only be imposed when supported by producers, and producers themselves decide how to spend the levies. With a limited number of exceptions, levy funds may not be spent on commercial or trading activities. As a provision for accountability to levy payers, the Act requires that levying organisations seek a new mandate to collect levies every six years through a referendum of levy payers held prior to the expiry of their levy orders.

The New Zealand Government engages with industry and stakeholders to build biosecurity readiness and response capability. The **Government Industry Agreement for Biosecurity Readiness and Response (GIA)** established an integrated approach to preparing for and responding to biosecurity risks through voluntary partnerships between the government and primary industry sector groups. Signatories share decision-making, costs and responsibility in preparing for and responding to biosecurity incursions. The number of industry groups having joined with the Ministry for Primary Industries under GIA remains at 20.

Overseer is a tool used to set and manage nutrients within environmental limits. Overseer estimates nutrient losses from farm systems, helping farmers and growers improve their productivity, reduce nutrients leaching into waterways, and reduce GHG emissions. The intellectual property is jointly owned by the Ministry for Primary Industries, AgResearch Limited, and the Fertiliser Association of New Zealand. Regional councils increasingly used Overseer to implement the National Policy Statement on Freshwater Management.

Pastoral Genomics was a New Zealand partnership programme for forage improvement through biotechnology, funded by the Ministry of Business, Innovation and Employment (MBIE), DairyNZ, Beef+Lamb New Zealand, Grasslands Innovation, NZ Agriseeds, DEEResearch, AgResearch, and Dairy Australia. The programme ended on 30 June 2020. The partnership supported the private-sector seeds companies PGG Wrightson Seeds and Agriseeds in exploring the adoption of genomic selection (a non-regulated technology enabling more rapid uptake by partners and companies) to accelerate the improvement of ryegrass and clover.

Sustainable Food and Fibre Futures (SFF Futures) finances projects that create value and improve sustainability in the food and fibre industries. SFF Futures has a budget of NZD 40 million (USD 25 million) per year and provides a single gateway for farmers, growers, harvesters and industry to apply for investment in a range of projects that deliver economic, environmental and social benefits. Projects range from small, one-off initiatives to long-running multi-million dollar partnerships. Community projects require co-investment from the partner organisation of at least 20% of costs. Commercially-driven projects require a co-investment of at least 60% of costs.

The Ministry for Primary Industries’ **Productive and Sustainable Land Use** package promotes practices aimed at improving value creation and environmental outcomes. One part of the programme, **Extension Services**, supports and enables producers to improve environmental, social and wellbeing outcomes in their communities by driving their own solutions. Extension Services emphasises partnering with farmers, regional stakeholders and agricultural professionals to ensure services are relevant to the needs and priorities of local communities. The programme’s NZD 35 million (USD 22 million) budget over four years from July 2019 supports up to 2 200 producers across targeted catchments and regions.

The **Māori Agribusiness: Pathway to Increased Productivity (MAPIP)** framework supports Māori primary sector asset owners who seek to sustainably increase the productivity of their primary sector assets, including land, agriculture, horticulture, forestry, and seafood. Introduced in 2015, the MAPIP programme offers a one-on-one approach to achieving primary sector aspirations. The **Māori Agribusiness Extension Programme (MABx)** enables the Crown to partner with Māori (in a one-to-many approach) to achieve economic, environmental, social and cultural aspirations through sustainable development of primary sector assets. The government committed NZD 12 million (USD 7.6 million) to facilitate MAPIP projects.

Although no longer accepting new applications for financial support, **Crown Irrigation Investments Limited (CIIL)** manages three investments under existing contracts: completion of Central Plains Water Stage 2 (Canterbury plains); construction of the Kurow-Dunroon scheme (Kurow, South Canterbury); and construction of the Waimea Community dam (Nelson/Tasman). CIIL focuses on water storage solutions for use in agricultural irrigation providing farmers and growers with a reliable supply of water throughout the year.

The **One Billion Trees programme** aims to double the current planting rate (including re-planting following harvest and new planting) to plant one billion trees over the decade from 2018-28. The programme is supported both by direct government investment (such as the One Billion Trees Fund and joint ventures between Crown Forestry and private landowners), and adjustments to regulatory settings (such as the Emissions Trading Scheme) to encourage and support tree planting.

The **One Billion Trees Fund** launched in November 2018 as part of the One Billion Trees programme. The Fund has provided NZD 94 million (USD 60 million) for tree planting grants to landowners including farmers, in order to generate environmental, landscape and productivity benefits. The Fund has also provided NZD 108 million (USD 68 million) for partnership initiatives that underpin successful tree planting. The Fund expires in June 2021 and decisions on its future are soon to be made by the new Minister of Forestry.

The **Sustainable Land Management Hill Country Erosion Programme (HCEP)** aims to protect New Zealand's estimated 1.4 million hectares of pastoral hill country classified as erosion prone. It funds councils to develop four-year erosion control projects. The government approved a total of NZD 35.3 million (USD 22.4 million) for the period 2019-23.² Selected projects include: the development of whole-farm plans to manage erosion on farms with highly erodible land, the development of agroforestry plans, wide-spaced planting of poplars and willows, land retirement from production to revert to native vegetation, and soil conservation and sustainable land management programmes. Although the main purpose of the HCEP is to reduce erosion, it also reduces sediment loss to waterways, increases on-farm biodiversity, and contributes to the sequestration of carbon in small-scale forests and through planting of poplars and willows.

The **New Zealand Emissions Trading Scheme (NZ ETS)** is the main policy tool to reduce greenhouse gas (GHG) emissions. It requires companies in the agricultural supply chain (e.g. meat processors, dairy processors, nitrogen fertiliser manufacturers and importers) to report on their agricultural emissions. However, these companies are not required to pay for their emissions. The NZ ETS also imposes a cost on emissions from transport fuels, electricity production, synthetic GHGs, waste and industrial processes.

The New Zealand Government researches and develops mitigation technologies to reduce agricultural GHG emissions. It does so primarily through the **New Zealand Agricultural Greenhouse Gas Research Centre (NZAGRC)**, the **Pastoral Greenhouse Gas Research Consortium (PGGRc)**, and in co-ordination with the 64 member countries of the **Global Research Alliance on Agricultural Greenhouse Gases (GRA)**.

The NZAGRC, funded by the Ministry for Primary Industries, brings together nine organisations that conduct research to reduce New Zealand's agricultural GHG emissions.³ Research focuses on practical

ways to reduce on-farm methane and nitrous oxide emissions while improving productivity and sequestering soil carbon. The PGgRc is a partnership funded 50:50 by government and industry, which aims to provide livestock farmers with information to mitigate their GHG emissions. The PGgRc focuses mainly on research to reduce methane emissions in ruminant animals.

The GRA was established in 2009. New Zealand hosts the Secretariat and GRA Special Representative, and is a co-chair of its Livestock Research Group. GRA member countries collaborate on research, development and extension of technologies and practices to deliver more climate-resilient food systems without growing GHG emissions. In 2020, New Zealand provided more than NZD 2.6 million (USD 1.6 million) to support several scholarship programmes for students at Masters and PhD level from developing countries. These joint initiatives utilise relationships built through the GRA. Other funders include the Climate Change, Agriculture and Food Security programme of the **Consultative Group on International Agricultural Research (CGIAR-CCAFS)** and the **Government of the Netherlands**.

In support of the GRA, New Zealand committed to providing NZD 20 million (USD 12.7 million) over four years to internationally collaborative research. The aim is to accelerate global research in mitigating GHG emissions from pastoral livestock farming. The focus is priority research topics identified by the GRA and relevant to New Zealand's agricultural production systems. Research challenges include manipulating rumen function, reducing nitrous oxide emissions from soils, manipulating rates of soil carbon change, and improving tools and practices for minimising farm system-level greenhouse gas emissions intensity.

The **Zero Carbon Amendment Act** sets separate long-term emission reduction targets for long-lived and short-lived GHG emissions, including a target for biogenic methane. In particular, the proposed emissions reduction targets set out in the Zero Carbon Act aim to reduce all GHG emissions (except biogenic methane) to net zero by 2050; and reduce gross biogenic methane emissions by 10% by 2030 and by 24-47% by 2050 (below 2017 levels). These targets are consistent with the Paris Agreement's objective of limiting global warming temperature rise to 1.5°C above pre-industrial levels.

The National Science Challenges were established in 2014 to tackle New Zealand's biggest science-based issues and opportunities. A core part of the government's investment in science, at just over NZD 680 million (USD 431 million) over ten years, is dedicated to the Challenges. Past and current projects related to agriculture include the *Deep South Challenge: Changing with our Climate* to enable New Zealanders to adapt, manage risk and thrive in a changing climate; *Climate Change & Its Effect on Our Agricultural Land* to better understand the impacts of climate change on land use suitability; and *Primary Sector Preparedness for Climate Change* to assess the impact of rapid and slow-onset climate changes to the primary sector and evaluate the role and cost of adaptation for resilience.

The **Overseas Investment Amendment Act 2018**, in force since October 2018, brought residential and lifestyle land under the definition of "sensitive" land. The key change replaced the large farm directive with a broader, rural land directive that applies to all rural land larger than five hectares, other than forestry. As a result, most New Zealand land is now "sensitive", meaning that transactions of such land involving "overseas persons" as defined under the Act require the consent of the Overseas Investment Office. The Amendment Act also places conditions on overseas investors – they must now demonstrate how their investment will benefit the country.

As a trade-dependent economy geographically distant from export markets, New Zealand currently has ten **FTAs** in force, which account for approximately two-thirds both of the value of New Zealand's total exports and of its agro-food exports. Three additional agreements are concluded but not yet in force: the Regional Comprehensive Economic Partnership (RCEP);⁴ the New Zealand-Gulf Co-operation Council FTA (involving Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates); and the Anti-Counterfeiting Trade Agreement (ACTA).⁵ Negotiations between New Zealand and the countries of the **Pacific Alliance**⁶ and negotiations for a **New Zealand-European Union FTA** and a **New Zealand-United Kingdom FTA** are ongoing.

Domestic policy developments in 2020-21

In July 2020, the **Dairy Industry Restructuring Act 2001 (DIRA)** was amended to remove regulatory requirements deemed no longer necessary. The amended Act provides the Fonterra Co-operative with more flexibility to manage its operations, and increases clarity on regulatory aspects affecting Fonterra and other dairy industry stakeholders. The DIRA was originally established to promote the efficient operation of the New Zealand dairy industry. In particular, it aims to ensure that dairy farmers can easily enter and exit the Fonterra Co-operative, and that other dairy processors can obtain raw milk in order to be competitive in dairy markets.

The government launched **Fit for a Better World – Accelerating our Economic Potential** in July 2020. It is a ten-year roadmap designed to boost primary sector export earnings, especially forestry, seafood and horticulture, by NZD 44 billion (USD 28 billion) over the next decade, containing specific targets for the food and fibre sectors related to the environment and to the country's recovery from COVID-19. Among others, the Roadmap specifies the targets of reducing New Zealand's biogenic methane to 24-47% below 2017 levels by 2050; of restoring New Zealand's freshwater to a healthy state within a generation; and of increasing domestic employment in the food and fibre sector by 10% by 2030.

A significant rainfall event in autumn 2020 caused **flooding** in Otago and Southland. Support totalling NZD 77 930 (USD 49 400) was provided to the two Rural Support Trusts to co-ordinate recovery activities for farmers. Significant **drought** affected many parts of New Zealand in 2020. The drought conditions in the North Island, top of the South Island (Tasman, Marlborough, and Kaikoura), North Canterbury, and the Chatham Islands were classified as a large-scale adverse event (the last large-scale adverse event classification for drought was in 2013). Such a classification enables the government to provide additional funding to co-ordinate and deliver support farmers and growers. Support totalling NZD 2.07 million (USD 1.31 million) was provided in 2020 for rural support trusts, recovery coordinators and mayoral drought relief funds. A further NZD 3.5 million (USD 2.2 million) has been made available for professional planning advice through the Drought Recovery Advice Fund.

Rural Assistance Payments (RAPs) were also made available in response to the 2020 drought. RAPs are only available on case-by-case basis to farmers in real hardship and cover essential living costs for those farmers whose income is severely impacted by a medium-scale (or greater) adverse event and who have no other means of supporting their family. In calendar year 2020, a total support of NZD 180 157 (USD 114 200) was received by 34 families.

In July 2017, following the discovery for the first time in New Zealand of the bacterial infection ***Mycoplasma bovis*** in cattle in South Canterbury, the Ministry for Primary Industries declared a biosecurity response. Government and agricultural sector leaders agreed to work together to eradicate *Mycoplasma bovis* from New Zealand. The ten-year eradication programme is ongoing with compensation payments to farmers for slaughtered cattle, estimated at NZD 166 million (USD 105 million) as of July 2020. Until mid-2021, the focus of the programme is on ensuring all infected herds have been found, before the focus moves to the long-term surveillance phase to prove absence of the disease. This will involve ongoing bulk tank milk surveillance and on-farm herd testing.

The ***Mycoplasma bovis* Recovery Advice Service** helps farmers pay for business and technical advice on recovering from the effects of *Mycoplasma bovis*. The Ministry for Primary Industries makes payments to eligible farmers of up to NZD 5 000 (USD 3 170) per property. In 2020, NZD 144 574 (USD 91 650) was paid to 72 farms.

The **National Animal Identification and Tracing (NAIT)** is a system of livestock tracing enabling MPI to respond quickly in case of a serious biosecurity outbreak or natural disaster. The 2019 amendments to the National Animal Identification and Tracing Act 2012 included provisions to strengthen the requirements for tagging, incentivise greater rates of compliance, and provide better access to, and use of, NAIT data. In June 2020, further requirements for transporting animals took effect, placing accountability on animal

transporters to ensure that animals are transported in compliance with the scheme. From December 2020, persons in charge of NAIT animals must only use tags issued for the place where the animal originates. This requirement aims at more effective tracing by providing a link between the NAIT tag and the birthplace of the animal.

The **Farm Debt Mediation Act 2019** came fully into force on 1 July 2020. It requires secured creditors to farm businesses to offer statutory mediation before taking any enforcement actions in relation to debt held over that business. The Act aims to provide for fair, equitable and timely resolution of farm debt issues, thereby supporting the mental, emotional and financial wellbeing of farmers and farming families. The scheme applies to all secured lenders, including non-bank lenders.

In September 2020, a Consortium was appointed to establish the prototype **Food and Fibre Centre of Vocational Excellence (Food and Fibre CoVE)** to support better training for New Zealand's primary sector workers. The Consortium is a collaboration of 54 organisations across the entire food and fibre sector including industry associations, tertiary providers, Māori, employers and employees. The Food and Fibre CoVE will define vocational excellence, identify and fund specialised projects aimed at building excellence across regions and sectors. It is one of up to three prototype sector-based Centres of Vocational Excellence to be established, with funding of NZD 18 million (USD 11.4 million) committed over up to 4 years.

Following up on the Zero Carbon Act, in October 2020 the New Zealand Government announced the pricing of livestock emissions at the farm gate and fertiliser emissions at the manufacturer and importer level from 2025 at the latest. In the meantime, the government agreed to work with the food and fibre sector and Māori on the **He Waka Eke Noa – Primary Sector Climate Action Partnership**. The partnership aims to implement a framework by 2025 to reduce agricultural greenhouse gas emissions and build the agricultural sector's resilience to climate change. This is to be achieved through a) measuring, managing and reducing on-farm emissions; b) recognising, maintaining or increasing integrated sequestration on farms; and c) adapting to a changing climate.

The **Resource Management (National Environment Standards for Freshwater) Regulations 2020** set requirements regulating activities that pose risks to freshwater and freshwater ecosystems. The new standards include a number of policies with impacts on the agricultural sector as they are aimed to limit pollution from the sector. Key actions include binding limits on nitrate and suspended sediment concentrations in waterways; restricting major agricultural intensification; implementing stronger controls for feedlots and stockholding areas; reducing excessive nitrogen use through a cap on synthetic fertilisers; excluding stock from waterways; and ensuring intensive winter grazing of forage crops meet standards. The regulations also aim to reduce soil loss by strictly managing activities such as earthworks and land clearance; maintaining existing ecosystems by protecting streams and wetlands from draining or development; and controlling activities that can affect sources of drinking water.

The **Sustainable Land Management and Climate Change (SLMCC) Research Programmes** help agricultural and forestry sectors with the challenges arising from climate change. In 2020, the government committed:

- NZD 14.4 million (USD 9.1 million) for 12 freshwater mitigation projects that assess the effectiveness of methods for protecting water health and reducing nutrient runoff.
- NZD 2.8 million (USD 1.8 million) for seven climate adaptation projects aimed at improving food and fibre sector resilience to a changing climate and help farmers move towards low carbon farming, for example through assessing risks and planning for resilience to adverse events, and sustainable irrigation.
- NZD 800 000 (USD 507 000) for three extension projects focused on translating the latest scientific research into practical application on farm.

Domestic policy responses to the COVID-19 pandemic

The **COVID-19 Response and Recovery Fund (CRRF) Foundational Package** was introduced in the 2020 Budget and NZD 50 billion (USD 32 billion) was allocated to support the recovery response to COVID-19. The support includes boosting job creation, conservation projects, and various employment and upskilling schemes to deliver economic, social, cultural and environmental benefits to society. Proposals submitted to the CRRF are assessed under a wellbeing framework. The overall programme is equally available to the agricultural sector as to the non-agricultural sectors. Of the total funding available, some NZD 185 million (USD 117 million) is allocated to individual projects in the primary agriculture sector. These include:

- addressing primary sector workforce shortfall with job transition support (NZD 19.3 million)
- boosting economic activity and future growth in the horticulture sector (NZD 38.54 million)
- containing wallabies to protect agriculture, forestry and native plants, and boost regional economies (NZD 27.47 million)
- the national wilding conifer control programme⁷ to boost regional economies and employment (NZD 100 million).

COVID-19 caused labour shortages in the primary sector due to travel restrictions limiting the number of overseas workers coming to New Zealand, and increased unemployment among New Zealanders across all sectors. In November 2020, the government introduced additional financial support for unemployed New Zealanders taking on seasonal work, including NZD 200 (USD 127) per week towards accommodation costs for up to 13 weeks and NZD 1 000 (USD 634) for workers who complete jobs of six weeks or longer. Changes have also been made to the Seasonal Work Assistance Programme to provide the equivalent of the minimum wage to seasonal workers who cannot work due to bad weather, for up to 40 hours a week depending on the number of hours lost.

In June 2020, the government allocated up to NZD 100 million (USD 63 million) for waterway fencing, riparian planting and stock water reticulation as part of a package of measures to boost employment post-COVID-19. The funding is repurposed Provincial Growth Fund (PGF)⁸ money and unallocated funding from the Regional Investment Opportunities Contingency.

The government provided NZD 30 million (USD 19 million) to support the delivery of food and welfare assistance by local authorities and Civil Defence Emergency Management Groups during New Zealand's COVID-19 Alert Levels 3 and 4. The funding was used to bolster the organisation of food parcels and provide upfront funding or reimbursement to food banks, community food organisation and other welfare providers. The above-mentioned CRRF package also includes funding for a project aiming to reduce food waste⁹ (NZD 14.9 million, USD 9.4 million).

Trade policy developments in 2020-21

In November 2020, New Zealand and 14 other countries¹⁰ signed the Regional Comprehensive Economic Partnership (RCEP). Once in force, RCEP will be the largest free trade agreement in the world covering nearly a third of both the global population and its GDP. It combines and deepens a number of existing bilateral and regional agreements, benefitting New Zealand's trade particularly in the area of trade facilitation and non-tariff trade barriers. RCEP partners account for more than half of both New Zealand's total agro-food exports and imports. Negotiations for a New Zealand-United Kingdom FTA were launched in June 2020.

In January 2021, New Zealand and the People's Republic of China (hereafter "China") signed the upgraded New Zealand-China Free Trade Agreement, for which negotiations had been concluded in November 2019. The upgraded FTA includes a number of provisions with a direct impact on agro-food products. This concerns areas such as certificates of origin (introducing the option for 'approved exporters' to self-declare

the origin of their goods) as well as simplifying administrative processes and trade documentation for goods in transit. Further operational improvements cover expedited six-hour clearance times for perishable products, release of such goods outside normal business hours, and appropriate storage. Remaining safeguard-related tariffs on New Zealand dairy exports to China will be phased out by 2024.

Negotiations with Costa Rica, Iceland, Norway, Fiji and Switzerland on the Agreement on Climate Change, Trade and Sustainability (ACCTS) are ongoing. The agreement aims to bring together some of the inter-related elements of the climate change, trade and sustainable development agendas.

Trade policy responses to the COVID-19 pandemic

The government originally allocated NZD 330 million to the International Air Freight Capacity (IAFC) scheme, extending this by an estimated NZD 42 million to keep the scheme in place until March 2021 (USD 209 million and USD 27 million, respectively). The IAFC scheme helps ensure a predictable and regular schedule of air services to safeguard New Zealand's international connectivity. The primary objectives of the scheme are to maintain some airfreight capacity for exports and for essential imports such as medical supplies. Secondary objectives are to maintain air connectivity for passengers and future tourism capacity, international relations and the competitiveness and sustainability of the aviation sector. The scheme is market led with importers and exporters paying airlines for freight services. Airfreight rates out of New Zealand remain significantly higher than they were pre-COVID. Only flights that do not get enough passengers and freight to break-even are eligible for support.

In March 2020, New Zealand and Singapore announced a World Trade Organization plurilateral trade declaration to ensure supply chain connectivity through COVID-19. The declaration makes commitments with regard to tariff elimination, export restrictions, non-tariff barriers, and the facilitation of trade in essential goods (covering medical goods as well as essential food products). Other WTO members are encouraged to join the initiative.

Contextual information

New Zealand is a relatively small and thinly populated economy with per capita GDP slightly above the OECD average, but well above the average of all countries covered by the report. Its market openness is related to its high dependency on international trade. Agriculture has a comparatively high, albeit slowly shrinking, importance to the economy, as it accounts for around 6% of both GDP and employment. Moreover, agro-food products account for close to two-thirds of New Zealand's total exports.

With little arable land, grass-fed livestock products represent the backbone of the agricultural sector. New Zealand is the world's largest exporter of sheep meat, and among the largest exporters of dairy products. Beef, fruit and horticultural products also contribute significantly to the country's agro-food exports.

Table 20.3. New Zealand: Contextual indicators

	New Zealand		International comparison	
	2000*	2019*	2000*	2019*
Economic context			Share in total of all countries	
GDP (billion USD in PPPs)	83	216	0.21%	0.19%
Population (million)	4	5	0.09%	0.10%
Land area (thousand km ²)	263	263	0.32%	0.31%
Agricultural area (AA) (thousand ha)	15 413	10 467	0.50%	0.34%
			All countries¹	
Population density (inhabitants/km ²)	15	19	53	63
GDP per capita (USD in PPPs)	21 476	43 774	9 265	21 975
Trade as % of GDP	25	20	12.3	14.6
Agriculture in the economy			All countries¹	
Agriculture in GDP (%)	8.3	6.4	2.9	3.5
Agriculture share in employment (%)	8.5	5.8	-	-
Agro-food exports (% of total exports)	50.7	66.2	6.2	7.3
Agro-food imports (% of total imports)	7.9	11.6	5.5	6.7
Characteristics of the agricultural sector			All countries¹	
Crop in total agricultural production (%)	18	24	-	-
Livestock in total agricultural production (%)	82	76	-	-
Share of arable land in AA (%)	10	5	32	34

Notes: *or closest available year.

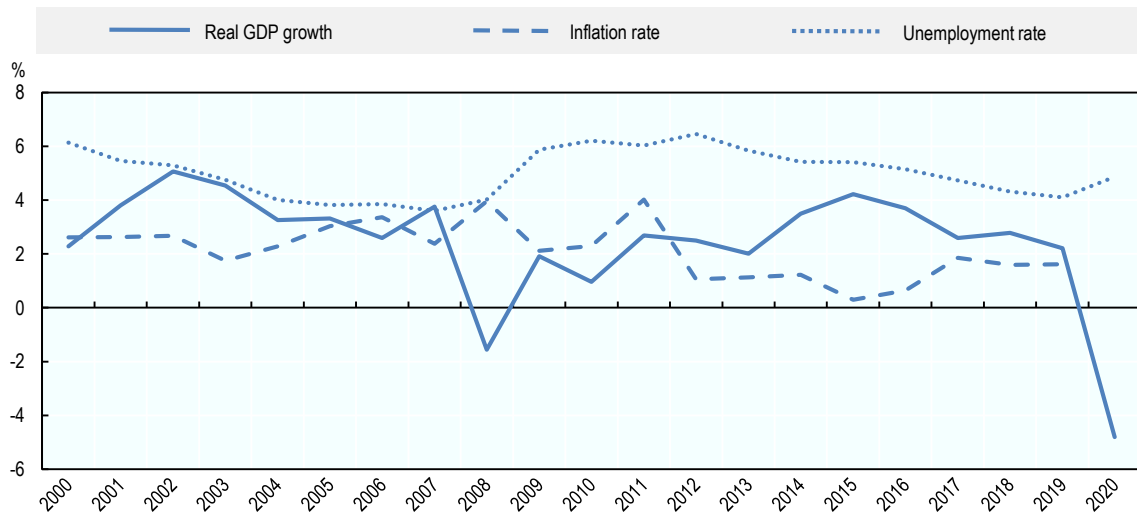
1. Average of all countries covered in this report.

Sources: OECD statistical databases; UN Comtrade; World Bank, WDI and national data.

New Zealand has a stable economy having featured robust growth and a relatively low inflation rate for most of the past decade. However, the COVID-19 pandemic and related restrictions led to a drop in New Zealand's GDP by almost 5% in 2020.

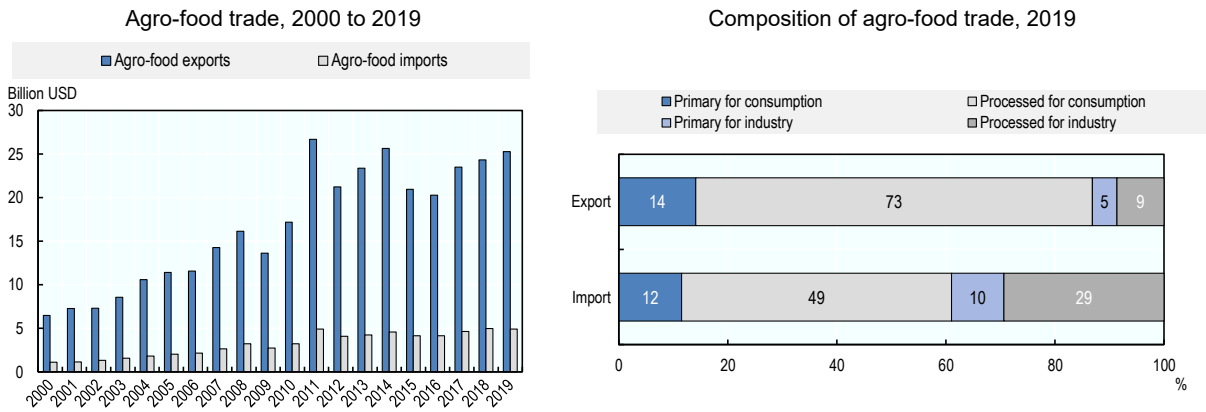
New Zealand is a consistent and growing net exporter of agro-food products, which after some drops in 2015 and 2016 due to, among others, lower dairy prices, have picked up again since 2017. Most of New Zealand's agro-food trade, particularly its exports, is processed food for final consumption. On the import side, however, intermediary products represent two-fifths of the trade basket.

Figure 20.5. New Zealand: Main economic indicators, 2000 to 2020



Sources: OECD statistical databases; World Bank, WDI; and ILO estimates and projections.

Figure 20.6. New Zealand: Agro-food trade

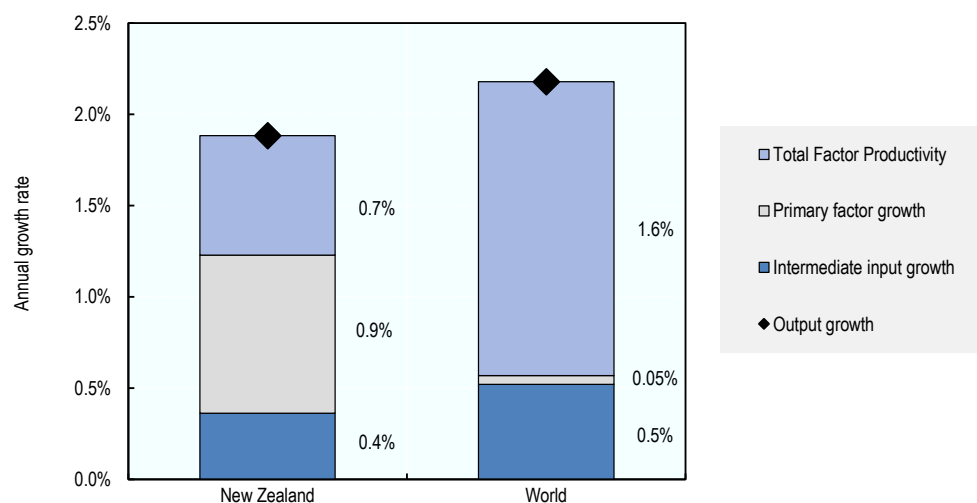


Note: Numbers may not add up to 100 due to rounding.
Source: UN Comtrade Database.

New Zealand’s growth in agricultural output over the 2007-16 decade has been below global average, driven by relatively low productivity growth: at 0.7%, the estimated average growth in total factor productivity (TFP) is well below the global average and among the lowest of all countries covered by this report. It is also well below the TFP growth measured for the 1990s.

Given the large share of renewables in electricity generation and the dominant role of dairy and ruminant meat, agriculture is the main source of New Zealand’s GHG emissions, and nutrient surpluses are also well above the respective OECD averages. The sector is also the country’s prime consumer of freshwater as irrigated land is expanded, including to respond to climate related uncertainties. Nonetheless, its overall level of water stress, while higher than in the 1990s, is relatively low.

Figure 20.7. New Zealand: Composition of agricultural output growth, 2007-16



Note: Primary factors comprise labour, land, livestock and machinery.

Source: USDA Economic Research Service Agricultural Productivity database.

Table 20.4. New Zealand: Productivity and environmental indicators

	New Zealand		International comparison	
	1991-2000	2007-2016	1991-2000	2007-2016
			World	
TFP annual growth rate (%)	1.7%	0.7%	1.6%	1.6%
			OECD average	
Environmental indicators	2000*	2019*	2000*	2019*
Nitrogen balance, kg/ha	36.7	63.9	33.2	28.9
Phosphorus balance, kg/ha	13.2	9.6	3.4	2.6
Agriculture share of total energy use (%)	3.5	4.3	1.7	2.0
Agriculture share of GHG emissions (%)	48.6	47.8	8.4	9.5
Share of irrigated land in AA (%) ¹	3.7	6.9	-	-
Share of agriculture in water abstractions (%)	..	61.7	46.0	43.4
Water stress indicator	0.7	2.2	9.3	8.5

Notes: * or closest available year.

1. Data are not comparable between time periods due to change in methodology.

Sources: USDA Economic Research Service, Agricultural Productivity database; OECD statistical databases; FAO database and national data.

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Notes

¹ Activities “beneficial to the industry, but whose benefits cannot be captured by those who fund or provide the activity”, or “long-term investments in the industry made with the expectation of accelerating delivery of better technology and products for the industry” (NZIER, 2007^[6]).

² The HCEP existed before the One Billion Trees programme but has received significant funding from it.

³ The seven member Crown research institutes and universities are: AgResearch, Landcare Research, Lincoln University, Massey University, National Institute of Water and Atmospheric Research, Plant Food Research and Scion. The two other organisations involved are DairyNZ and the Pastoral Greenhouse Gas Research Consortium.

⁴ RCEP comprises the ten countries that make up the Association of South East Asian Nations (ASEAN), Australia, the People’s Republic of China (hereafter “China”), India, Japan, Korea and New Zealand.

⁵ Other ACTA signatories include Australia, Canada, the European Union and 22 of its Member States, Korea, Japan, Mexico, Morocco, Singapore, and the United States.

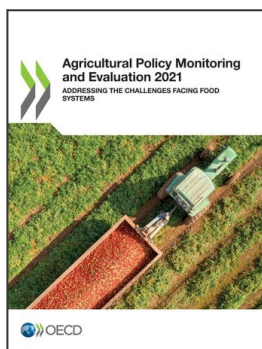
⁶ Pacific Alliance countries are Chile, Colombia, Mexico and Peru.

⁷ Wilding pines are weeds that overwhelm the native landscape and have the potential to spread across 7.5 hectares of vulnerable land within 30 years if there is no national intervention. The national wilding conifer control programme funds projects that preserve natural landscapes on both private and rural land and crown owned conservation estate land from encroachment of pine trees that have accidentally seeded.

⁸ The PGF, established in 2018 and available to all sectors, is administered by the Provincial Development Unit, part of the Ministry of Business, Innovation, and Employment.

⁹ This initiative redirects food from the primary sector that would otherwise be wasted. It includes an additional 100 000 fruit and vegetable boxes distributed to children over 10 weeks via school and community programmes. The government also met the cost of purchasing, processing and distributing an oversupply of New Zealand pork to families in need. (The temporary oversupply of pork arose as a result of pork producers’ normal retail outlets and butchers being closed by government order during the New Zealand lockdown). A further five initiatives will receive funding of up to NZD 100 000 each for a ten-week trial period with the aim of developing long-term solutions.

¹⁰ These include the ten members of ASEAN Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand and Viet Nam; as well as Australia, China, Japan and Korea.



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