

Annual report 2022



WAGENINGEN
UNIVERSITY & RESEARCH



WUR & sustainability

The strength of Wageningen University & Research (WUR) is to respond to changing conditions in research, education, and impact in the field of food, agriculture, and living environment. Action must be taken now to prevent the growing world population from further exceeding the planet's limits. At WUR we take an integrated look at agriculture, nature, water quality, and climate in collaboration with society to ensure a sustainable and fair future for all.

Table of Contents

Supervisory Board	4
Executive Board	5
Profile and core activities of Wageningen University & Research	6
Letter from the Executive Board	8
1 Introduction	10
2 Wageningen University & Research Executive Report	11
2.1 Supervisory Board	11
2.1.1 Report of the Supervisory Board	11
2.1.2 Report of the Audit Committee	13
2.1.3 Report of the Appointments Committee	14
2.1.4 Report of the Education and Research Committee	14
2.1.5 Independence and compliance	15
2.1.6 Background of the Supervisory Board members	15
2.2 Key figures	16
2.2.1 Wageningen University & Research	16
2.2.2 Wageningen University	17
2.2.3 Stichting Wageningen Research	18
2.3 Mission, Vision and Strategy	18
2.3.1 Mission and ambition	18
2.3.2 Strategic Plan 2019-2022	19
2.3.3 Attention to corporate social responsibility	20
2.4 Education	22
2.4.1 Profile and policy	22
2.4.2 Highlights	23
2.4.3 Success rate and results	26
2.4.4 Quality assurance in education	26
2.4.5 Funding	27
2.4.6 Students	27
2.4.7 Outlook	34
2.5 Research	34
2.5.1 Policy and organisation	34
2.5.2 Internationalisation	37
2.5.3 Results	41
2.5.4 Recognition and Reward	44
2.5.5 Funding	44
2.5.6 Outlook	45
2.6 Value creation	46
2.6.1 Collaboration, tech transfer, and co-creation with partners	47
2.6.2 The entrepreneurial use of knowledge	49
2.6.3 Sharing knowledge	51
2.6.4 Wageningen Campus, Ecosystem & Facilities	53
2.6.5 University Fund Wageningen	56
2.6.6 Outlook	56

2.7	Employees	57
2.7.1	One Wageningen	57
2.7.2	Recruitment, Onboarding & Inclusion theme	57
2.7.3	Leadership & Talent development theme	58
2.7.4	Organisational development theme	59
2.7.5	Vitality & Health theme	60
2.7.6	HR Operations theme	61
2.7.7	Employee participational structure	62
2.7.8	Corporate Social Responsibility	62
2.7.9	Complaint and arbitration procedures	64
2.8	Operational management	65
2.8.1	Management of information provision and IT developments	65
2.8.2	Personal data protection (privacy)	66
2.8.3	International collaboration and knowledge security	66
2.8.4	Corporate Social Responsibility	67
2.8.5	Safety and environment	68
2.8.6	Procurement policy and supply chain responsibility	72
2.9	Compliance	73
2.9.1	Governance	73
2.9.2	Independence	74
2.9.3	Risk management	75
2.9.4	Remuneration of executives	79
2.9.5	Secondary employment activities of Supervisory Board members and Executive Board members	84
2.10	Economic Performance Indicators	86
2.10.1	Direct economic value	86
2.11	Wageningen University Continuity Section	88
2.11.1	Principles of the financial policy	89
2.11.2	Internal risk management	91
2.11.3	Risks and uncertainties	91
2.12	Report criteria and scope	93
3	Specific Ministry of Education, Culture and Science accountabilities	94
3.1	Quality Agreements report	94
3.1.1	Process	94
3.1.2	Progress	94
3.1.3	Budget	99
3.1.4	Student Staff Council and Supervisory Board	101
3.1.5	Reflections from the WUR participational structure (the Student-Staff Council)	101
3.2	National Programme for Education/Coronavirus section	103
3.2.1	Coronavirus impact	103
3.2.2	NPO planning and monitoring process	103
3.2.3	NPO for education implementation progress	104
3.2.4	NPO research	111
3.3	Wageningen University & Research Profiling Fund	112
3.4	Indicators of the 2022 Higher Education and Science Administrative Agreement	114
3.5	Clarifications	114
3.6	Treasury policy	116
4	Abridged WUR Annual Financial Report	117
4.1	Wageningen University	117
4.1.1	Annual Financial Report	117
4.1.2	Abridged Wageningen University Annual Financial Report	121
4.1.3	Accounting principles	124
4.1.4	Auditor's report by the independent auditor	130

4.2	Stichting Wageningen Research	131
4.2.1	Annual Financial Report	131
4.2.2	Abridged Wageningen Research Annual Financial Report	134
4.2.3	Accounting principles	137
4.2.4	Auditor's report by the independent auditor	144
Appendix 1 Education at Wageningen University		145
Appendix 2 Knowledge valorisation indicators		150
Appendix 3 Corporate Social Responsibility Report		156
Appendix 4 Glossary		162

Supervisory Board

At the end of 2022, the members of Wageningen University & Research's Supervisory Board were as follows:

Prof. E. Dijkgraaf¹ (chair)
Ms M.A. Verhoef (vice chair)
Mr T. Klimp
Mr B.C. Jansen
Dr K.D. Schuijt²

The members of the Supervisory Board for Wageningen University & Research are the same as for Wageningen University and the Wageningen Research foundation.

Refer to 2.9.5.1 for an overview of the side activities of the members of the Supervisory Board.

¹ Prof. E. Dijkgraaf was appointed as chair of the Supervisory Board from 1 December 2022 following J.R.V.A. Dijsselbloem's resignation as chair of the Supervisory Board on the same date.

² Dr K. Schuijt was appointed as a member of the Supervisory Board with effect from 1 July 2022.

Executive Board

At the end of 2022, the members of Wageningen University & Research's Executive Board were as follows:

Dr S. Heimovaara³ (chair)

Prof. A.P.J. Mol (Vice-President, Rector Magnificus of Wageningen University)

L.A.C. Buchwaldt, MBA

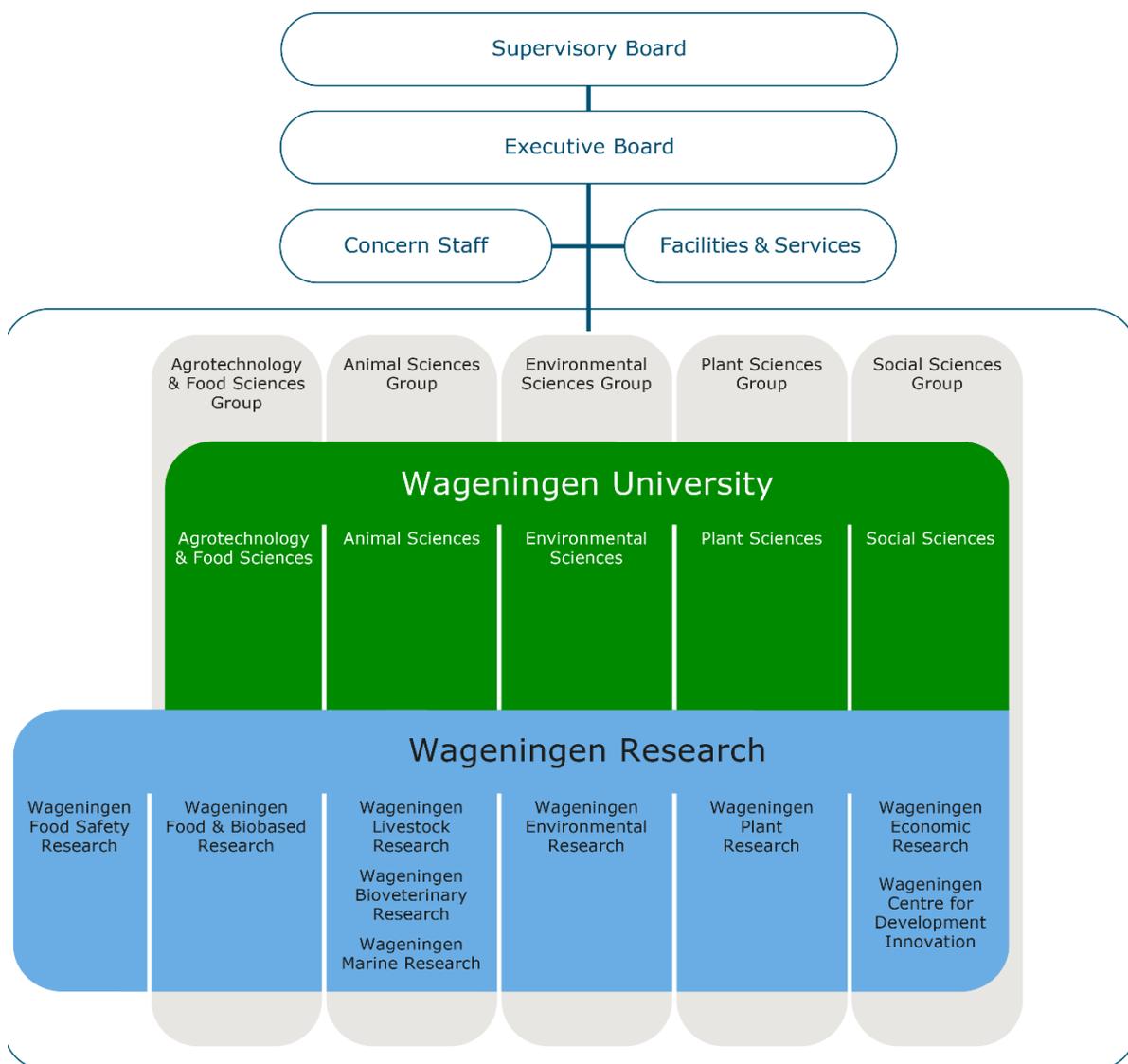
The members of the Executive Board are the same for both institutions (Wageningen University and Wageningen Research).

Refer to 2.9.5.2 for an overview of the side activities of the members of the Executive Board.

³ Dr S. Heimovaara was appointed as chair of the Executive Board with effect from 1 July 2022; on the same date, Prof. L.O. Fresco stepped down as chair.

Profile and core activities of Wageningen University & Research

Wageningen University & Research (WUR) is a partnership between Wageningen University (WU) and Wageningen Research (WR). The association is organised into five sciences groups. This collaboration is the organisational, functional, and administrative tool which, through combining strengths, helps achieve greater effectiveness and quality of research and education. Each sciences group consists of a Wageningen University department that is organisationally integrated with one or more application-oriented research institutes of WR. However, the organisations are separate administrative and legal entities. The matrix of the sciences groups together with the board of education, the research institutes, and the programme directors that operate across Wageningen University & Research, ensure that interdisciplinarity and demand management are achieved.



In 2022, one research institute, Wageningen Food Safety Research (WFSR), was not organisationally integrated with a sciences group. Among other things, WFSR carries out Statutory Research Tasks (WOT) in the area of food safety.

In terms of content, the objectives and activities of these separate legal entities are aligned both at the strategic and tactical levels within the Wageningen University & Research partnership.

Collaboration occurs in the operational management of some components. However, the relationship between these components is neither determined by nor dependant on policy. Individual organisational resources may not be used for any other purpose than to realise the objectives and perform the primary tasks of the individual organisation. For this reason, the separate legal entities publish a consolidated financial report for their group. WUR as a whole does not publish a consolidated annual report.

Letter from the Executive Board

Following two years which were dominated by the coronavirus pandemic, 2022 was another eventful year. The devastating war in Ukraine changed geopolitical relations and put pressure on energy supply and food security around the world. The future of agriculture is also an important and urgent topic of discussion in the Netherlands, especially in relation to the increasingly visible effects of climate change and loss of biodiversity.

These developments directly or indirectly relate to the domains of Wageningen University & Research (WUR). Researchers from WUR frequently shared their knowledge on food systems and the balance between agriculture and nature and participated in the COP27 climate summit and COP15 biodiversity summit. Sustainability is not only an essential value in WUR's research and education but also in our operations, as evidenced by the fact that WUR was named the world's most sustainable university for the sixth time in a row.

Social safety, which received a considerable amount of media attention, was a major social issue in 2022. At WUR, we continue to work towards a pleasant and safe work and study environment. This is done through awareness in our leadership, but also through the organisation of a Diversity & Inclusion Week and a series of theatre performances on social safety in academia.

Sjoukje Heimovaara succeeded Louise O. Fresco as president of the WUR Executive Board in July.

Education: a fresh start

Some coronavirus measures still applied in early 2022, but it soon became possible again to provide education entirely on campus. Nonetheless, the effects of the pandemic still linger. Digital innovations, which were introduced during the coronavirus pandemic, are mostly still in use and employees are working from home more. Students have noticeably fallen behind in terms of socialising. We have spent *Nationaal Programma Onderwijs* (national programme for education - NPO) funds to address this, including in the form of coaches and social events for students.

Lecturers and other employees, who had to improvise and put in plenty of extra effort during the coronavirus pandemic, may also still feel effects of this. WUR has been working to reduce the work pressure of employees, for example by hiring more lecturers. With the help of the funds made available for this purpose through the government, we have managed to improve the ratio of students to employees at the university in recent years. This will also ensure the small-scale education we value so much.

A new Master's programme was launched in 2022: Data science for food and health. This Master's focuses on the Nutrition and Health domain, which has a growing need for data analysis knowledge. WUR also took significant steps in the field of lifelong learning last year. The range of available courses, trainings, and massive open online courses (MOOCs) has been expanded and better organised, and services have been further improved.

Wageningen knowledge is being used for global transitions throughout the world. That is why it remains important for WU to train professionals from all over the world. As in previous years, around 25% of students came from abroad.

Research: high quality

Last year, WUR turned out more PhD students than ever: 320. The SEP on-site reviews (periodic qualitative assessment, in accordance with the Strategy Evaluation Protocol (SEP)) of our research schools were also completed, with very positive results: the quality of Wageningen research is said to be impressive at all research schools. A process has been put into place to incorporate the recommendations from the reports effectively and at the appropriate levels.

The first batch of ten participants has started our new two-year Post-Master's researcher programme: the Engineering Doctorate (EngD) programme Design for Agrifood and Ecological Systems. An independent institute for photosynthesis research was co-founded by WUR in March. Thanks to a generous donation, the Jan Ingenhousz Institute is working on sustainable yield increases in crop production, especially in the Global South.

Furthermore, in 2022, three ongoing investment themes were completed and three new ones were launched: "Biodiversity-positive food systems", "Transformative bioeconomies", and "Data-driven discovery in a changing climate". These will continue until the end of 2024.

Lastly, WUR used funding from sector plans, starter/stimulus grants, and the national growth fund. With the money freed up for the sector plans, we will increase space and create a calmer environment in the chair groups and intensify national cooperation. We are using the start-up/incentive grants to help young scientists get started financially. Nine knowledge and innovation programmes in which WUR is involved receive funding from the national growth fund.

Impact and partners

Collaboration with partners is key to putting Wageningen education and research into practice. Collaboration with other European universities and knowledge institutes has intensified over the past year. An integrated consideration framework for collaboration was drawn up in 2022, taking into account factors such as strategic importance, knowledge security, and academic freedom. Cybersecurity also received a lot of attention in 2022.

The WUR Impact Award was presented for the first time in June. The winning team, "Samen tegen Voedselverspilling" (Food Waste Free United), forged a broad partnership to implement research findings.

Omnia was taken into use in spring 2022. This new building brings together education, research, and knowledge-sharing: it hosts graduation ceremonies, inaugurations, conferences, and dialogues with society, among other things. Omnia, Latin for "all-encompassing", therefore occupies a central place on campus and in WUR's activities. Finally, the zoning plan for Wageningen Campus East (formerly Born-Oost) was approved in late 2022, enabling the development of the campus to enter a new phase.

Finances

From a financial perspective, 2022 was a good year, in which both WU and WR achieved positive results. The operating results for both WU and WR were close to zero. The positive results were mainly caused by one-off windfalls, such as reaching an agreement with the Dutch Tax and Customs Administration on the VAT to be received for 2016-2021 (WU) and releasing a specific operating surplus on LNV (Ministry of Agriculture, Nature and Food Quality) commissioning to be used for future funding of the High Containment Unit (WR) facility.

The continued growth of direct government funding at WU and the LNV tasks at WR led to a further expansion of staff capacity. Unlike previous years, WUR managed to achieve the required growth more promptly in 2022, so that plans could also largely be implemented.

Dr S. Heimovaara (chair of the Executive Board)

Prof. A.P.J. Mol (Vice President of the Executive Board / Rector Magnificus)

L.A.C. Buchwaldt, MBA

1 Introduction

This annual report covers the 2022 financial year of Wageningen University & Research (WUR), the partnership between Wageningen University (WU) and Wageningen Research (WR). This encompasses both the joint executive report and the individual annual financial report of the separate legal entities.

In the Annual Financial Report, the performance of WUR will be presented along with the social aspects of this performance. Holding both internal and external stakeholders accountable extends across the economic, environmental, and societal impact of this performance. The annual report has been prepared in accordance with internationally accepted guidelines of the Global Reporting Initiative (GRI). The elements of the Corporate Social Responsibility Report, such as the implemented personnel policies and personnel indicators, are a part of this annual report.

Both WU and WR have a social function. How both organisations have implemented this in 2022 is made clear in this annual report.

The following chapters offer the reader an overview of the key developments that occurred in 2022.

Chapter 2 contains the reports from the Executive Board and the Supervisory Board (2.1). Section 2.2 provides key figures, while Section 2.3 outlines WUR's ambitions and the strategic plan. Following that are the achievements in education (2.4), research, (2.5) and value creation (2.6). In addition to the Corporate Social Responsibility Report (Appendix 3), the developments in terms of employees (2.7) and business operations (2.8) are also covered. Section 2.9 offers insight into how the organisation is managed, reporting on the remuneration of executives (2.9.4). Section 2.10 deals with Economic Performance Indicators and section 2.11 is Wageningen University's Continuity Section. Section 2.12 provides insight into the reporting criteria for this annual report.

Since 2021, a chapter has been added to the annual report (3), which provides insight into the use of specific Ministry of Education, Culture and Science (OCW) funded programmes, specifically the Quality Agreements, the NPO resources, and the Profiling Fund

Chapter 4 covers the abridged financial reports of WU (4.1) and WR (4.2) and the auditor's report of the abridged financial statements. The abridged annual financial reports are directly derived from the full Annual Financial Reports, which are published separately on the Wageningen University & Research website.

The Wageningen University & Research Annual Report 2022 was prepared and validated by the Executive Board on 24 April 2023 and approved by the Supervisory Board on 24 May 2023.

2 Wageningen University & Research Executive Report

2.1 Supervisory Board

2.1.1 Report of the Supervisory Board

The year 2022 saw many restrictions being eased nationwide after two years of the coronavirus pandemic. Studying and working online and in hybrid formats was still common in 2022, but socialising and meeting in person increased. Regular Supervisory Board meetings, which took place six times in 2022, were all held in person at different WUR locations. The Board met seven times in closed sessions in 2022.

Supervisor

The Supervisory Board met with the Executive Board in 2022 to discuss a variety of topics related to WUR's strategic plan, spending of resources, and relevant social issues.

The Supervisory Board met with the Executive Board in 2022 to discuss various topics in relation to the strategic plan, such as the realisation of the strategic plan and content-related topics such as knowledge safety and education reform.

They also discussed the aftermath of the coronavirus pandemic with regard to student and staff wellbeing, the return to campus, and its relationship to the strategic housing plan.

Other strategic topics that were specifically highlighted in the conversation between the Supervisory Board and the Executive Board were the impact of the coalition agreement on academic education and the research that was conducted into WUR's reputation. The results of the Supervisory Board's self-assessment were also discussed.

The Supervisory Board was informed about some research topics such as the integrated area-based approach in relation to nitrogen problems and the WUR-wide research programme ERRAZE: Early Recognition and Rapid Action in Zoonotic Emergencies.

The Supervisory Board held discussions with various officials, such as the ombuds officer, representatives of the central participational structure, and the Academic Board. The Supervisory Board was also informed through various reports from the Examining Boards and central participational structure and of the statutory research tasks, integrity, and social safety, among others.

The Supervisory Board has been informed of the progress of major real estate projects through property reporting and a property project report. The Strategic Housing Plan (SHP) progress report was added in 2022.

The Supervisory Board also frequently discussed the Quality Agreements in 2022. For example, the 2021 Annual Report and the progress of the Quality Agreements were discussed with the Board using information from the dashboard; these progress reports were provided several times. An impact analysis of the quality agreements was also shared. The Supervisory Board also discussed the quality agreements with the participational structure. The Supervisory Board is very satisfied with the progress of the Quality Agreements and the transparent way the Board is being informed about them. The Supervisory Board was also briefed in 2022 on the progress of and deployment of funds from the national programme for education, intended to be a coronavirus support measure for education. WUR drafted a plan for this in 2021, the implementation of which was continued in 2022. The report can be found in section 3.2 of this Annual Report.

The Board had separate discussions with the participational structure (WU students and employees) about the role and involvement of the Supervisory Board and the participational structure in the progress of the Quality Agreements. During these meetings, the Board ascertained that the participational structure is able to perform its role properly. The Board itself monitored progress via the dashboard and also kept track of the proper spending of funds. The Board considers it important to continue these discussions with the participational structure. The extensive report on the Quality Agreements is included in Chapter 3 of this Annual Report.

The Supervisory Board has approved the 2022 WUR Management Report and the 2022 Annual Financial Reports of WU and WR. Based on the positive recommendation of the Audit Committee, the Supervisory Board approved the 2023 budget of Wageningen University and WR.

The Supervisory Board monitored the effective spending of resources, including the government grant and the TO2 subsidy. The Board did this primarily by assessing the intended expenditures as stated in the budgets and multi-year projections and performing a general check on them to see whether they are on track with the Strategic Plan. The Supervisory Board also assessed whether the ratios and key figures are in line with other organisations in the sector. Finally, the Supervisory Board assesses all disinvestments/investments larger than €5 million. This was addressed in 2022 with regard to renovation of facilities, new construction, and investment in renewable energy supply.

The Supervisory Board and the Audit Committee consulted with the external auditor regarding the annual accounts, the Management Report, the 2021 Annual Financial Reports, and the 2022 Management Letter. The Supervisory Board advised the Executive Board to accept the auditor's recommendations. Furthermore, the Board regularly discussed the financial reports and investments.

Employer

Following the recommendations of the Appointments Committee, the recruitment procedure for the chair of the Executive Board was started in the autumn of 2021, in view of Prof. L.O. Fresco's second term of office which began on 1 July 2022. This recruitment process continued into 2022, during which the Appointments Committee was supported by an external recruitment agency. The participational structure advised the Board on this. In March 2022, the Supervisory Board decided to appoint Dr S. Heimovaara, then general director at WUR's Agrotechnology and Food Sciences Group, as chair of WUR's Executive Board. The appointment took effect on 1 July 2022.

Due to the end of Prof. A.P.J. Mol's second term of appointment in June 2023, the 2022 Appointments Committee advised the Supervisory Board to reappoint Mr Mol as Rector Magnificus and vice chair of WUR's Executive Board. The Central Participational Structure and the Academic Board advised the Supervisory Board on this issue. The Supervisory Board decided to reappoint Mr Mol until 9 March 2024 in December 2022.

The Supervisory Board approved the six-month overviews of personal expenses by Executive Board members. The Board also granted its approval for the (new) secondary employment activities and external activities of members of the Executive Board.

The Supervisory Board completed the annual performance reviews with the members of the Executive Board in 2022.

Following the Supervisory Board's nomination, Dr K.D. Schuijt was appointed by the Ministers of OCW and LNV as a member of the Supervisory Board with effect from 1 September 2022.

Following the Supervisory Board's nomination, the Ministers of OVW and LNV reappointed Ms T. Klimp as a member of the Supervisory Board for a second term with effect from 1 September 2022.

Mr J.R.V.A. Dijsselbloem stepped down earlier as chair of the Supervisory Board on 1 December 2022 after being appointed mayor of Eindhoven on 13 September 2022. At the recommendation of the Supervisory Board, Prof. E. Dijkgraaf was appointed chair of the Supervisory Board by the Minister of Education, Culture and Science (OCW) and the Ministry of Agriculture, Nature and Food Quality (LNV) with effect from 1 December 2022. Dijkgraaf was already a member of the Supervisory Board.

Relationship with stakeholders

In March 2022, the Supervisory Board attended the internal meeting with the WUR Council. The council also attended the consultation meeting between the Executive Board and the participational structure in June 2022. An informal consultation between the Supervisory Board and the participational structure took place in December 2022.

With in-person meetings resuming in 2022, the Supervisory Board was able to visit a different part of WUR prior to each consultation to meet employees and be updated on the research that is being conducted and the education that is being provided. The Board meets key employees, such as management, lecturers, and researchers who make an important contribution to social issues and groundbreaking research. The Supervisory Board also visited the new Aurora education building and new facilities including the Netherlands Plant Ecophenotyping Centre (NPEC) and the WANDERlab. The Supervisory Board attended various gatherings such as the Dies Natalis, the opening of the Omnia dialogue centre, and the official opening of the academic year.

The Supervisory Board also liaised with external stakeholders. Twice a year, the chairs of the Supervisory Boards of Dutch universities meet: during these meetings they are in contact with the Dutch Ministry of Education, Culture and Science. There have been consultations in the context of TO2 between the Supervisory Boards and the Dutch Ministry of Economic Affairs. The Board members' personal networks are in contact with environment around WUR, such as the top sectors, the Wageningen Ambassadors, WUR clients, etc.

Development

A self-assessment by the Supervisory Board, with external guidance, was launched in the second half of 2022. The Executive Board is also involved in this. Team formation, role distribution within the Board, and collaboration with the Executive Board were the topics of discussion. The self-assessment revealed some areas of concern that the Supervisory Board would like to pay more attention to in terms of method or content. These were followed up on in consultations in 2022, and this will be continued in 2023.

The Supervisory Board participated in a cyber training and attended a meeting on knowledge security.

The Board discussed the committee composition and adapted it following the changes in the Supervisory Board.

2.1.2 Report of the Audit Committee

The Audit Committee convened for four regular meetings and one additional meeting with the auditor in 2022.

The audit committee discussed WUR's 2021 annual report and the 2021 financial statements of WU and WR. The auditor's report was discussed in the presence of the auditor. Some points of attention were the number of research projects yet to be completed (called "napro"), solvency, and the new policy rule regarding investing in private activities. Issues that have been commented on in the past, such as procurement and project control of research contracts, have been further improved and no longer require the Board's attention. The audit committee advised the Supervisory Board to approve the 2021 annual accounts of WU and WR and adopt the auditor's recommendations. Other topics of discussion included financial management reports, cyber security, the digitalisation strategy, registration of secondary positions, property reports, investment project reports, and the progress of the strategic housing plan. Some investment proposals were also discussed and the audit committee issued a positive recommendation to the Supervisory Board.

The status of the 2022 internal control plan, the internal reviews, and performed audits, and the internal control plan for 2023 were discussed in the presence of the internal auditor. Specifically, the role of internal audit in relation to the registration of ancillary activities and in a fraud case was discussed.

Consultations were held with the accountant about the audit plan 2022 management letter. Specific plans and progress were discussed regarding innovation in administration and monitoring, risk management, and some crucial IT systems.

The Audit Committee discussed the 2023 budgets of WU and WR and the multi-year projections at the end of 2022. Topics of discussion here included energy costs, filling vacancies, absenteeism, and investment in knowledge development. These were with respect to the long-term projection, the development of inflation, student numbers, liquid assets, and sensitivity to fluctuations. The Audit Committee issued a positive recommendation to the Supervisory Board on the 2023 budgets of WU and WR and on the 2023-2027 multi-year projections of WU and WR.

2.1.3 Report of the Appointments Committee

In 2022, the Appointments Committee convened on three separate occasions. There were also several meetings of the Selection Committee, of which the Appointments Committee is an integral part, in preparation for the appointment of the chair of the Executive Board, the reappointment of the Rector Magnificus, and the nomination of a new Supervisory Board member to the Minister. This involves the central participational structure and, in for the reappointment of the Rector Magnificus, also the Academic Board.

The Appointments Committee prepared and conducted the annual performance reviews with the members of the Executive Board. The sessions were prepared by the committee and included input from various employees in the organisation, including the central participational structure. The results of the performance interviews were reported to the Board.

The annual self-assessment was prepared by the Appointments Committee and with external guidance in 2022.

The composition of the Supervisory Board at the beginning of January 2022 consisted of two women (40%) and three men (60%). Following Ms Schuijt's appointment and Mr Dijsselbloem's retirement, this changed to three women (60%) and two men (40%) at the end of 2022.

Details of the remuneration for the members of the Executive Board and Supervisory Board for 2022 are provided in 2.9.4 of this annual report.

2.1.4 Report of the Education and Research Committee

The Education and Research Committee met twice in 2022. One regular meeting in summer 2022 was cancelled, and a new date was not set. Important issues during that period were therefore added to the Supervisory Board's agenda.

Fixed topics that were discussed at the meeting were the progress of the Quality Agreements and quality assurance of WU, the early registrations of students, the WOT report, and relevant matters related to integrity. With regard to education, the committee also discussed the new study programmes, the way programme committees work, student challenges, and Lifelong Learning. The committee also took note of the Board of Education's annual report.

With regard to research, investment themes, the visitation of research schools, and collaboration in OnePlanet were discussed.

2.1.5 Independence and compliance

The Supervisory Board ensures that board members are independent. In the Supervisory Board's opinion, this is indeed the case in accordance with the requirements of [Wageningen University & Research's Code for Good Governance](#). The Executive Board is responsible for compliance with all relevant legislation and regulatory requirements and for managing the risks associated with the activities of the institution. The Executive Board reports on and discusses internal risk management and control systems with the Supervisory Board and the Audit Committee. The WUR [Regulations](#) (in Dutch) apply to the Supervisory Board.

2.1.6 Background of the Supervisory Board members

Mr J.R.V.A. Dijsselbloem (1966) had been chairperson of the Supervisory Board since 1 April 2019; he resigned on 1 December 2022. Mr Dijsselbloem was chair of the Appointments Committee, member of the Audit Committee, and also became a member of the Education and Research Committee in January 2021. Mr Dijsselbloem is mayor of Eindhoven and was president of the Dutch Safety Board before that.

Prof. E. Dijkgraaf (1970) has been a member of the Supervisory Board since 1 March 2021. Mr Dijkgraaf was appointed chair of the Supervisory Board on 1 December 2022. His first term of office ends on 1 March 2025. Mr Dijkgraaf was a member of the Education and Research Committee, and he has been the chair of this committee since September 2022. He is also a member of the audit committee as of September 2022. Mr Dijkgraaf is professor of Empirical Economics of the Public Sector at Erasmus University Rotterdam.

Ms M.A. Verhoef (1959) has been a member of the Supervisory Board since 1 January 2017 and is also vice chair. Her first term ended on 1 January 2021; she was reappointed for a second term until 1 January 2025. Ms Verhoef was chair of the Education and Research Committee, and has been a member of this committee since September 2022. Since September 2022, she has been chair of the audit committee and also a member of the appointments committee. Ms Verhoef is also chair of the Executive Board of Level.

Mr B.C. Jansen (1959) has been a member of the Supervisory Board since 1 March 2021. His first term of office ends on 1 March 2025. Mr Jansen is a member of the Audit Committee and also a member of the Appointments Committee as of September 2022. Mr Jansen was chair and CEO of Avebe until 1 October 2021.

Ms T. Klimp (1972) has been a member of the Supervisory Board since 1 September 2018. Her first term of office ended on 1 September 2022. She was reappointed as a member of the Supervisory Board at that time. Since 1 January 2021, Ms Klimp has been chair of the audit committee and also a member of the appointments committee. Ms Klimp is CFO of Vion Food Group.

Dr K.D. Schuijt has been a member of the Supervisory Board since 1 July 2022. Her first term of office ends on 1 July 2026. Ms Schuijt is a member of the education and research committee. Ms Schuijt is director-general of WWF-International; she was CEO of WWF Netherlands until December 2022.

2.2 Key figures

2.2.1 Wageningen University & Research

Table 2.1 Education

	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023
Bachelor's programmes	19	19	19	19	19
Master's programmes	30	30	30	30	31

Table 2.2 Research

	2018	2019	2020	2021	2022
Number of scientific publications	5,305	5,142	5,411	5,663	5,790
Wageningen University	4,614	4,415	4,661	4,907	4,982
Stichting Wageningen Research	1,517	1,475	1,422	1,488	1,585
Number of PhD degrees obtained	286	293	283	294	320

• Data sourced from Pure (dated 24/02/2023).

• A number of scientific publications (articles in academic journals (refereed/non-refereed, books, book chapters, conference proceedings and dissertations).

• This number includes the academic articles with the status e-pub ahead of print. These articles were published online in 2020, but have not yet received a publication year, volume, and issue from the publisher at the time of reporting.

Table 2.3 Students

	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023
Number of enrolments	12,439	12,847	13,275	13,676	13,678
Bachelor's students (including Pre-MSc)	5,902	5,928	6,037	5,904	5,842
Master's students	6,105	6,409	6,936	7,249	7,266
Other enrolments	432	510	302	523	570
Enrolled first-year students	3,003	2,923	3,032	2,982	2,814
Bachelor's (including Pre-MSc)	1,744	1,629	1,745	1,557	1,475
Master's	1,259	1,294	1,287	1,425	1,339
Number of diplomas ⁴	3,323	3,239	3,663	3,329	
Bachelor's programme	1,268	1,295	1,345	1,139	
Master's	2,055	1,944	2,318	2,190	
Number of nationalities among students	106	102	106	111	110
Percentage of international students					
Among Bachelor's students (including Pre-MSc)	3	5	6	7	8
Master's students	38	36	34	35	37

Table 2.4 Employees

Average number of employees (in FTE)	2018	2019	2020	2021	2022
Average number of employees (in FTE)	5,040	5,400	5,880	6,256	6,579
Distribution on the basis of appointment:					
Wageningen University	2,590	2,743	2,951	3,179	3,337
Stichting Wageningen Research	2,450	2,657	2,929	3,080	3,243

Relates to staff with a regular employment contract.

⁴ The number of diplomas for the 2022-2023 academic year will only be known after the summer of 2023. These figures will be included in the 2023 Annual Report.

Table 2.5 Sustainability

	2018	2019	2020	2021	2022
Reduction of CO ₂ emissions by % compared to 2010 ⁵	48	50	63	64	60
Annual decrease/increase in energy in %	-2.2	-1.1	-6.5	+6.6	-4.3

The annual CO₂ emissions as a percentage of the total CO₂ emissions for the reference year 2010 (100%). For further explanation, see section 2.8.4.2.

2.2.2 Wageningen University

Table 2.6 Key financial figures for Wageningen University (x €1 million)

	2018	2019	2020	2021	2022
Government funding excluding targeted grants	202.5	226.4	241.9	269.8	295.6
Tuition and tuition fees ⁶	37.8	38.1	39.2	35.7	32.8
Research funding and targeted grants	32.2	34.3	33.7	36.4	36.0
Matching market and contract research	60	64.1	59.3	68.0	72.6
Investments in buildings and sites	6.4	17.7	48.4	45.2	8.8
Investment of other fixed assets	11.3	15.4	24.7	22.1	18.8
Net result	27.6	20.0	20.5	11.6	14.1
Wageningen University capital					
Capital in fixed assets	238.0	248.1	285.1	319.9	314.1
Equity capital	192.0	212.0	232.5	244.2	258.3
Total liabilities	369.6	405.3	437.6	458.6	507.7
Accommodation ratio (%) ⁷	10.1%	8.2%	9.2%	9.2%	9.1%
Solvency Ratio 1 (%) ⁸	51.9%	52.3%	53.1%	53.2%	50.9%
Solvency Ratio 2 (%) ⁹	55.3%	55.2%	56.0%	55.8%	53.1%
Identification value of excess equity ¹⁰			0.74	0.70	0.73
Wageningen University Liquidity					
Cash in bank and in hand	88.9	114.2	104.2	83.3	116.7
Current ratio	0.8	0.9	0.8	0.7	0.8

⁵ The annual CO₂ emissions as a percentage of the total CO₂ emissions for the reference year 2010 (100%). For further explanation, see section 2.8.4.2.

⁶ Excluding course fees.

⁷ Accommodation ratio: (depreciation of buildings and land + accommodation costs - / - rental income) / total costs.

⁸ Solvency ratio 1: equity capital / total liabilities.

⁹ Solvency ratio 2: (equity capital + provisions) / total liabilities.

¹⁰ Identification value in accordance with the Reporting Guidelines for Educational Institutions model. With a value greater than 1, there may be excessive equity capital.

2.2.3 Stichting Wageningen Research

Table 2.7 Key financial figures for Wageningen Research foundation (x €1 million)

	2018	2019	2020	2021	2022
Turnover	321.9	344.0	355.1	372.1	394.2
LNV proportion in total revenue (%)	42	43	43	44	44
Investments in buildings and land	17.7	9.8	19.0	11.4	9.5
Investments in other Tangible Assets	7.2	13.7	7.2	7.7	3.4
Net result	10.4	14.9	17.0	9.4	3.9
Wageningen Research capital					
Capital in fixed assets	339.5	339.0	344.2	342.7	334.2
Equity capital	319.1	334.0	351.0	360.3	364.3
Total capital	547.9	555.8	579.3	576.0	577.1
Solvency ratio (%)	58.2	60.1	60.6	62.6	63.1
Wageningen Research liquidity					
Cash in bank and in hand	117.7	129.2	143.7	135.8	137.3
Current ratio	1.3	1.4	1.3	1.3	1.4

2.3 Mission, Vision and Strategy

2.3.1 Mission and ambition

WUR is a leading international university and research organisation in the field of agriculture, healthy food, and living environment. Our mission remains “to explore the potential of nature to improve the quality of life”. Located in the Netherlands, we work together with academic partners, companies, government organisations and NGOs on global, regional, and local challenges and transitions.

The 21st century has been characterised by major global challenges that transcend countries and sectors. Humans are exhausting our planet’s natural resources, malnutrition remains a global problem, cities are becoming overcrowded, and the climate is changing rapidly. Current national and global developments — such as the coronavirus pandemic, the nitrogen crisis, energy crisis and the ever-changing geopolitical circumstances — require new knowledge and solutions in order to react and anticipate properly.

With knowledge, education, and research of the highest possible standard, WUR aims to tackle global challenges and contribute to shaping and accelerating the required transitions. We contribute to this by developing innovative technological, social, and nature-based solutions. These solutions also contribute to protecting nature, improving biodiverse ecosystems, a circular economy, and supporting liveable urban and rural communities.

At the same time, we focus on continuous internal reform, change, and further development of our education and research to maintain and strengthen our quality, social impact, and global position. WUR’s domain of healthy food and living environment consists of three interrelated core areas with partial overlap:

- Society and well-being
- Food, feed, and biobased production
- Natural resources and living environment

2.3.2 Strategic Plan 2019-2022

The 2019-2022 Strategic Plan [Finding Answers Together](#) is a call to new and existing partners, students, alumni, and citizens to join us in understanding the challenges we face, exploring possible solutions and discussing — and navigating between — conflicting interests. We want to work together on evidence-based and socially inclusive responses that can help shape the necessary transitions.

The Strategic Plan has been extended for two years, until 2024. An important aim of this extension is to gradually align the planning periods of WUR's Strategic Plan and WR's Strategic Agenda as soon as possible. At the same time, we used the extension to update our strategy together with internal and external stakeholders in response to recent external developments and results of several interim evaluations. To further strengthen our social impact through education, research, and value creation, a number of additional ambitions and strategies were added to the current Strategic Plan. The Extension & Update complements — and is an integral part of — the current WUR 2019-2022 Strategic Plan *Finding Answers Together*.

Progress

Twelve Change Performance Indicators (CPIs) were identified in the strategic plan. These CPIs serve as a guide for the implementation. We also implement the strategic plan by including the ambitions and objectives in the core programme as much as possible. We use existing processes and tools, such as the Planning & Control cycle, the budget, existing boards and councils, and meetings. A team for each CPI is active to facilitate the realisation in the organisation using a "Theory of Change" that was created. The Theories of Change detail the intended outcomes and impact of each CPI and how we intend to achieve them through concrete actions, policies, instruments, and programmes. The sciences groups have also developed the CPIs in their long-term plans and are fully implementing them.

We introduced a new way of monitoring and evaluating the CPIs in our strategic plan in 2022. This new approach is based on "sense-making" sessions. In these sessions, the CPI teams up with the Executive Board member concerned to reflect on the outcomes of the realised measures and actions and other developments affecting the CPI. We now look more at the effects of actions during the evaluations. Progress is indicated using qualitative and quantitative information.

The first round of evaluations took place in 2022 using the sense-making method with the assistance of experts in evaluation and monitoring. The CPI teams perceived the sessions as open and reflective. Overall, the teams were able to point out positive developments and trends. Many activities, projects, and programmes have been and are being implemented and contribute to these positive developments. At the same time, there are challenges as well as room for improvement. One area for improvement is to better communicate what is being done at the various CPIs including what is going well and what support is available. Embedding and collaboration with the sciences group is also a challenge at a number of CPIs.

When we look at the developments at our CPIs focused on research, we see a positive trend in the area of Open Science, the number of young and female chair holders, and collaboration between WU and WR. We secure an above-average number of Veni and Vidi grants and have launched an Engineering Doctorate programme. The on-site reviews and evaluations of the research groups within WU and WR have also again achieved positive results. The three new investment themes were launched and the three ongoing ones were completed with a final evaluation by the end of 2022. The resulting recommendations will be addressed in the ongoing investment programmes. The knowledge-base research programmes have been extended until the end of 2024, taking into account the development issues identified in evaluations. Many developments are expected to emerge from the ongoing (national) "Recognition and Reward" process. We integrate the outcomes into our policies and objectives for research, among other things. Financial returns from research have increased, but our original target proved unachievable due to high workload.

The student-lecturer ratio has been improved for the purpose of small-scale education. Among other things, students are more satisfied with study facilities, guidance, career preparation, teaching methods, and skills achieved. Students were also satisfied with the quality of education during the coronavirus pandemic. The majority of lecturers indicated that they want to keep some of the digital innovations that were required during the lockdowns because the innovations contribute to the quality of their education. The professionalisation programme "Education Career Path" has been established for lecturers which enables lecturers to devote more time and priority to education and innovation. This professionalisation programme inspired the "Recognition and Reward" initiative. The new Aurora education building makes flexible education rooms the new standard to enable educational innovations. It was noted that we have not yet achieved sufficient results in the area of flexible learning paths.

More students and researchers received education or support on entrepreneurship. The demand and need for this support is also increasing, signalling that our culture of entrepreneurship continues to grow. Despite the coronavirus measures, there was again an increase in the use of our "Shared Research Facilities". The number of companies and organisations within our campus ecosystem has continued to grow. One area of focus is to do better and explain more about why and how we collaborate with companies to debunk false perceptions about these collaborations. Additional vigilance and identified risks regarding knowledge security also introduce new challenges to our (international) collaborations. A reputation survey conducted in 2022 shows that internal and external stakeholders consider high quality and contribution to societal problems to be characteristics of WUR. At the same time, we can further strengthen our awareness and clarity about what WUR is and what we have to offer.

Diversity and inclusion are key themes that have been strengthened as an integral part of our policies and activities by 2022. We are seeing an increase in female professors and an increase in international staff. Furthermore, there is great diversity among the organisational units. An increase in newer, younger people is a natural consequence of the relatively high demand for research and the associated growth of the organisation with many new employees. The number of employees with disabilities has also grown significantly, driven by our Jops programme. Mobility in the organisation is still low and difficult to achieve, partly because it is linked to expertise and relevant knowledge. We can also further improve collaboration between sciences groups on internationalisation. The cultural aspects of trust, collaboration, and measured risk-taking are embedded in activities and (leadership) programmes. An interim satisfaction survey among a group of employees showed that employees generally feel their managers trust them. At the same time, some teams still do not feel secure enough to discuss bottlenecks with managers. This is being discussed with leaders in the organisation.

There was regular communication about the plans and the results achieved by the CPIs through stories of notable milestones or developments that touched on the work of WUR colleagues. Open meetings were again organised in 2022 with the aim of "Finding Answers Together" (FAT sessions) on various ambitions in the Strategic Plan, including "Shared Research Facilities", Recognition and Reward, social safety, the new investment themes, and diversity.

Looking ahead

We will begin preparations for the new 2025-2028 Strategic Plan in 2023. These preparations will be completed in 2024 through a new strategic plan. The next round of evaluation and monitoring by CPI, together with the results of the completed reputation survey and an external analysis of the surroundings, will be important inputs.

2.3.3 Attention to corporate social responsibility

We strive for sustainability on all fronts: education, research, value creation, and business operations. In everything we do, we are aware of the social effects and we take our social impact into account in our decision-making. "One Wageningen" is central to our Corporate Social Responsibility (CSR) strategy and "Science for Impact" is an explicit starting point for research and education. This is how we contribute to the global societal challenges of food security, safety, health, liveable cities, and sustainable land use.

The WUR 2019-2022 Strategic Plan gives priority in the area of CSR to promoting the vitality of our employees and students, to a healthier and more sustainably produced food supply in our canteens, and to reducing food waste. In making our organisation more sustainable, we apply a Living Lab concept: an approach that provides opportunities for research and educational experiments. In our purchasing policy, we put pressure on chains to operate in a transparent, sustainable, circular way and free of modern slavery. This approach will be continued in 2023 and 2024 and is detailed in the extension of and update to the Strategic Plan: "it is important that we ensure our independence, integrity, transparency, and sustainability." The extension and update place additional emphasis on enhancing social safety for all our employees and students. WUR does this by facilitating and encouraging openness and inclusiveness, including in the (ethical) dilemmas we face as an organisation and as individuals. A second additional focus is making sustainability more visible in our educational programmes.

CSR Agenda	Ambition	Contributing to the SDGs
In our research and education activities 	<ul style="list-style-type: none"> • Research and education designed to make a contribution to societal challenges • Innovative and challenging research and education 	
In how we do our work 	<ul style="list-style-type: none"> • Sharing and disseminating knowledge • Ethically responsible research • Entrepreneurship and applied research • High-impact partnerships • Flexible learning paths 	
Governance 	<ul style="list-style-type: none"> • Responsible collaboration • Responsible economic policy • Chain responsibility 	
 Students and employees	<ul style="list-style-type: none"> • Vitality • Development and training • Diversity 	
Environment 	<ul style="list-style-type: none"> • Climate-adaptive environment • Waste and circularity • Sustainable energy • Sustainable mobility 	

Figure 2.1 CSR agenda

The ambitions and goals from the strategic plan, which affect CSR and sustainability, are included in our CSR agenda: a list of 17 social themes that are important to our organisation and stakeholders (see Figure 2.1). WUR has social impact through its core activities of education, research, and value creation. Innovative challenges are sought out, and sharing and disseminating knowledge is key. Vitality, aimed at the health and wellbeing of our employees and students, and diversity are important focus areas when it comes to social responsibility. And research must be ethical: employees are expected to act with respect towards people and animals and with an eye for nature and the environment. This is stated in our [integrity code](#). More information on the CSR agenda can be found in Section 2.8.3.

2.4 Education

2.4.1 Profile and policy

As an international university, we contribute to the development of solutions for urgent and relevant scientific and societal challenges. The power of WUR lies in its potential to combine the expertise of WU with that of the specialised research institutes of WR. The interdisciplinary nature of WU enables us to integrate our efforts and insights from various scientific, social, scientific and technical academic fields. Combining this expertise leads to scientific breakthroughs that can quickly be implemented in practice. This multidisciplinary approach is also central to education. In education, attention is also paid to entrepreneurship: both through the education curriculum and through extra-curricular initiatives (see also 2.6.2.1).

Companies, government bodies, social organisations, and research institutions can visit the “Society Based Education desk” to connect the questions to courses for students who are learning to use their academic skills to resolve concrete issues (see also 2.6.3.4). The Science Shop is available for non-profit organisations (see 2.6.3.7).

Our education and research is aimed at the domain of healthy food and living environment (see 2.3.1). The Bachelor’s and Master’s programme offerings for the more than 13,000 campus students in 2021/2022 consisted of 13 Dutch-language Bachelor’s programmes, 6 English-language Bachelor’s programmes, and 31 English-language Master’s programmes (Appendix 1, Table B1.1).

Three of these study programmes are jointly provided with other institutions of higher education: the Tourism Bachelor’s programme with the Breda University of Applied Sciences (BUAS) and the Water Technology Master’s programme (MWT) with the University of Groningen, Twente University, and Wetsus in Leeuwarden. The Metropolitan Analysis, Design, and Engineering (MADE) Master’s programme is offered along with the Delft University of Technology, under the umbrella of the Amsterdam Institute for Advanced Metropolitan Solutions (AMS).

Three Master’s programmes offer an online part-time specialisation, which provides students across the world with the opportunity to obtain a full Master’s and to combine study and work. In addition to these degree programmes which are accredited by the Accreditation Organisation of the Netherlands and Flanders (NVAO) and are publicly funded, WU offers open and online education, such as massive open online courses (MOOCs) and professional online courses. Through Wageningen Academy and the Centre for Development Innovation (CDI), WUR organises professional online and in-person training programmes and postgraduate courses for professionals in the business community and public or semi-public sector (see 2.6.3.6 and (2.4.2)).

Wageningen education is multidisciplinary, sometimes even interdisciplinary and transdisciplinary, and the Master’s programmes, in particular, are strongly international in character, both with regard to the curriculum and the composition of the campus student population. The International Classroom is the instrument used to educate students about working in an international and multicultural context and to further enhance the educational quality.

The form and content of education in the Bachelor’s and Master’s programmes is updated and reviewed annually in the “education change cycle”. The Board of Education – the degree programme board of all NVAO-accredited programmes at WU – determines the curriculum of the study programmes and is responsible to ensure the quality and study feasibility of the programmes.

In 2018, a start was made on the implementation of the “Vision for Education” (2017) with the following education mission for Wageningen: “We educate students to become academic professionals, who can contribute to sustainable solutions for existing and future complex issues in the domain of healthy food and living environment all over the world, and who take their social, personal and ethical responsibilities seriously.”

The implementation was continued in 2022. The three important pillars for the development of education are:

1. high-quality scientific knowledge;
2. that a rich learning environment is offered, in which the development of knowledge, skills, and approaches are combined;
3. flexible and personal learning paths.

To ensure a permanent focus on the further development of education and our study programmes, WU collaborates with (or is a member of) many umbrella associations and organisations relevant to its domain (in alphabetical order):

- 4TU.Federation (the four technical universities: Wageningen University, University of Twente, TU Delft, and Eindhoven University of Technology)
- A5 (the alliance of top five agri-food universities in the world: University of California Davis, Cornell University, China Agricultural University, University of Sao Paulo and Wageningen University & Research)
- Association for European Life Science Universities (ICA)
- Comenius network
- Euroleague for Life Sciences (ELLS)
- European Bioeconomy University (EBU)
- European University Association (EUA)
- Groenpact, the framework of partnership between green education (WO, HBO, MBO), business, and government
- Knowledge alliance between Eindhoven University of Technology, WUR, Utrecht University, and the University Medical Centre Utrecht (EWUU).
- Netherlands Universities' Foundation for International Cooperation (NUFFIC)
- Platform EdX (MOOC provider and online learning platform)
- SURF (the ICT collaboration of education and research)
- Universities of the Netherlands (UNL, formerly Vereniging Samenwerkende Universiteiten Nederland, VSNU)
- Acceleration agenda for educational innovation with ICT (joint venture between UNL and the Association of Universities of Applied Sciences VH).

2.4.2 Highlights

Education during the coronavirus

Similar to 2021, the coronavirus pandemic had a major impact on education, mainly at the start of 2022. After the measures were lifted, WU initiated additional activities to encourage students to return to campus; this was reasonably successful after a hesitant start.

In order to handle the effects of the coronavirus with regard to student wellbeing, the reception of new students, social interaction, and learning disadvantages, the Dutch government made funds available in 2021 under the heading *Nationaal Programma Onderwijs* (NPO). A significant portion of the resources was devoted to making sufficient thesis assignments available, supervising internships, more excursions to and interaction with the professional field, and more guidance and assistance for students in 2022. The results for 2022 are reported in Section 2.4.6.

Educational reform

Our innovation strategy in 2022 continued to focus on achieving the mission for Wageningen education (see Section 2.4.1). WUR believes it is important to keep the education portfolio up to date for different target groups, to create more flexibility in education in response to the changing needs of students and professionals, and to support them as well as possible in their learning process. In order to realise this, WUR believes it is important to have sufficient, well-trained lecturers who possess a rich repertoire of didactic knowledge and skills and to have facilities and support that match these ambitions.

Translating this into an innovation strategy meant that by 2022, investments were mainly made in course innovation, in connection with new scientific and didactic insights of lecturers but also in the necessary adjustments as a result of the coronavirus pandemic.

Further work was done on:

- providing all the necessary software for students in an app store: allowing students to take exams on their own devices;
- providing more blended education, with valuable interaction on campus. In part, this involved exploring online alternatives to practicals and fieldwork: embedding MOOCs in BSc and MSc education and developing a new MOOC on “Transformative Citizen Science for Sustainability”;
- flexible learning paths (following on from a national initiative in the context of SURF) and the start of an experiment with the allocation of microcredentials in education for professionals;
- more flexibility in educational logistics, including automated sharing of student information between universities when students want to take a course elsewhere (student mobility) and the start of a shared educational catalogue across universities, including a pilot for awarding “edubadges” for extracurricular activities;
- keeping the education portfolio up to date, investing in the development of two new courses and strengthening the portfolio of courses for professionals (B2C);
- the strengthening of educational didactics, including skills education, didactics for education professionals, and an inspiring training programme for lecturers.

Some of the above work took place in collaboration with other parties, such as in the EWUU alliance, the parties participating in the Science & Technology sector plan, the 4TU partnership (and more specifically the 4TU Center for Engineering Education), and the Acceleration Agenda “Educational Reformation with ICT” and resulting initiatives.

Courses and degree programmes for professionals

In a rapidly changing society, we, as an educational institution, want to provide opportunities for not only our students but also alumni and other professionals to respond accordingly. Accessibility of knowledge through various forms of education contributes to this.

The Wageningen Academy and Open & Online teams worked together on several projects in 2022 to achieve a great growth scenario. This has resulted in, among other things, a proposal for quality assurance of education, improvement of operations, and more targeted marketing. The programme managers, responsible for compiling the portfolio, have initiated a new working method to ensure that the offerings are fully aligned with WUR’s strategic themes and meets external learning needs. A “board of professional education” has also been established, which looks at the composition of the portfolio, is involved in quality assurance, and whose members act as ambassadors to promote the importance of Lifelong Learning (LLO) within the organisation. As education for professionals requires something different from lecturers than Bachelor’s and Master’s education, a course has been developed and made available in the EWU context that can further support lecturers in this development. To make the offer more interesting for professionals, it has been included in the STAP budget and microcredentials have been introduced. Close collaboration with the other universities on LLO led UNL to allocate a budget for the LLO catalyst as part of the national growth fund. WUR has been closely involved in writing this proposal.

Wageningen Academy provided 55 open-enrolment courses for 1649 participants in 2022. Ten tailor-made courses were developed and provided to 472 students for companies. 17 new courses were developed in 2022, including some “mixed classrooms”, which is being used as a new learning concept. Wageningen Academy’s offerings also include various summer and winter schools, with the latter being largely offered online.

WUR now also offers 47 MOOCs on edX and it is possible to combine three MOOCs with a capstone to a Micro-Master’s. Lecturers were encouraged via a MOOC call to submit a proposal for a new MOOC to be developed in 2023. Of the nine proposals submitted, three were accepted.

Keeping the portfolio up to date: two new programmes

Lecturers from various sciences groups and the Wageningen Data Competence Center developed a Master's degree in the field of data science in 2021 (Data science for food & health). The *Toets Nieuwe Opleiding* (new study programme assessment) received positive results in 2022. The study programme began in September 2022. A proposal has also been developed by lecturers from various sciences groups for a new BSc study programme in Marine Sciences. A macro-eligibility study programme was successfully completed in 2022 and the *Toets Nieuwe Opleiding* was completed with positive results in early 2023.

Quality agreements

In 2022, strides were made towards the realisation of the agreements made in 2019 regarding the Quality Agreements 2019-2024 for WU. As such, a decision has been taken on how to utilise the funds released due to the discontinuation of the basic study grant, for the purpose of improving the quality of education at WU (see Chapter 3 of this annual report for an extensive report).

Student wellbeing

As a result of the coronavirus pandemic, the wellbeing of students is under pressure, which is why a lot of attention was paid to student wellbeing in 2022 as well. The activities that took place were partly funded by resources from the NPO, partly from the Quality Agreements and partly from own resources. For a more extensive report on attention to student wellbeing, see 2.4.6.1.

Student challenges

Wageningen Student Challenges, in collaboration with the University of the District of Columbia, organised the third and final edition of the Urban Greenhouse Challenge in 2022. Student teams were challenged to develop an urban agriculture plot that would significantly improve the quality of life of local residents in one of Washington D.C.'s poorest neighbourhoods. Thirty teams consisting of 260 students from 69 universities in 20 countries tackled the challenge enthusiastically. Team Lettus Design won the challenge and started a business based on their concept after the final.

Thirty-two international teams applied to the Nature-Based Solutions Challenge by submitting a proposal for a nature-based solution in their own environment. Eight teams were selected to implement their solution and received a mentor from partner companies plus a financial contribution. This led to a range of different solutions with concrete local impact. Several finalists were given the opportunity to present their nature-based solution at the climate summit in Egypt. Other finalists from previous challenges are still active with the innovation they developed during the challenge as well. For example, this year's winner of the ReThink Protein Challenge received an investment of €1.5 million for his start-up "Cultivated Biosciences".

Green Deal Nature-Inclusive Agriculture Green Education

Following the expiry of the first Green Deal Nature-Inclusive Agriculture Green Education (Green Deal) in 2021, WUR also endorses phase 2 of the Green Deal. In this three-year collaboration, WUR, together with educational institutions from VMBO, MBO, HBO, central government and Interprovinciaal Overleg (IPO), is making efforts to embed nature-inclusive agriculture into green education.

The Kennis-op-Maat project "Voer voor Adviseurs" (food for advisers) was completed in 2022. Wageningen Research's integrated knowledge on nature-inclusive agriculture has been made available on the Green Knowledge Network in several modules. This information was created for providing training to advisers and coaches. Education can also integrate these materials into their courses and study programmes. The teaching material was presented at the national education day "Nature Inclusive Farming" and used in the course "Nature Inclusive Farming". This course, aimed at agricultural entrepreneurs, was created as part of the training and coaching programme *Toekomstbestendige Landbouw* (future-proof agriculture), a joint programme of the four green colleges (Aeres Hogeschool, HAS Hogeschool, Van Hall Larenstein, and WUR). Several researchers from Wageningen Research were person concerned in the development phase of the course.

Through WUR's pilot farms, students can be directly introduced to applied research on nature-inclusive measures in agriculture. In 2022, for instance, 276 MBO students, 95 HBO students, and 141 WO

students visited the Boerderij voor de Toekomst (farm for the future), and 95 international students came to observe the location.

IT in education

Many IT and educational developments took place in 2022:

- Continued experimentation with new tools in education such as the Labster, H5P, Codegrade, Traintool, and Comprove applications and the Peek app.
- All course applications for education were included in the WUR AppStore and available to students on their own devices. In this regard, an effort was made in 2022 to use these applications widely in education.
- Expanding use and awareness of the new student information system Osiris.
- An application was selected for video distribution and management: Yuja was implemented as the platform for video distribution and management in 2022.
- A lot of attention to and promotion of the new student portal myWURtoday.

Finally, the permanent security of data in digital education systems, as well as digital accessibility for students with visual impairments, were also worked on in 2022.

2.4.3 Success rate and results

The success rate (study success) of the Master's programmes after two years is 21% (for the 2020 cohort). Compared to the previous year, the Master's programme success rate has decreased slightly after two years, and it is still not at the level of the period before the coronavirus pandemic. The success rate of Master's programmes after three years is 70%, which is similar to previous years. In Bachelor's programmes, the success rate after three years is 27%; this is lower than the previous year (35%). This is probably a delayed effect of the coronavirus pandemic. The yield after four years for the Bachelor's programmes is 69%; this is slightly lower than the previous year (72%).

For the 18th time in a row, WUR was chosen as the best university in the Netherlands in 2022 (Keuzegids 2023). Thirteen of the Wageningen Bachelor's degree programmes received the distinction of Top Degree Programme, four more than last year.

In prominent international rankings such as Times Higher Education, ARWU, and QS, WU consistently received relatively high rankings in 2022 as well, despite some of these rankings not adjusting for the formative scope of an institution. Our quality comes best to the fore in the subject rankings that differentiate between different fields. The university is ranked first in "Agriculture", in places one and two for "Food Sciences", and in the top five of almost all global rankings for "Environmental Sciences".

In accordance with the UI GreenMetric University Ranking, which focuses on policy, facilities, education and research relating to a green campus and sustainability, WUR can refer to itself as the greenest university in the world for the sixth consecutive year in 2022. According to the national SustainaBul ranking, WU ranks third among the most sustainable higher education institutions in the Netherlands in 2022.

2.4.4 Quality assurance in education

Internal

The course and programme evaluations provide crucial feedback to lecturers, programme directors, chair holders, and the Examining Board regarding the quality of education perceived by students. The assessments are transmitted, the information is collected, and the reports are prepared using the "Programme and Course Evaluations" (PaCE) system. An updated questionnaire for evaluating BSc and MSc theses was launched in September 2022.

The average overall satisfaction score of students across all courses is 3.9 on a scale of 1 to 5, practically the same as the preceding years. At the course level, 44% of the courses even scored a 4.0 or higher (this was 42% in 2020-2021). The response rate to course evaluations decreased again in 2021 (28% on average) and is a major concern.

The programme committees wrote an annual report and annual plan for the second time in 2021-2022, in which they reflected on the education provided, the improvements that have been made, and looked ahead to the new academic year. In it they describe their ambitions, innovations, and/or improvements. Discussing this annual report is part of the annual visit by each programme committee to the Board of Education. The annual reports show how much time, care, and attention has been given to providing good education and continuing to improve and develop the programmes. In connection with the annual reports and plans, the importance of continuing to organise meetings between the study programme and the work field advisory and examination committees was emphasised once again.

The National Student Survey (NSE) was also carried out in 2021. The response rate to the NSE was lower than in the past three years (34%). The results show that students are generally very satisfied with their study programme and WU. Overall satisfaction and atmosphere at the academy score significantly higher than the national average. The NSE revealed the following as areas of concern: preparation for career opportunities, perceived study pressure (among MSc students), and student involvement in the study programme and their own learning.

External

Two external study programme evaluations were conducted in 2022: a new study programme assessment for the MSc Data Science for Food and Health, which was positive, and the regular programme accreditation review of the BSc Economics and Policy, which received a positive recommendation from the panel. Preparations for the new study programme assessment of the BSc Marine Sciences (January 2023) were undertaken in 2022.

From the recommendations of the panels in the third cycle of degree programme assessments, the thesis procedure and assessment, the internship assessment, and the function of the examination boards were among the topics chosen for further improvement. Improvement actions have been initiated for all these issues. The progress of the improvements made is reported to the Board of Education twice a year.

2.4.5 Funding

Education at WU is funded by direct government funding for education and research that consists of government funding of €295.6 million and the proceeds from tuition and course fees of €32.8 million, totalling over €328.4 million. Funding for green education was transferred to the Ministry of Education, Culture and Science (OCW) on 1 January 2018. WU participates fully in the WO funding model of the Ministry of Education, Culture and Science since 2019.

2.4.6 Students

2.4.6.1 Study counselling, student counselling, and student wellbeing

To ensure good study progress and student wellbeing in general, we offer our students guidance and assistance through study advisers, student deans, and psychologists, and an extensive range of training courses from the Student Training & Support training centre.

The study advisors provide answers to questions concerning the content and organisation of the study; they have a good overview of the structure and content of the study programmes and studying as such. In principle, every student is in contact with a study advisor, who is also the one who can contact a student counsellor or psychologist for help and support for non-study related problems that have an impact on the course of studies. There is close collaboration between the study advisers and the student deans and psychologists. Joint thematic meetings are held regularly. Joint discussions in 2022 included outreach to Asian students and social safety. A number of study advisers are also involved in the support and training provided by Student Training & Support.



The university has also invested in preventing problems in the past year by increasing the resilience of students, such as through the training centre. Social safety received additional attention in 2022. The position of confidential counsellors for students has been strengthened and a map has been created where students can easily see where to go for help. First-year students have already been introduced to the topic of social safety in a playful way during Introduction Days through a special escape room and challenges. A programme for boards was set up together with the major student associations and the municipality. Also, all study and student associations now have confidential counsellors.

Student Deans

- The total number of appointments with the dean's office increased by almost 13% in 2022 (from 1747 to 1965). This is mainly caused by the increase in student numbers. The ratio between the increase in students and the increase in appointments is more or less equal. The percentage of students making at least one appointment with a dean has remained the same (9%).
- The number of conversations with students with ADD/ADHD/ASS has increased, while the number of talks with students with dyslexia has decreased. The increase in students with ADD/ADHD/ASS may be explained by the development of commercial diagnostic institutes, which are more likely to diagnose a "functional impairment". The decrease in students with dyslexia registering is linked to the availability of digital education, which makes some provisions seem as if they are no longer necessary.
- The number of students with mental health issues declined in 2022. The decrease can presumably be attributed to the removal of coronavirus measures in both the public and education sectors (decrease from 21.8% to 17.1%).
- There is a change in the ratio of discussions with BSc and MSc students respectively in the previous financial year, with an increase in discussions with MSc students. This trend repeated itself this year (from 48.4% to 51.3%).
- The total number of international students (non-EU) having at least one discussion has grown by 3% (from 15.6% to 18.3%). The Dean's Office has invested in the relationship with the Asian student community, which has made students more comfortable asking for help.
- Fortunately, there seems to be a downward trend in terms of cases of RSI/CANS. For the first time since 2020, there is again a decrease to 86 reported cases (there were 99 last year). The decline may be related to the return to on-campus education and less use of online options.

Student Psychological Services

- In 2022, 7.36% of students (965) reported to a student psychologist and 1771 interviews took place.
- Of this group, 54% made direct contact, 10% were advised by the study advisor, and 9% were advised by a fellow student. 7% were referred directly from the "Walk-In" (a low-threshold walk-in clinic).
- The course offerings have been adjusted: the "Beter in je Vel" (better in your skin) and "Zelfcompassie" (self-compassion) courses have been discontinued. The psychologists' current course offerings include: "Vergroot je mentale veerkracht/Voluit Leven" (increase your mental resilience/living life to the fullest), "Introduction to Mindfulness", "Mindfulness-Based Stress Reduction", "Lost in Transition", "The End of Procrastination" and "Zelfbeeld" (self-image). In total, 133 students participated in a training course.
- Personalised support is available through life coaches, peer coaches, and the "Gezondeboel" eHealth platform. Students also have the option of completing certain eHealth modules without the intervention of a psychologist; 603 students took advantage of this in 2022, and a total of 1340 modules were started.
- The percentage of students reporting a personal problem has remained fairly stable over the years at 76%. The remaining 24% of students contacted student psychologists with study-related problems. The problems often relate to several areas, both personal and academic, and affect each other.
- Students' main study-related help issues were: lack of motivation and discipline, fear of failure, study stress, and problems concentrating. In the "personal problems" category, stress was the most common complaints, followed by depression.
- The Walk-In resumed in 2022 after all coronavirus measures ended. A total of 310 students attended and 244 discussions took place. 81 students failed to turn up.

Training centre for student training and support

- Eight new programmes/workshops have been developed for students relating to skills, wellbeing, and personal development. A total of 70 courses were provided for nearly 1,700 participants in 2022.
- The fourth stress prevention week ("Surf Your Stress Week") was organised in November. Nearly 1,100 students participated in one or more events. They rated the week as an 8.1. A few events were also organised such as chair massages, an outdoor yoga and breakfast session, and a workshop on depression.

2.4.6.2 Student services and study climate

Services

At WUR, we believe it is important to provide an inspiring and safe study environment for our students. Good provision of services is part of this. To a large extent, this is provided by the Student Service Centre (SSC), housed in the Forum building. Students with questions about enrolment, admission, visa, tuition fees, grade lists, graduation, and participating in an exchange programme. The service provided by the SSC is organised according to the principle of "self-service where possible, extra personal service where desired and necessary." In this way, the SSC wants to be able to provide tailored solutions, also taking into account the diversity within the student population. Although more and more services are provided online, there is still an information desk present in the Forum building. This physical information desk remained open in 2022 even during the lockdown.

As for educational logistics, we use Osiris as our Student Information System. Having first used Osiris in 2021, we continued to implement the various processes in 2022. Students can now use Osiris for almost all processes. We are also working with our alliance partners to open up the various Student Information Systems to make it easier for students to take courses at partner universities. Brightspace is the online learning environment where students can find all information for their studies. Both Osiris and Brightspace can be accessed through the myWURtoday student portal, which was completed in 2022. The student portal is the personalised entrance for an average of 3,000 students a day, giving them insight into their subjects, timetable, and study progress. Students can subscribe to news items they are

interested in and receive relevant notifications at the appropriate time for the educational process, studying, and living on campus.

WUR considers it important that students can build a career out of their studies. Student Career Services supports students and recent graduates in their transition from studying to working. We aim for all students to know our career services and make use of them, if needed. 8,246 students participated in Career Services activities, including one-on-one interviews, and CV checks, in 2022. There is a WUR Career Platform which lists the events and employers post their junior positions and internships here. Approximately 7,500 WU students use the platform. We organised a Career Week for the first time in 2022. We also conducted a series of workshops for students with disabilities in 2022, in collaboration with the student dean's office and Jops (HR participation jobs WUR).

Study environment and student facilities

A good study climate is important for student success, which is why WU has a wide range of student facilities. We also feel it is important for students to have a rich life in and outside of the university, in addition to being active in their study programme. The university supports a range of extracurricular activities for organisations: student associations, study associations, sports and cultural associations, and organisations involved in social responsibility, sustainability, entrepreneurship, building, and skills. In this way, students contribute to a wide range of facilities while gaining experience in organising them.

An important start is made during the Annual Introduction Days (AID) in August and February. Students also play a crucial role in preparing the orientation weeks for new students. All student organisations contribute to the organisation of events during AID. 2022 was the year in which the summer AID could take place entirely in person again. The AID board paid additional attention to alcohol prevention and food waste prevention in 2022. This year, the priority was also collaborating with the city of Wageningen. We are proud that Wageningen's AID is considered the most sustainable AID. 2250 students participated in this in 2022.

During the AID, we try to make everyone feel more than welcome, but we also realise that we need to pay specific attention to creating a safe environment for everyone. WU values diversity and has launched several initiatives to contribute to an inclusive study environment. Twice a year the rainbow flag is hoisted to let LGBTI+ students and staff know that they are welcome here. We offer workshops to prepare students for the education system, culture shock, and working in an international environment. We organise "One World Week" every year — a week of activities aimed at creating understanding between people with different cultural backgrounds, sexual orientations, religions, gender identities, and abilities. We also actively contribute to projects aimed at combating racism and discrimination.

Regular talks are held with student associations and a management promise is signed annually. The management promise includes agreements on preventing undesirable behaviour. This promise was signed again in 2022, when an agreement was made to pay more attention to undesirable behaviour concerning sexually inappropriate behaviour.

WU also has extensive facilities on campus for athletic students. Wageningen University's Sports Foundation (SWU) Thymos, promotes the interests of Wageningen student athletes — individual athletes, as well as members of the student sports clubs (SSAs). The Foundation operates on the "for students, by students" principle and is in close contact with the university, Sports Centre De Bongerd (SCB), the Municipality of Wageningen and Student Sports Netherlands. The coronavirus was not completely gone in 2022 either, which meant that some activities could not go ahead or took place online. Fortunately, we faced very few restrictions after March, allowing SWU Thymos to get back to doing what it does best; motivating and engaging students, including by organising events and experiences.

SCB is the sports centre for students and employees of WUR. All students and staff are able to use the SCB facilities at reduced rates. SCB offers a broad high-quality range of sports and activities in excellent indoor and outdoor facilities.

The year 2022 started with a lockdown (again) as a result of the coronavirus pandemic, which meant the CPC remained closed until 17 January. After that, the measures were eased fairly quickly. Eventually, the SCB was able to offer the entire programme again without restrictions as of July 2022. During this period, the sports centre has clearly proven to be a meeting place for our students and staff in addition to providing sports and exercise activities. This was also reflected in the fact that 750 students purchased additional sports rights this year compared to 2019. Furthermore, we see that student sports clubs have grown by almost 600 members since 2019.

Student housing is not a core task of the university, but it is an important part of the study environment. We have a consortium agreement with Idealis on student accommodation for international students. This agreement makes it possible for our international students pursuing a BSc or MSc study programme to find a room in Wageningen on time. This makes Wageningen unique compared to other student cities. However, there was scarcity in the room market for Dutch students in 2022. Following the coronavirus pandemic, there was additional demand for student rooms; students are also staying longer in their student rooms. Together with Idealis, peak-period housing facilities were created for exchange students who could not find a room.

2.4.6.3 Student numbers

The influx of first-year BSc students (excluding Pre-MSc) decreased by 4% in 2022 (reference date 1 October). This decrease was mainly caused by a decrease in first-year Dutch BSc students. A similar decrease was seen nationwide. This was due to the fact that the number of pre-university education graduates declined nationwide in 2021/2022. There are also proportionately fewer pre-university education graduates enrolling straight into university in 2022. This was probably because more pre-university education students took a gap year first because they could not do so during the coronavirus pandemic. The reintroduction of the basic study grant from 2023/2024 may also play a role in this; students postpone their university studies for a year so that they receive a basic grant right from the start.

Incoming students in the MSc programmes have declined by 8%. This percentage is based on the number of students who started an MSc programme at WU for the first time between 1 September 2022 and 1 October 2022, compared to these numbers in the same period in 2021. This lower enrolment number was mainly caused by a lower number of internal continuing Dutch BSc graduates at WU compared to the previous academic year. This was probably a delayed result of the coronavirus, which meant that (a large number of) these BSc students did not graduate within three years but only over the course of 2022/2023, entering into a MSc programme later on in 2022/2023. MSc enrolment is therefore expected to recover during 2022/2023.

On the reference date 1 October 2022, the percentage of non-Dutch BSc students was 8%: 440 of 5,740 students, spread across 63 nationalities. Of these international students, most have German and Italian nationality (both 59), followed by French (28), and Belgian (26). 6 of the 19 BSc programmes were taught in English.

Of the Master's students, 37% have non-Dutch nationality: 2,683 of 7,266 students, spread across 102 nationalities. The most common nationalities are Chinese (436), Italian (271), German (267), Greek (219), Indonesian (173), and Indian (150). All the Master's programmes are taught in English and are provided to Dutch and non-Dutch students together. Among the 102 Pre-MSc students, 29 are of non-Dutch nationality (28%).

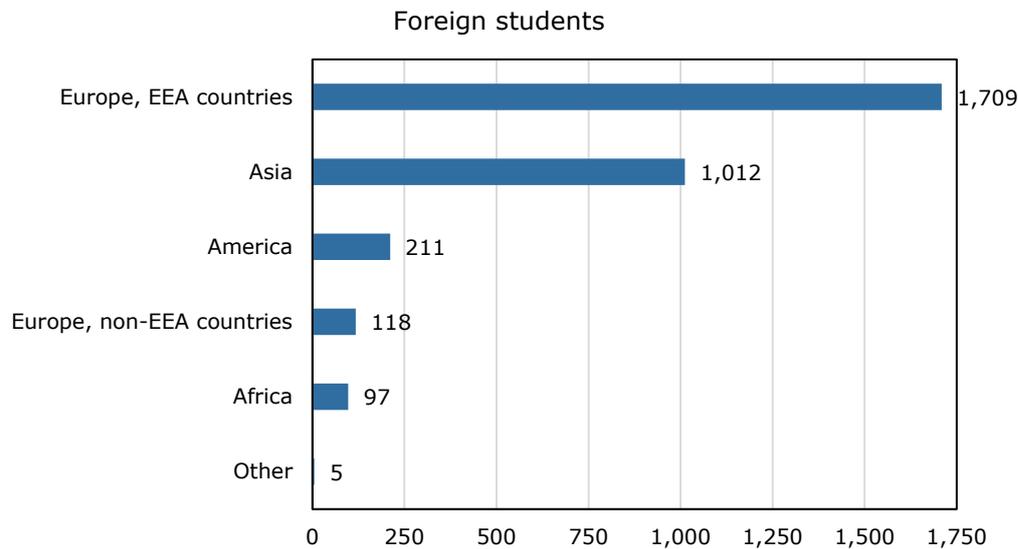


Figure 2.2 Distribution of the 3,152 foreign students (BSc, MSc, and Pre-MSc) at Wageningen University based on nationality, reference date 1 October 2022. The "other" category includes Australian and New Zealand students and students whose nationality is unknown. Russian and Turkish students are classified as Europe, non-EEA (source: Osiris).

2.4.6.4 International exchange

The exchange programme offers WU students the opportunity to study abroad at renowned international institutions and thus gain new experiences. In return, the university receives international students who perhaps otherwise would not have come to WU to study. In the vast majority of cases, this is six months of study. Incoming students are a welcome addition to the diversity of nationalities in Wageningen and contributed to the international character of our education. The exchange programme also contributes to the success of the ELLS (Euroleague for Life Sciences) network, with more than 50 students coming to Wageningen each year and more than fifty students going from Wageningen to one of the ELLS partners.

The EU has allocated €2,289,364 in Erasmus+ funds in 2022. This is almost €600,000 less than the record amount allocated in 2021, but in this year, fewer HE institutions applied and for a lesser amount, partly due to the pandemic. 20% of this amount is intended for exchange/internship outside Europe and the rest for within Europe. A further €160,280 was granted for exchange programmes with HUJI (Israel) and Lincoln University (New Zealand), partners in the ELLS framework of cooperation.

645 WU students were nominated for exchange in 2022/2023 (reference date 24/01/2023). That is over 100 more than last year, which can be largely explained by students who could not go on exchange earlier due to the coronavirus making up for lost time. Of the 645 nominated students, 172 have a destination outside Europe, which is considerably more than last year. This is due to the fact that last year, because of the pandemic, the exchange programme was not possible in many destinations outside Europe.

The number of incoming international exchange students in 2022/2023 is 411. This is slightly more than last year, when it was especially difficult for students from outside Europe to come to Wageningen. The incoming students took part in the regular activities organised for them, such as the AID and activities by student organisations such as ESN and ISOW. Some students chose regular study programmes at WUR following their exchange.

Twice as many scholarships were awarded for internships in 2022/2023 compared to last year (320), at an average of €1,976 (reference date 24/01/2023). Of these, more than half the students are heading to a destination outside Europe.

Several new agreements with universities were concluded in order to meet the demand for exchange options in different fields and regions in the coming years. This brings the total number of agreements to 232.

2.4.6.5 Student participational structure

Students at WU enjoy participation at different levels within the university: in the decentralised programme committees (concerning the content and quality of the degree programmes) and at the central level in the Student Staff Council (SSC) and the Student Council (SC).

The Student Council consists of twelve full-time members from various groups and nationalities. These student members are elected for a one-year term by fellow students. The election turnout in 2022 was 35.3%. Important topics of the SR in 2022, in addition to regular topics such as the Education and Examination Regulations (EER), were:

- The changes to the resit policy (the decision itself was subject to Student Staff Council consent).
- Harmonising English language requirements.
- Student Council's initiatives on centralising the promotion of student events.
- Initiating a platform to support students with disabilities and give them a voice in policy-making regarding studying with disabilities.

The latter proposal connected well with the university's pilot "Peer support sessies - studeren met een functiebeperking" (peer-support sessions - studying with a disability). Follow-up sessions of the platform are scheduled in 2023.

2.4.6.6 Objections, appeals, and complaints

Dispute Advisory Committee

The Dispute Advisory Committee (GAC) received one appeal from WU in 2022. This was directed against the rejection of a scholarship in the "African Scholarship Programme". The student in this case accepted the decision before it came to a hearing on the merits, and the GAC therefore did not issue a further recommendation.

Examinations Appeals Board

In 2022, the WU Examination Appeals Board (CBE) received 63 appeals, 31 of which were directed towards a decision not to admit the appellant to an MSc programme. Of the remaining appeals, 23 were against a binding negative study advice, one against a grade review, one against rejection of electives, two against a decision not to grant cum laude, one against a conversion of grades, one against a decision on a request for a different interim examination format, two against an inadmissible interim exam, and one against a refusal of provisions during an interim examination. In 59 cases, the parties agreed on an amicable settlement and the EAB consequently did not handle the appeal. In four cases, the EAB issued a ruling after hearing the student and the Examining Board. The CBE declared three appeals unfounded and upheld one appeal.

Student Complaints Committee

WU's Student Complaints Committee received one complaint in 2022 that concerned the way it handled a supplementary internship agreement from a foreign internship provider. This complaint was still pending at the time of writing this annual report.

2.4.6.7 Alumni

WUR's alumni network passed the 60,000 alumni mark in 2022; in fact, by the end of 2022, Wageningen had more than 61,200 alumni. The number of international alumni continued to increase. 26% have a non-Dutch nationality.

After two years of activities mainly taking place online, 2022 was all about gradually launching activities in person or in hybrid form. The "Wageningen Experience Day", a concept that was developed as an online event in 2021 and took place in a hybrid way in 2022, is a clear example of this. A total of approximately 1,000 participants took part in the Wageningen Experience Day, three-quarters of whom joined online.

The 25th- and 50th-year reunions that could not take place in 2020 and 2021 were still organised in Wageningen in May. The 2022 follow-up days were linked to the “Wageningen Experience Day” in October. Two World Lectures were organised with “Wageningen Dialogues”. Outside Wageningen, most of the activities took place live, including the regional council meetings, 4TU meetings, and a special meeting in Rome associated with the FAO World Food Forum.

Wageningen alumni entering the labour market (previously 2.6.5)

The national alumni survey (NAE) was conducted among recent graduates in 2022. The NAE is aimed at alumni who have obtained their MSc degree in the past two years. Recent alumni of WUR tend to move more than average; 26% of all alumni work abroad.

2.4.7 Outlook

We will continue our efforts on areas of quality of education and support for students in 2023. In doing so, we will implement valuable insights and practices gained during the coronavirus pandemic more structurally in education. To this end, WU will continue the implementation of the quality agreements in 2023 as well as the implementation of the NPO. In the context of both plans, the implementation of the ambitions and objectives as set out in the “Vision for Education” will be continued. This includes the implementation of the skills education offerings for the Bachelor’s programmes, and the new framework developed in 2020 for the Master’s programmes will be implemented step-by-step to enable things like greater flexibility. Efforts will also continue to address the recommendations from the programme accreditations. A vision of an integrated educational landscape will be developed in the EWUU framework by 2023.

Attention will also be paid to the further development and integration of the “Education Ecosystem”; a cohesive portfolio of campus education, online education, and education for professionals in 2023. The emphasis will be on addressing the recommendations that emerged from the evaluation of the education portfolio and developing a portfolio for online education for professionals (B2C). The new BSc Marine Sciences study programme will start in September 2023. The formation of a new BSc study programme in data sciences for life sciences will also be explored in 2023.

We will also start renewing our vision on education in 2023. This process will be closely interwoven with the preparation of an organisation-wide strategic plan.

Work pressure and the vitality of lecturers and other educational staff are important points of interest when implementing our ambitious plans.

2.5 Research

2.5.1 Policy and organisation

Wageningen University

The WU investigation will be conducted within the chair groups. Each chair group, led by a professor, has its own sphere of expertise within the domain of healthy food and living environment.

Wageningen University leads six graduate schools within an overarching organisation. The Wageningen Graduate Schools:

- Experimental Plant Sciences (EPS, a national graduate school)
- Wageningen School of Social Sciences (WASS)
- Graduate School for Production Ecology & Resource Conservation (PE&RC; a national graduate school)
- VLAG Graduate School for Biobased, Biomolecular, Food and Nutrition Sciences
- Wageningen Institute of Animal Sciences (WIAS)
- Wageningen Institute for Environment and Climate Research (WIMEK; part of the national graduate school SENSE, for which Wageningen University acts as coordinator)

The WU graduate schools have three core tasks: they coordinate, develop, and facilitate the PhD education programme at WU. They also ensure the safeguarding, monitoring, and advancement of the quality and progress of academic research (PhD candidates, postdocs, and researchers). Finally, they coordinate a cohesive research programme for the university that is in line with the mission of the graduate school.

In addition to the PhD programme, WU also launched an Engineering Doctorate (EngD) programme in 2022. This is coordinated by the Dean of Research Office (DoRO).

Wageningen Research

Most of WR's research is funded by the Dutch Ministry of Agriculture, Nature and Food Quality: Knowledge Base Research (KB), Policy Support Research (BO), Statutory Research Tasks (WOT), and research within the top sectors (TS). WR also engages in research in European programmes and contract research.

The position of WR in the national and international knowledge ecosystem is based on our knowledge base. It is very important to develop them continuously. The knowledge we are developing now, in our five robust knowledge base programmes, is essential for finding answers in two to four years' time. The knowledge base develops building blocks and expertise that we use in the other knowledge instruments (BO, WOT, TS, EU, and Contract Research). We promote cohesiveness, and in turn synergy, between the knowledge base and the other knowledge instruments.

KB funds are spent within the five KB programme themes of the 2019-2022 Strategic Plan:

- Circular and climate-neutral
- Food security and the value of water
- Nature-inclusive Transitions
- Safe and nutritious food
- Data driven and high tech

The current five programmes were originally set to run until 2022. They have been extended for two years (2023-2024) due to the extended WUR SP. As a follow-up to the main recommendations from the 2021 midterm review, the following actions were implemented in 2022:

- All themes have created a Theory of Change prior to the extension of the programmes to clarify the intended impact and monitor each project's contribution to it. The core teams monitor this consistency.
- The themes have created structural alignment points and are shaping this relationship within the projects through:
 1. Co-funding.
 2. Proceeds from the KB WOT; these contribute directly to the WOT programmes.
 3. KB coordinators are represented in the WUR EU Council.
 4. WR themes contribute to EU Partnership Developments, Joint Programming, and Growth Fund proposals (towards bilateral market).
 - Different scales are connected through Living Labs (regional, NL, EU, global). WR theme representatives are involved in global networks and activities leading to agenda-setting.
 - The connection between the Wageningen Modelling Group and KB is secured by liaising in projects: at the project leader level and through KB Leads/Core Team.
 - KB research is closely aligned with WU's research. A number of steps that will strengthen the connection and collaboration between WU and WR have been taken in 2022. We launched five PhDs (one PhD per KB programme), we collaborated with events (such as the WIFI conference in June 2022), worked together with NWO funding (so that WR can participate in it), and collaborated thematically, in which WU and WR act together (Microbiome, Food System Transitions, Biodiversity & Food Systems et cetera) in 2022.
 - The extension of the programmes highlights and visualises the links between themes.
 - Each programme has part of the budget set aside for co-funding EU programmes. Prior consideration is given to the projects/EU Partnerships that are relevant, but the rhythm of supply and demand for co-funding makes implementation difficult.

-
- Core teams are more firmly established in the institutes; each programme organises a kick-off and community days. We are unifying internal and external communication on WR themes, including through a single KB magazine in early 2023.

The BO is divided into two programmes:

- Sustainable food supply, production chains, and nature. This research is similar to the long-term social innovation programmes (MMIPs), as is the research within the top sectors, which promotes interaction among and integration of results.
- Climate portfolio Work began in 2022 to shape long-term programmes for research within the climate portfolio, with a projected start in 2023.

The implementation of the WOT is divided into seven programmes:

- Infectious Animal Diseases
- Food Safety Policy
- Food Safety Enforcement
- Genetic Resources
- Nature and Environment
- Fisheries
- Economic Information

Funding of the WOT programmes is provided through the Ministry of Agriculture, Nature and Food Quality (LNV), with the exception of WOT Food Safety Enforcement. It is funded through the Dutch food and consumer product safety authority (NVWA).

Research within the top sectors Agri & Food and Horticulture & Propagation Materials is managed by the Top Consortium for Knowledge and Innovation (TKI), specifically set up to manage these two top sectors. Planning for each top sector is done on the basis of questions that are formulated in the context of the Innovatiehelix between government, the business community, and research institutes and, increasingly, citizens. These questions lead to public-private partnerships (PPPs) that are programmed annually through a call based on the Knowledge and Innovation Agenda (KIA) of the Agriculture Water Food theme (2020-2023). Funds are also set aside to co-fund EU projects that fit within the top sector. Additional attention is also paid to disseminating knowledge to specific target groups for selected themes through the Kennis op Maat programme.

Investment themes

WUR invests in investment themes as part of the Strategic Plan. These themes primarily focus on WUR-wide expertise development for topics that are important to the entire organisation in the long term to maintain and strengthen WUR's knowledge position. In addition to WR themes, three investment themes continued for the final year in 2022, within the framework of the 2019-2022 Strategic Plan, for which we deployed both strategic resources from WU and a small portion of KB resources from WR:

- Connected circularity
- Protein transition
- Digital twins

These themes ended at the end of 2022. The themes will be reviewed in 2023. The evaluation focuses on the aspects of quality, output, impact, and the potential for sustainable continuation of the research topics within the themes.

As part of the extension of the WUR Strategic Plan, three new investment themes were also launched in 2022 (having been prepared in 2021), which will continue to the end of 2024. These concern:

- Biodiversity-positive food systems
- Transformative bioeconomies
- Data-driven discovery in a changing climate

2.5.2 Internationalisation

In order to increase the quality and quantity of the international portfolio, and properly organise relationship management with parties outside the Netherlands, WUR has regional account managers for Brussels/Europe, Central and East Europe, the Middle East and Northern Africa, Africa, Asia, China, Latin America, North America, and Oceania. Within these regions, the account managers focus on the countries or areas that are most relevant for WUR.

EU

Brussels/Europe is important for WUR because many research funds are allocated through the Brussels research and innovation framework programmes. The new Horizon Europe programme that began in January 2021 is of substantial importance to WUR, because they contribute to the scientific positioning, collaboration with partners in and outside Europe, network formation, and attracting talent. The Horizon Europe programme offers many opportunities for Wageningen, certainly within cluster 6 (Food, Bio-economy, Natural Resources, Agriculture and Environment), but also within various other parts of the programme. During the first two years of Horizon Europe, WUR was very successful, with over a hundred funded projects (€90 million in EU contributions). WR and WU are number 1 and number 2 in Europe in EU contribution/number of funded projects respectively, in cluster 6.

The WUR Europe Council has taken further steps to contribute to the long-term goals of the EU as WUR. The WUR Europe Council has the ambition to position WUR as the strategic knowledge partner in its domain in Europe, to contribute to solving the major societal challenges in our domain together with strategically leading European partners, and to support the European Commission in the development and implementation of its long-term agenda and policy with regard to the European Green Deal (climate), digital age, international food security, the future of agriculture (CAP), new breeding techniques, and so on.

The WUR Europe Council further developed the relationship management with the Brussels institutions and strengthened the cooperation with the Ministry of LNV towards Brussels in the new European partnerships within Horizon Europe in 2022. As part of the UK strategy, collaborations with funding agencies Innovate UK and Defra are also being considered in addition to collaboration with the four AG Tech Centres. We also took action in 2022 to establish strategic collaboration with Ireland and, more specifically, with Teagasc, University College Dublin, and University College Cork. Furthermore, work has started on strengthening collaboration with Danish partners. Copenhagen University (SCIENCE) has already visited Wageningen and a visit from Aarhus University to WUR is in the works. The annual Mansholt Lecture in 2022 was about nature-positive futures. The topic was determined and developed in close collaboration with the EC, including through a preparatory workshop in Brussels with representatives from various DGs and a visit by DG-AGRI Wolfgang Burtscher. The lecture was followed by several talks at European agencies and an online workshop with the European Environmental Agency and the Ministry of Agriculture, Nature and Food Quality (WUR Live special).

Central and Eastern Europe

WUR's strategic collaboration with Central and Eastern Europe (CEE) was successfully consolidated and expanded in 2022. There are several strategic partnerships, both on a bilateral basis and within EU initiatives.

As a leading life sciences organisation in Europe, WUR's proactive role in collaborating with the academic world and relevant stakeholders in CEE countries proved to be very influential in increasing the innovation potential in the region. Developing research projects and curricula with universities in CEE countries and local stakeholders strengthens opportunities for the joint implementation of EU policies (Green Deal) and involvement in European funding programmes (e.g. Horizon Europe, Erasmus+, and so on). At the same time, there is growing collaboration with partners in CEE countries at the bilateral level, including governments, the academic world, and companies. Examples include efficient and sustainable fresh-food chains in Romania and Bulgaria, building knowledge capacity on bio-economy and bio-based society (e.g. CAPBIO4BG Horizon Europe project in Bulgaria and collaboration with Slovakia), professional training programmes on resilient food systems "East meets West", climate-resilient agriculture, soil and water (e.g. CLIMAGRI4Oe), and biodiversity.

Two formal Dutch missions to CEE countries (Bulgaria and Romania) took place in 2022. Participants included WUR researchers, Dutch companies, and the Ministry of Agriculture, Nature and Food Quality (LNV). WUR hosted the first symposium dedicated to collaboration in Central and Eastern Europe, with input from the European Commission's Research and Innovation Directorate and the Food and Agricultural Organisation (FAO) Regional Office of Europe. Participants underscored the need to work within — and with — the five CEE countries towards sustainability goals, specifically where adaptations in energy and food systems are concerned. The funds made available from the EU coronavirus recovery fund will be used, among other things, for investments that contribute to its realisation.

The year 2022 marked the beginning of Russia's war in Ukraine for CEE countries. WUR, together with global partners, organised a seminar on the implications of the war in March, discussing the shifts in the region regarding economic, political, and humanitarian developments and the major global challenges in food security, food production, and supply chains. WUR's collaboration with countries in the region, and Ukraine in particular, on sustainability of the agrifood sector and the environment has taken on a new priority of dealing with the longer-term impact of the war on food production and the environment. A Ukraine Task Force has been established at WUR to coordinate support for academic refugees and students (including Russian students). WUR presented a position paper on recovery measures to the House of Representatives Committee on Foreign Trade and Development Cooperation in May.

Collaboration with Russian institutions was suspended, in line with the Ministry of Education, Culture and Science's (OCW) decision immediately after the start of the war.

Sub-Saharan Africa

Africa is a priority for both the Minister for Foreign Trade and Development Cooperation ("doing what the Netherlands does best", June 2022) and the European Commission.

WUR is actively involved in developing a Europe-Africa International Research Consortium (IRC) on food and nutrition security and sustainable agriculture. This consortium is a platform for researchers, funding providers, and users to pool their efforts to achieve greater impact. The IRC was launched in September 2022.

WUR made a contribution to the IFAD Rural Development Report "Transforming food systems for rural prosperity" for the UN Food System Summit (UNFSS). As a follow-up, a new project was launched with IFAD to work on the necessary transition of the food system in five countries.

Despite the coronavirus pandemic and security problems in the Sahel, the One Wageningen Sahel Platform, together with partners in the region, has written a position paper, "Sahel urgent need for change: food systems transformation in a conflict area". WUR will focus on developing solutions with partners in 2023.

The Wageningen Research Ethiopia foundation office has received a lot of support from Wageningen and has become a solid administration office, supporting WUR research programmes in Ethiopia.

Middle East and North Africa (MENA)

The Middle East and North Africa portfolio was further developed in 2022 by initiating discussions with — and within — various Science Groups. Existing MENA networks have been strengthened, such as collaboration with the Islamic Development Bank. Joint research collaborations on Climate Smart Agriculture, nature-inclusive agriculture, horticulture, and the interaction between water and food systems took place in Egypt and Jordan. A strong emphasis is placed on climate-resilient seeds, smart water for agriculture, good agricultural practices, and saline agriculture as part of a climate change adaptation strategy. The main challenges for the agri-business sector in the Gulf region are water-efficient production in horticulture, self-sufficiency, and food security. Protected Horticulture offers several technologies in this area, such as soilless cultivation combined with wastewater recirculation, alternative cooling methods, and integrated pest management. Most research and consultancy projects in the Gulf region focus on these tasks, with WUR contributing to the design of demonstration and research facilities, setting up research programmes, and training research and operational staff in Qatar, the United Arab Emirates, and Saudi Arabia in particular. Besides the main research activities,

lobbying and networking opportunities have been crucial, such as WUR-wide participation in COP27 in Egypt and Dubai World Expo.

Asia

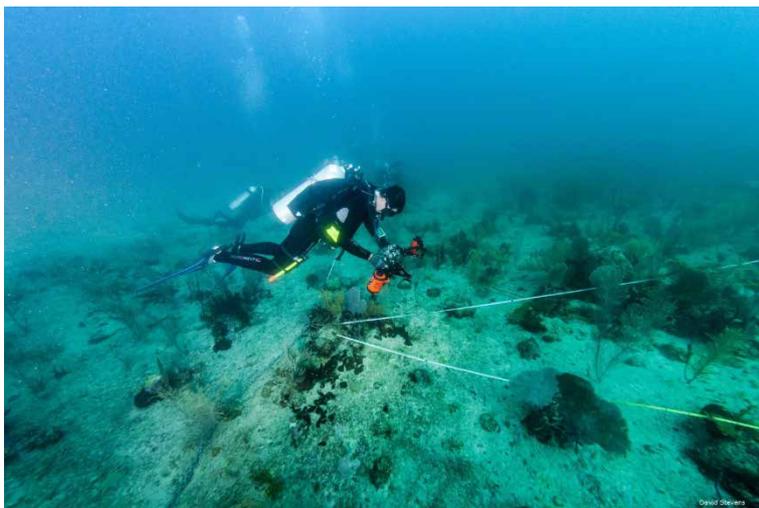
Despite the travel restrictions, there were many opportunities to forge or strengthen strategic partnerships in Asia. This was achieved through the virtual reception of various delegations on the campus. The further strengthening of relations with various countries, such as India, Sri Lanka, Myanmar, Indonesia, Malaysia, and Singapore, has led to the development of new projects and initiatives. Several new agricultural advisors were virtually welcomed on the Wageningen campus.

China

Geopolitical developments have made the world a very different place compared to five years ago. Scientific collaboration with Chinese partners is increasingly being scrutinised in light of knowledge security. Many questions have also been raised within our organisation. An evaluation team assessed WUR's activities in China over the past five years (2018-2022) in 2022. The evaluation resulted in a number of specific recommendations. For WU it involves continuing the academic collaboration with China, while paying more attention to knowledge security where relevant. WU professors consider collaboration to have great benefits, specifically because of lab facilities in China, (large-scale) test sites, and access to academic talent. Chinese scientific institutions are key partners in realising WUR's ambitions to remain a leading knowledge organisation within its domain. WR has noticed a decline in commercial projects and lower interest from WR. This is linked to the changing context of working with China in market-oriented projects. WUR's China Office will be adopting a reactive stance for WR in developing commercial activities. For this reason, the China Office will be scaled down to 2 FTEs, with a focus on supporting financial, tax, and legal aspects of collaboration.

Latin America

The priority countries in Latin America are Brazil, Colombia, and Mexico, followed by Argentina and Chile. Based on experience in the Dutch Caribbean, WUR looked at raising the profile of WUR knowledge for Small Island Development States (SIDS) in 2022. This included strengthening ties with the Caribbean Agriculture Research and Development Institute (CARDI) and initiating the formulation of a WUR SIDS strategy, in which collaboration with CARDI will be very important. Visiting the Dominican Republic offers opportunities for specific scholarships for Dominican students and a specific study and action plan for the Dominican banana sector.



"Smart" soy production was further monitored in Brazil in 2022 as part of a public-private partnership with Brazilian companies and financed by the AgriFood top sector. Together with the Faculty of Agriculture (ESALQ) at the University of Sao Paulo, the Joint Doctoral Programme draft was finalised in 2022 and signed in early 2023. The programme will start in 2023.

There is an increased focus on research for sustainable development of the Amazon in 2022. WUR, together with NWO, has taken the initiative to bring together Dutch parties active in the Amazon (universities, NGOs, research institutes, the Ministry of Agriculture, Nature and Food Quality (LNV), and the Ministry of Foreign Affairs BuZa), at least twice a year, in an "Amazonia Round Table" initiative aimed at improving project coordination.

In 2022, a project was launched that explores more efficient use of resources and reduction of greenhouse gas emissions in integrated (crop-livestock-forestry) systems with partners in three countries in Europe (including the Netherlands) and in Argentina, Brazil, and Uruguay.

Meanwhile, in the Caribbean, ties with Surinamese partners were reinforced, work was done on the Climate Change Impact Assessment with the Food and Agricultural Organisation of the United Nations (FAO), and a new project on soil health was approved. We are working with partners in Bonaire on a project to process organic waste and Sargassum seaweed (a problem in the Atlantic Ocean, particularly off the coast of the Caribbean islands and Mexico) into biogas and possible other circular applications/products.

North America

The year 2022 was dedicated to consolidating collaboration with partners in the United States (US) and further implementation of two PPPs as part of the "CaWaDu" (California/Washington State/Dutch) initiative. These include a roadmap for Controlled Environmental Agriculture with partners in California, (including UC Davis and local industry associations) and the Orchard of the Future programme, with partners in Washington State and Oregon. We also started exploring a PPP with partners in the Netherlands and the US on sustainable dairy farming.

The themes for Canada were protein transition and AgTech Innovation. Arrangements have been made with Protein Industries Canada for collaboration under the federal Canadian government's new Global Innovation Clusters programme. A visit by the Minister for Jobs, Economic Development and Innovation of British Columbia (BC) prompted WUR to take the initiative in setting up collaboration between the Netherlands and BC on the theme of AgTech Innovation. This has led to a consortium of Dutch and Canadian research institutes, companies and industry associations, working together on technological solutions to shared challenges in the horticultural sector, in the areas of labour, sustainability/circularity, food waste, quality, and earning power.

A Science, Technology & Innovation project group was set up by the governments of the Netherlands and Canada in the autumn. This is part of the so-called Strategic Dialogues launched by Prime Ministers Rutte and Trudeau of the Netherlands and Canada respectively in 2021. WUR contributes to this STI project group in the agriculture theme. Partly because of WUR's recent initiatives in Canada in the areas of protein transition and AgTech, the STI project group decided that the focus of the Strategic Dialogues, as far as the agriculture theme is concerned, will be on these two topics and the recently launched activities.

Oceania

With the end of the coronavirus measures, collaboration with New Zealand continued to take shape in 2022. Both the Dutch ambassador to New Zealand and the New Zealand ambassador to the Netherlands visited WUR sites (including the Wageningen campus on the Dairy Campus). The strategic cooperation agreement with Massey University was signed by the Executive Board during an online event in April, and there were follow-up visits to and from Massey University in September and October.

Food and Agricultural Organisation of the United Nations (FAO)

WUR won this year's FAO Partnership Award, which was accepted in Rome in June. A WUR delegation, led by the chair of the Executive Board, visited the FAO in the autumn and met with a large number of FAO staff. It was prompted by the FAO Science and Innovation Forum in which the delegation participated. Strengthening collaboration between the two organisations was also discussed during the visit. While in Rome, we also organised an Alumni Meeting, which was attended by nearly 40 alumni.

CGIAR and the ministry of BHOS

The collaboration between WUR and Consultative Group for International Agricultural Research (CGIAR) has been successful. WUR scientists contributed to the NL-CGIAR event “Partnering for global food security” in November 2022, jointly organised with NFP and NWO. The dedicated portfolio that facilitated this, including the Senior Expert Programme and a Private Sector Expert, provided a strong foundation for this institutional collaboration. Due to its success, this programme is expected to have a follow-up in 2023. Several WUR scientists also contributed to the design of the new One CGIAR Initiatives (2022-2024) and they are now part of these programmes. However, the start of many initiatives, scheduled for 1 January 2022, had been delayed due to the organisational reform of CGIAR.

The Dutch Ministry of Foreign Affairs and WUR share “coordinated relationship management” in the field of Foreign Trade and Development Cooperation (BHOS). Under this umbrella, high-level meetings are organised twice a year to keep each other informed of developments and improve the cohesiveness of each other’s efforts. Consultations have also been arranged within WUR to gather input for two new policy strategies: the general trade and development policy (June 2022) and the Africa strategy (expected in early 2023). The meetings were very well-attended. WUR hosted BHOS minister Schreinemacher on campus in December.

International Research and Education Fund (INREF)

To respond to society’s need for more impact in research for development and to contribute to the development of innovative research approaches, WU launched the Interdisciplinary Research and Education Fund (INREF) programme in 2000. For the fourth phase of the INREF programme (2018-2022), a board consisting of the Rector, the Dean of Research, and a representative of the Wageningen Graduate Schools has been established. The Wageningen Integration for Impact event was organised to celebrate 20 years of INREF, together with the Knowledge Base programme “Food security and the value of water”. A publication of articles on the INREF projects was presented during the event. The fourth phase of INREF was evaluated by an external committee that presented its findings to the INREF board.



2.5.3 Results

Academic awards

WUR researchers were awarded seven Vidi grants and two Vici grants in 2022. This brought the total number of Veni, Vidi, and Vici laureates since the start of the innovation impulse in 2002 to 199.

Table 2.8 *NWO innovation impulse grants*

Type of grant	Number of grants
Veni	117
Vidi	65
Vici	17
Total	199

One ERC Advanced Grant was awarded to a Wageningen researcher in 2022. Since the ERC grants were set up by the European Research Council in 2007, ten ERC Starting Grants and twelve ERC Advanced Grants were awarded to WUR. The ERC Consolidator Grant was set up in 2013. Seven of these have since been awarded to Wageningen.

PhD graduations

The graduate schools ensure a challenging a PhD programme and are committed to attaining the highest possible level of their PhD students. Their success has been demonstrated numerous times by the positive assessments of the inspections that have been carried out and by the participation levels of PhD candidates in Europe in the courses offered in Wageningen. By the end of 2022, WUR had 2389 PhD candidates, with 114 nationalities. PhD students are affiliated with one of the Wageningen graduate schools EPS (228), WASS (478), PE&RC (485), VLAG (543), WIAS (222), and WIMEK (433).

Table 2.9 *Number of PhD candidates by graduate school*

graduate school	Number of PhD candidates
EPS	228
PE&RC	485
VLAG	543
WASS	478
WIAS	222
WIMEK	433
Total	2,389

There were 320 PhD graduations at WU in 2022. Of the 320 PhD graduations in 2022, seven were joint graduations, in which a partner university was also involved. In all cases, the graduation ceremony took place in Wageningen. One of these was also a double doctorate: this PhD graduation first took place in Wageningen and then at the partner institute. Among the 320 PhD candidates, 176 were women (55%), the highest percentage in the past five years. 203 PhD students (63%) had non-Dutch nationality. The percentage of PhD candidates who successfully completed Training & Supervision Plan (TSP) is 96%. The 2022 figure of 461 PhD programmes started is almost at the same level as the previous two years (471 in 2021, 462 in 2020).

Besides PhD candidates, the first EngD candidates also started the Post-Master's in Design for Agrifood and Ecological Systems in 2022.

Top sectors

Within the framework of the Knowledge and Innovation Agenda for Agriculture, Water Food (LWV), the TKI awarded 89 new PPPs for Agri & Food and Horticulture & Propagation Materials in 2022. €42 million was available for PPPs in 2022 through the TO2 subsidy to WR, and €7 million of PSs were funded with PPP allowance from the top sector Horticulture & Starting Materials and €20 million from PPP allowance from the top sector Agrifood. The business community makes a financial contribution of 50% (in money and in kind) to the PPP projects.

Furthermore, projects were started within the framework of the "Kennis op Maat" programme, with a total value of €1.8 million. €0.6 million was available for the "Seed Money" programme aimed at internationalisation. 15 projects were financed from this. Additionally, €1.8 million was committed to

41 new EU co-funding projects of WR. This brings the total co-funding commitment for EU projects to €6.1 million.

Table 2.10 Available WR capacity for top sectors

	WR capacity x € 1 million
PPSs	41.5
EU Co-funding	6.1
Kennis op Maat	1.8
SMP	0.6
Total	50.0

Quality assurance in research

Every six years an evaluation of the Wageningen graduate schools is carried out in accordance with the Standard Evaluation Protocol (SEP 2021-2027), developed and established by the Royal Netherlands Academy of Arts and Sciences (KNAW), the Netherlands Organisation for Scientific Research (NWO), and the Universities in the Netherlands (UNL).

All Wageningen graduate schools were assessed in accordance with the new SEP (2021-2027) in 2021. The evaluation took place in the context of a research unit's self-defined goals and strategy. The self-evaluation also paid attention to specific aspects such as Open Science, Academic Culture, HR-policy, and PhD-policy. The leading unit in the on-site review is the graduate school with newly formed research units as the smallest unit. The evaluation reports were published in 2022. Based on this, each research school prepared an action plan and the Executive Board prepared an administrative response. This information is jointly published on the website.

An evaluation of the individual WR institutes takes place periodically as part of the agreements between WR, the Dutch Ministry of Economic Affairs, the Ministry of Agriculture, Nature and Food Quality, and the Ministry of Health, Welfare and Sport. In accordance with the EMTO protocol, WR as a whole is evaluated once every four years. The 2020 EMTO evaluation and its recommendations have been the basis for the developments of the WR 2022-2025 Strategic Agenda. No WR institutes were inspected in 2022. However, we did start preparing and planning the institutional reviews of Wageningen Plant Research, Wageningen Environmental Research, Wageningen Economic Research, Wageningen Centre for Development and Innovation (these two institutes together), Wageningen Marine Research, Wageningen Livestock Research, and Wageningen Bioveterinary Research.

Open Science

Open Science is a more open way of conducting, publishing, and evaluating scientific research. Open Science therefore focuses on the pursuit of greater collaboration and reusing knowledge and transparency; not only between researchers and disciplines, but also in society as a whole. WUR is committed to the Open Science ambitions of the 2030 National Plan for Open Science and is working together with other Dutch universities on this. The transition to Open Science is a priority area of the WUR 2019-2025 Strategic Plan. The WUR Open Science & Education (OSE) programme has been promoting the connection between research and education and society since 2019 by making Open Science principles and approaches increasingly part of the standard practice. The program facilitates WUR researchers and lecturers in this and provides support with guidelines, tools, resources, and best practices. The WUR OSE programme focuses on four programme lines: Open Access and Open Scholarly Communication, FAIR Data, Citizen Science, and Open Education. Programme management supports these programme lines in the intersecting themes of Policy, Awareness and Skills. There is also a strong link from the programme to developments in Recognition and Reward. The OSE programme 2022-2025 was further developed and adopted in 2022.

Learning objectives for researchers for each target group have been established in 2022 as part of Open Science Skills, and the first training courses have been implemented for KB programmes. The independent Open Science Community Wageningen officially launched in 2022 with a well-attended launch event and monthly lunch sessions. The community launched a survey in late 2022 to

further map the Open Science landscape within WUR and NIOO-KNAW. Community membership is growing rapidly and has doubled in the past six months.

Together with the other Dutch universities, we worked on the new Open Science vision and approach for 2021-2030. This collaboration is in line with the 2021-2025 coalition agreement: Open science and open education will become the norm, provided national security is not compromised in the process. The Ministry of Education, Culture and Science (OCW) will make €200 million available for this purpose as impulse funding over the next ten years. These funds are distributed by an NWO governing body. UNL coordinates the OSE programme in a broad sense with NWO.

Open Access and Open Scholarly Communication

Many WUR researchers also exercised their right to make short scientific work publicly available through the WUR repository in 2022 via the "Taverne Amendment", after being embargoed for six months: almost 500 referenced articles and over 100 book chapters and conference proceedings were made public. An overview of WUR's spending on Open Access publications, the Article Processing Charges, was drawn up in 2022. These are partly sponsored through agreements that WUR Library enters into with publishers. The analysis found that at least €750,000 is spent on APCs per year, in addition to centrally funded costs in publishing contracts. The presentation of these results led to major concerns, among others, about the rapid rise of new OA publishers, and as a result many questions about the quality of reviews and increasing pressure on the scientific publication system. The number of referenced articles by WUR corresponding authors that are published in Open Access rose to 93%. This means that the goal of 100% Open Access is increasingly in sight.

Fair Data

In terms of infrastructure, WUR has taken an important step by introducing a team RDM-Infra in which 2-3 full-time equivalent research engineers focus on development of technical infrastructure for data processing and management. This includes the introduction of YODA. The data steward network is now supported by a coordinator temporarily appointed with the help of a NWO grant.

Citizen Science

The WUR Citizen Science network that exchanges experiences and best practices in Citizen Science research has grown to more than 140 members. A Citizen Science portal has been available on wur.co.uk since spring 2022. A MOOC was launched in October: Transformative Citizen Science for Sustainability.

Open Education

WUR's own portal "Library for Learning", a collection of digital educational resources, facilitates WUR in sharing and reuse of educational resources within our own institution. Step by step, we are working towards the open sharing of learning materials, within collaborations such as the Bétatechniek platform or alliances as well as open to the public. The Boundary Crossing project, a pilot launched by SURF's Edusources portal, was completed in this context.

2.5.4 Recognition and Reward

The Recognition and Reward Committee developed a concept for different career paths in the context of Recognition and Reward in 2022. At the end of 2022, all sciences groups were visited and presented its plans. There was also an opportunity to ask questions and make suggestions.

2.5.5 Funding

Wageningen University

Research at WU is funded by direct government funding, indirect government funding, and contract funding. The amount of direct government funding for education and research was €328.4 million in 2022. Furthermore, targeted subsidies from the Ministries of EZK and OCW totalled €1.3 million. The indirect research funding, which is mostly provided by the Netherlands Organisation for Scientific Research (NWO), amounted to €34.6 million in the year under review. External funding amounted to

€72.6 million. Of this amount, approximately €45.3 million was related to contract research, €4.7 million to top sector research, and €22.7 million to co-funding and subsidies.

Table 2.11 Wageningen University funding

Funding	Amounts x €1 mil.
Direct government funding	328.4
Target grants	1.3
Indirect Funding	34.6
Contract funding	72.6
Total	436.9

The graduate schools had approximately €2.8 million of their own resources at their disposal for the appointment of PhD candidates and postdocs in 2022.

Stichting Wageningen Research

Of the 2022 research funding at WR, €199 million comes from a grant from the Dutch Ministry of Agriculture, Nature and Food Quality.

Table 2.12 Research funding Wageningen Research from Ministry of LNV in accordance with grant decision

Financial instrument	Amounts x €1 mil.
Institute funding (RD)	42
Policy Support Research (BO)	57
Statutory Research Tasks	50
Top sectors	50
Total	199

€23.3 million was available from programme research for WOT Food Safety Enforcement (NVWA). The LNV amounts to approximately 45% of WR's total turnover.

Despite increased attention to the issue, there were still grant funding surpluses in 2022, especially in the top sectors and within the BO (Climate portfolio). In 2021, both WR and the Ministry of Agriculture, Nature and Food Quality prepared and implemented measures to comply with the TO2 regulations on surpluses during a two-year period. There was a strict alignment in 2022 between available staff capacity at WR and the volume of grant applications. This seems to have had a desired effect as early as in 2022.

2.5.6 Outlook

The quality of our research is high, and that applies to both WU and WR. The evaluation of WR in 2020 and the peer review of WU in 2021 confirm this. This gives us a good starting position for the coming years. The coalition agreement announced hefty investments in research and innovation. Those investments will actually lead to the start of research programmes and investments in 2023. At WU, this specifically involves the use of start-up and incentive grants for assistant professors (UDs) who are given tenure, and the launch of sector plans in the Exact Sciences (Earth and Environmental Sciences and Biology), Engineering and Social Sciences, and Humanities. The first round of investment in research infrastructure is of interest to WR. This will allow the implementation of a long-term research infrastructure roadmap for WR.

Through the National Growth Fund, the government is boosting the growth capacity of the Dutch economy. Proposals for the growth fund were prepared in 2022 involving researchers from WUR; in 2023 we will have the results of which proposals have been positively assessed. The government also substantially invests in research and knowledge development through the National Growth Fund.

Geopolitical developments also lead to a reflection on WUR's international collaboration. Specific focus is on WUR's presence in form and size in China. This affects WUR's China Office. Collaboration in Europe is important and that importance continues to grow. In conjunction with geopolitical developments, the issue of knowledge security is also increasingly important. To this end, as far as WU is concerned, WUR cooperates with UNL and the Ministry of Education, Culture and Science (OCW), while for WR, WUR cooperates within the TO2 federation and the Ministry of Economic Affairs and Climate (EZK).

A number of very important social tasks are the heart of WUR's expertise. These include the sustainable production of food and bio-based raw materials for a circular economy, issues of climate adaptation and land use, and the nitrogen issue in the Netherlands. These tasks remain of great importance in 2023 and WUR is a knowledge partner for governments and industry in this respect. These tasks require the development of new knowledge in the coming years, building on the knowledge base available at WUR. The government is reviewing its mission-driven innovation policy in 2023. The knowledge and innovation agreement (KIC) is important for WUR, which provides the financial framework for this. In terms of content, the government, together with private and public parties, is developing new knowledge and innovation agendas at the KIC. For WUR, the agenda of the Agriculture, Water, and Food theme is highly relevant.

WUR will adopt the developed model for Recognition and Reward in 2023. This means that WUR will start implementing the model during 2023.

2.6 Value creation

Due to our international position as a leading research institution in the field of healthy food and living environment, we have a great responsibility to put the knowledge that we have developed into practice. This is why we share our knowledge and infrastructure and make these usable for the crucial social challenges in our knowledge domains. Our knowledge achieves economic and social impact through application.

Society is increasingly demanding answers to questions regarding the legitimacy of public spending in the area of research and demanding that these scientific insights be translated into innovative applications. Additional value creation from education and research is a continuous process involving many stakeholders, including the government, the business community, entrepreneurs, regions, and societal organisations with WUR playing a central role. Creating impact together also is and remains the central message of the WUR 2019-2024 Strategic Plan - "Finding Answers Together" (including the extension). Important items in 2022 included the first dialogues and events in the new Omnia, the strengthened positioning of University Fund Wageningen as a fourth funding source and the presentation of the first WUR Impact Award to the Food Waste Free United team.



The initiatives concerning value creation under the Strategic Plan were further strengthened, such as encouraging an entrepreneurial attitude among our employees with a new “Joint Value Creation” training course for senior business developers and programme managers. Inspiring stories about the impact realised in society can be accessed via the [impact stories](#). Making an impact is an important part of WUR’s DNA, both in its students and employees.

Funding providers for research, government agencies, and public bodies, KNAW, and the business community expect us to make our impact and value creation visible. [Quantifiable valorisation indicators](#) were developed in a UNL context that make our output visible across the full breadth of all the WUR activities, from our graduates to spinoffs and from IP requests to the additional training of pre-university education teachers. Output is an indicator of future impact. Appendix 2 shows the indicators with dates for the last three years. Notes on the data can be found in section 2.6, with the exception of notes on alumni and professional learning, which can be found in section 2.4 Education.

2.6.1 Collaboration, tech transfer, and co-creation with partners

Our knowledge makes a significant contribution to innovation and progress. Our value creation is not only done by transferring knowledge and technology through various forms of intellectual property rights, licences, and spin-offs, but forms of collaboration such as contract research and public-private partnerships are especially important for this. In the process, WUR works with businesses, the government, NGOs, and other academic institutions. Knowledge development through co-creation with various stakeholders in the production chain or with partners that have different perspectives increases the chance of broadly accepted solutions and the actual use of knowledge to innovate and create impact.

2.6.1.1 Co-creation and the development of new partnerships

WUR carried out many publicly and privately funded projects and programmes (PPPs) at the European and national level in 2022, including for the benefit of the national government’s Knowledge and Innovation agendas. WUR is involved in all agendas, but the main focus is on Agriculture, Water and Food in collaboration with the Agri & Food and Horticulture & Propagation Materials top sectors. Nine applications involving WUR received (conditional) funding from the National Growth Fund in 2022. WUR is linking up with Biotech Booster, CROP-XR, and LLO catalyst with its own research proposals. The application “NL2120, het groene verdienvermogen”, which was conditionally granted in 2021, was amended and resubmitted in 2022. Together with other research institutes, and under the direction of UNL, a successful plea was made for more appropriate financial conditions for research institutes to participate in NGF initiatives.

Just as in 2021, a lot of time and energy was invested in the National Growth Fund (NGF) applications in 2022, together with other stakeholders. WUR was leading EPPIC and T3NL and had a major role in Biobased Circular, the Valorisation Delta Plan, Holomicrobiome, PreventiePromotor, and Re-Ge-NL. WUR is also involved in a few other applications.

Besides PPP collaborations, WUR also works intensively in EWUU and 4TU to strengthen collaboration between universities.

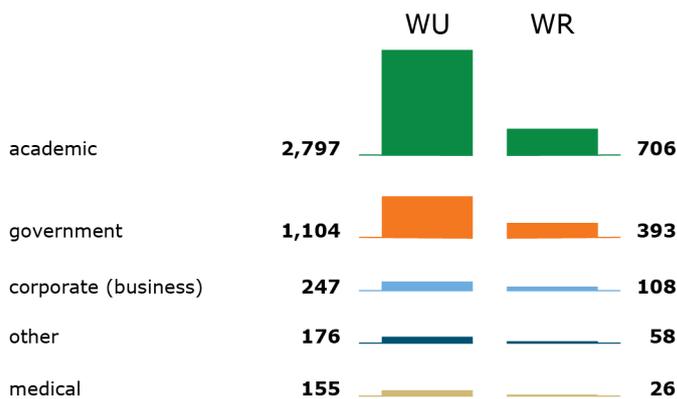
The turnover in bilateral research with the business community is a measure of the contribution of **WUR** to the innovative capacity of businesses. WU’s contract research, bilaterally funded by the business community, amounted to €16.2 million in 2022, compared to €18.3 million in 2021. The turnover of WR from bilateral research for the business community consisted of €42.8 million from contract research funded by the business community in 2022, compared to €46.3 million in 2021. See also Table B2.14 in Appendix 2.

The turnover from EU grant programmes is a measure of the contribution of WUR to co-creation on international social challenges. WU’s turnover from EU subsidies, €20.5 million in 2022, was slightly higher than in 2021 (€18.0 million) for the third year in a row. WR’s turnover in EU grant programmes also increased to €22.5 million in 2022; compared to €21.3 million in 2021, see also Table B2.15 in Appendix 2.

Research projects carried out through co-creation with stakeholders often lead to co-authored publications in academic journals and trade journals as well. The number of co-publications appears to be stabilising (Table B2.16 in Appendix 2). Figure 2.3 shows that the primary share of the nearly 3,600 co-publications are prepared with others in academia and roughly one third are prepared with government bodies, and 10% with the business community. Remarkably, the number of medical co-publications is growing.

Co-publications 2022

Number of co-publications (co-authored publications) of Wageningen University & Research with partners from within an outside of academia, globally



source: Scopus, Elsevier B.V. All rights reserved. SciVal ®

Figure 2.3 Number of WUR co-publications with partners in 2022

2.6.1.2 Knowledge transfer and innovative capacity

WUR sometimes records the intellectual property of its research. The main purpose of this is to disseminate knowledge widely to enable technological development. This is used by the business community and other stakeholders to introduce new products or processes. By granting patent licences to potential market players, the innovative capacity of society increases and WUR increases its impact and contribution to society. WUR has 128 active patent families in its portfolio and 71 granted licences on patents, varieties, designs, or materials, 10 of them by WU and 61 by WR. 13 new patent applications were submitted in 2022: 11 by WU and 2 by WR (see Table B2.4 in Appendix 2).

Screening and scouting of potential IP-worthy ideas has been intensifying since 2020. The scouted ideas are screened and, if they have potential, an "Invention Disclosure Form" (IDF) is drawn up. There were 20 IDFs registered in 2022, about half of which resulted in IP protection.

WUR offers funding for translation ("Road to Innovation Grant") to bridge the "gap" in development at an early stage between technology — which is the result of the research — and its utilisation or commercialisation. 2022 was the third year in which the Road to Innovation Grant was available. Six grants were awarded in 2022.

2.6.1.3 Knowledge for government policy and legislation

An important part of the research conducted at our WR institutes is commissioned by the Dutch and EU government. We carry out statutory research tasks (WOTs) in the areas of infectious animal diseases, food safety, economic information, fishery management, genetic resources, and nature. Our policy support research and the scientific research forms the basis for government policy, rules, and regulations in our domain aimed at protecting the health of people and animals, promoting exports and preserving vibrant nature. Through these statutory research tasks, the policy-supporting research, and PPS research, we make a concrete contribution to society. The knowledge will be made available through [Kennisonline](#), newsletters, and the [Kennisonline Magazine 2022](#). Many WR reports were discussed in the

House of Representatives in 2022, such as the [Position paper](#) “Mondiale voedselzekerheid in tijden van oorlog” (global food security in times of war) and regarding the [nitrogen dossier strategy](#).

For a number of years now, the [TO2 magazine](#) has been published annually, in which the joint TO2 institutions show how research has an impact on society. WUR examples in the 2022 version include ecological research surrounding offshore wind turbines, the climate “stress test” for farmers, the impact of sustainable agriculture and forestry on reducing greenhouse emissions, and the potential of food forests.

2.6.1.4 Customer satisfaction

The Ministry of Economic Affairs and Climate (EZK) has submitted a summary of customer satisfaction and knowledge utilisation for all six TO2 institutes to the House of Representatives. In 2022, just as in the previous years, WR clients were very satisfied. WR scored an 8.7 for client satisfaction and almost 93% of respondents deemed the research to be useful in 2022 (see Tables B2.7 and B2.8 in Appendix 2).

A boost was given to WR’s customer satisfaction ratings in 2022 by creating more uniformity in approach, questioning, and follow-up.

2.6.2 The entrepreneurial use of knowledge

New enterprises contribute to the application of new knowledge and, through their growth, to economic development, and the acceleration of societal transitions. Stimulating innovation and entrepreneurship and supporting start-ups are therefore important components of value creation for WUR. WUR encourages entrepreneurship among students and in the founding of start-ups. If these start-ups grow, they will have the opportunity to establish a location on Wageningen Campus. Employees and start-ups outside of Wageningen are also welcome to use their knowledge in the agri-food domain. We want to serve the whole chain from within WUR: from encouraging and inspiring students to linking investment funds for scale-ups.

2.6.2.1 Entrepreneurial education

With its regular course programme, WU offers a wide selection of degree programmes that support enterprising students at all stages of their education. The introduction of a continuous learning trajectory “entrepreneurial skills” was launched and, as a result, more and more Wageningen students are introduced to entrepreneurial skills in Bachelor’s education. In the 2021-2022 academic year, there were more than 20 courses that were fully or partially focused on entrepreneurship and/or innovation for Bachelor’s students, Master’s students, and PhD candidates, reaching more than 1,100 students (non-unique). This shows a decrease compared to previous years. This can be attributed to an adjustment in the BSc minor “Innovation and Entrepreneurship”, where far fewer students participated in the optional courses in particular. If we look at the number of (non-unique) students who actively opted for an entrepreneurship course (in other words, outside the standard curriculum), we see a slight increase to over 650 students this academic year (for more details on the number of core subjects, see Table B2.2 in Appendix 2).

In the 2021/2022 academic year, 30 new students entered our designated MSc entrepreneurial programmes (48 ECTS), in which a total of 65 students are currently enrolled. This number is almost the same as last year. In the 2021-2022 academic year, WU students carried out 89 entrepreneurship-related projects for businesses in the context of the course E-ACT.

The flow of students from the BSc or MSc education to extracurricular follow-up activities has remained stable. More than 2,000 unique students participated in extracurricular entrepreneurship education through StartHub; this is a significant increase compared to previous years. This can be partly attributed to the coronavirus pandemic, which meant that many events did not take place at all or only online. Last year, this changed again, resulting in a higher number of unique visitors. The StartHub has about 350 active (student) members, 80 of whom joined in 2021/2022. There are several students who have started a business from within the various educational programmes, such as AlgO (master track entrepreneurship and student challenges), One Ground Studio (entrepreneurial skills), and BrewRight (New Venture Creation: from idea to plan).

WUR hosted its first visiting entrepreneurial fellow, [Christiaan de Koning](#), in 2022 to boost education and research regarding entrepreneurship.

2.6.2.2 StartHub

Student incubator StartHub Wageningen caters to students, PhD candidates and recent graduates who wish to learn more about entrepreneurship and/or who have already started their own business. The extracurricular courses generate and develop student interest. Guidance when actually starting up provides experience in proposition development and, in turn, yields career prospects as a product and/or business developer. StartHub works with an active student office and external partners who act as mentors and experts for the student start-ups.

The incubator organised a total of 42 practical workshops on entrepreneurship as part of the StartHub programme in 2022. The number of intake interviews was 75. The opening of StartHub as a meeting place for entrepreneurial students has rekindled interest in flex spaces (160% occupancy), and the [Enactus](#) board has also taken up residence at the StartHub. This established a link between entrepreneurial sustainability projects (Enactus) and actually starting a business (StartHub). The number of teams coached by StartHub remains stable (outgoing and incoming numbers are about the same) and is approximately 40 initiatives. Five student start-ups have registered a company with the Chamber of Commerce and two companies have ceased operations.

StartHub accommodated 16 start-ups in flex offices and five in full offices in 2022, bringing occupancy close to full capacity.

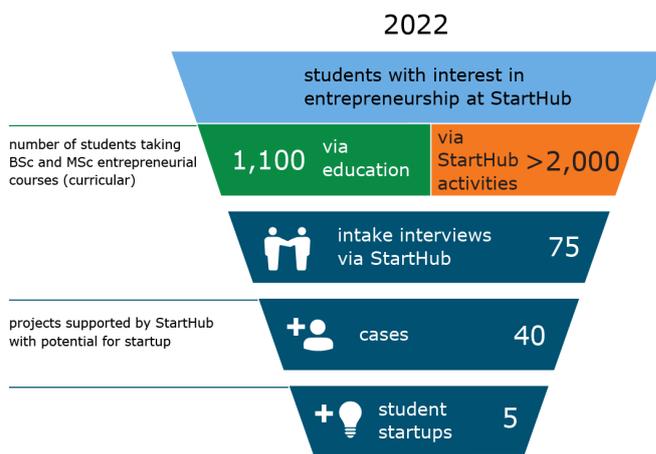


Figure 2.4 Education and incubator programmes for entrepreneurship for WU students

2.6.2.3 StartLife

[StartLife](#) is one of Europe's leading and longest-running agri-food technology start-up accelerators. The mission is to help start-ups that contribute to making the global food system more sustainable and helping it to excel and accelerate. The accelerator offers start-ups business development, support, mentors, loans, and access to a global network of investors, corporates and experts. The accelerator, which has close ties with co-founders WUR and regional development agency Oost NL, has provided support to more than 400 agri-food technology start-ups since its inception in 2010, which have raised more than €320 million in follow-up capital and created more than 1,500 new jobs thus far.

35 start-ups were launched through StartLife programmes in 2022, including three with a WUR connection. The Start-Up Fund Gelderland, which will replace the Wageningen Pre seed loans, began at the end of 2021. Fifteen start-ups pitched for the loan in 2022 and the Review Committee awarded the €75,000 pre-seed loan nine times.

The number of corporate partnerships of StartLife grew to 15 corporate partners, 8 programme partners, and 14 investor partnerships in 2022.

Rabobank, Anterra Capital, StartLife, and WUR organised the seventh [F&A Next](#) — in person again as it has always been — in 2022. F&A Next is the first and largest European platform that connects investors, corporations, and start-ups/scale-ups in the agri-food domain. The 675 participants from 44 countries gave the event a rating of 4 out of 5 and particularly appreciated the networking opportunities between start-ups and investors (nearly 200 were present of each).

2.6.2.4 Spin-offs

Knowledge application can also occur through the transfer of intellectual property to researchers who start a company or have shares in a company (a spin-off according to the UNL definition). The WUR spin-off policy strengthens internal awareness about this. WUR has launched a total of 41 spin-offs since 1995. The special R-label for WUR spin-offs was awarded twice in 2022.

The spin-off Vivotro was established in 2022 as a joint venture of WUR with JBI Innovations. Vivotro’s focus is on providing science-based business solutions such as animal modelling and disease management, diagnostics, testing, and insight. The joint venture will develop routes to the market for these WUR services, IP, and know-how. By investing in the start-up accelerator StartLife, the national impact of WUR on new business activities is much higher than through spin-offs alone.

Spin-offs

Wageningen University
Wageningen Research



Spin-off: a company established for the purpose of developing or exploiting WUR IP with formal contractual arrangements for the use of this IP.

Figure 2.5 Timeline of WU and WR spin-offs

The Thematic Technology Transfer Circular Technology (TTT-CT) program led by WUR is a collaboration within 4TU and TNO (the Netherlands Organisation for Applied Scientific Research). TTT-CT brought five start-ups to the investor-ready level for SHIFT Invest in 2022. Intensified collaboration was also sought in 2022 with all six ongoing TTT programmes, in which WUR also consistently participates. This helped contribute to the NFG Valorisation Delta Plan proposal submitted for the third round through the departmental route by the Ministry of Education, Culture and Science (OCW).

2.6.3 Sharing knowledge

Our students, clients, and other scientific institutions make use of Wageningen knowledge via the existing routes. Our knowledge is also relevant and applicable to anyone who is a little less closely connected to WUR. Making our knowledge and knowledge infrastructure accessible to professional learners, businesses, citizens, and societal organisations is an important part of the value creation of WUR.

2.6.3.1 Sharing scientific knowledge beyond the academic world

WUR not only shares its scientific output in scientific journals, but also does so through field-specific publications for professionals in the sector and through publications for the general public, in print as

well as digital/social media. Knowledge is made available to people outside the academic world via [Kenniss Online](#), [Groen Kennisnet](#), and a large number of websites, often aimed at specific target groups. The WUR website provides various theme-focused [publications](#). This enables a larger group of potential users of this new knowledge to be reached. The total number of publications for professionals and the general public increased in 2022, but this is within the annual fluctuation: approximately 800 for WU and over 1,300 for WR (Appendix 2 Table B2.17).

More has also been done with "Citizen Science" at WUR in 2022. An MOOC "Transformative Citizen Science for Sustainability" was launched, a [web portal](#) was created, and a "Citizen Science Hub" was launched within WUR to share knowledge and experience among themselves.

2.6.3.2 Applicable knowledge for SMEs

The agri-food sector consists largely of SMEs. WR works closely with them in all kinds of research projects. The new "Kenniss op maat" programme was launched in 2020 together with the top sectors and the Dutch Ministry of Agriculture, Nature and Food Quality to release available knowledge in such a way that it offers a concrete action perspective for SMEs. There are more than 40 projects in progress. At WR, half of the contract research is financed by SMEs. Questions from SMEs are also addressed within "Society Based Learning", the practical networks for WR's regional locations and in collaboration with HBO. The Wageningen Campus also provides space to many SMEs.

2.6.3.3 Science communication and dialogues

In addition to communication with fellow scientists, businesses, NGOs, and government bodies, WUR is also active in science communication in interaction with society. Our organisation is at the cutting edge when it comes to addressing substantial, modern-day social themes, which pose major challenges to the world and that elicit a wide range of opinions. WUR aims to make the dilemmas and trade-offs of different solutions visible and open them up for discussion.

These issues need space to be discussed. Omnia opened its doors on Wageningen Campus in 2022. At Omnia, scientists, students, society, and partners meet. Companies can attend symposia, conferences, debates, roundtables, PhD graduations, and workshops. By engaging in dialogue together and exchanging knowledge and interests, we find solutions to global issues we face as a society. Omnia welcomed approximately 25,000 to 30,000 visitors in 2022, of which approximately 80% were internal and 20% external visitors (including many campus residents).

WUR and stakeholders are encouraged to discuss this through Wageningen Dialogues. Three programme lines have been developed for this in 2022; dialogues on healthy and sustainable food, spatial issues, and regarding the role of science in society.

Eight [Wageningen Dialogues](#) attracted nearly 800 visitors, about 30% of whom were external visitors. To drive internal dialogue, "[Let's Explore](#)" was launched: a series of three dialogues on topics to be explored internally throughout WUR (topics in 2022: "Nitrogen and Research on assignment").

To help students gain experience with the dialogue possibilities, we offer the course "Transformative sustainability practices for systemic change". A "[Dialogue Design Guide](#)" has been developed, containing the steps for organising dialogues.

2.6.3.4 Society Based Education

Businesses, authorities, and research institutes can receive support through the [Society Based Education](#), which links issues in society with courses in our curriculum. Through different courses, students and their supervisors investigate the problem at hand, enabling students to learn to apply academic skills in order to solve problems in society. This usually takes place in a multidisciplinary environment. In the 2022, this involved 230 projects for small and medium-sized businesses, start-ups, PPS consortia, the government, and social organisations. 1,797 Bachelor's and Master's students and 402 employees (WU and WR) were involved (See Table B2.10 in Appendix 2).

2.6.3.5 Collaboration with primary, secondary and green education

With the assistance of PPPs, WUR provides a major contribution to lessons on nutrition and food in primary education. A tremendous number of students and teachers in the primary education sector were reached with taste lessons and EU School Fruit.

Together with researchers, the Wageningen University Science Hub (WKWU), the Smaaklessen and EU School Fruit support centre, and Wageningen Pre-University developed lesson materials and activities for primary and secondary education. Through this, WUR contributes to socially relevant, challenging and attractive education and improves the quality of incoming students. In the year under review, the Science Hub offered 18 teaching products, introducing approximately 2,200 teachers and 27,000 children in primary and secondary education to themes and research from WUR. In 2022, the Smaaklessen support centre and EU School Fruit reached more than 17,000 teachers and 210,000 primary school pupils with the Smaaklessen teaching programme. The EU School Fruit programme reached nearly 420,000 students and nearly 20,000 teachers. Wageningen Pre-University reached nearly 1,600 lecturers through courses, workshops, and lecturer development teams with 50 lesson products. The Youth Institute challenges secondary school students to look for solutions to one of the biggest challenges we face in the world: "How do we feed the world in a fair, sustainable, and healthy way in 2050 when the global population rises to 10 billion?". The Youth Institute reached almost 300 secondary education students in 2022 (see Table B2.11 in Appendix 2). WUR also participates in [GroenPact](#) — the partnership for green education. GroenPact encourages the exchange of knowledge in the green education system via programmes such as "Groen Kennisnet". WR capacity is also connected to the SIA-NPRO programme "Food and Green".

2.6.3.6 Science Shop

Social organisations that want to use Wageningen's knowledge can request research projects via the Science Shop, which is where students and researchers collaborate with clients on new solutions for society at the local or regional level. This requires a great deal of attention to the social sensitivity of students and the practical value of the recommendations provided to the client. The Science Shop completed 18 projects in 2022, in which 48 WUR employees, 207 Bachelor's and Master's students, and 76 external stakeholders were involved (See Table B2.9 in Appendix 2). The [Science Shop](#) produced 14 reports, 5 brochures, 1 fact sheet, 33 presentations and 3 dialogues in 2022.

2.6.3.7 Wageningen in the region

WUR works globally and is also well embedded in its own region. We participate in many regional networks such as Food Valley, Region Foodvalley, WFE, and the Stadsagenda with the municipality of Wageningen. There was a lot of collaboration with the various provinces regarding the nitrogen dossier in 2022. WUR's regional sites, such as De Marke, play an important role in this. "OnePlanet" in Gelderland has developed into a substantial centre of 100 employees. Important (new) programmes in 2022 are the "Growthfund Photonics AgriFood", the "Ingestible Sensing" programme, and the "environment sensing" (nitrogen) activities.

2.6.4 Wageningen Campus, Ecosystem & Facilities

WUR is working on the further development of the Wageningen Campus ecosystem. More specifically, this relates to increasing the number of parties on the campus and the increasing diversity among parties within the ecosystem (campus acquisition), the interaction within the campus ecosystem (local buzz/campus community), and the optimal use of research facilities at WUR/Wageningen Campus (Shared Research Facilities, SRF). These matters have a close relationship with the physical aspects of the development of Wageningen Campus, for which we collaborate with the municipalities of Wageningen and Ede.

2.6.4.1 Campus acquisition

Acquisition of potential new campus organisations has a reactive component, namely processing location requests submitted by parties to WUR. This happens frequently: demand remained as high in 2022. Organisations who are interested either raise this with the WUR researchers they work with, contact the campus team directly themselves, or find their way to WUR via various collaboration partners, such as OostNL, NFIA, the BSPW, Foodvalley, WFCE, or individual property owners. These organisations will be assessed as to whether they fit the campus ecosystem using the location criteria

drawn up by WUR, focusing on knowledge-intensive organisations within our domain that explicitly seek collaboration within the ecosystem. Strategic, proactive acquisition is also being used to interest certain types of organisations that are underrepresented in the current campus community and that could have clear benefits for the ecosystem and the realisation of the desired transitions in WUR's domain in establishing themselves on the campus.

Together with stakeholders, such as the municipality of Wageningen and Ede, the province of Gelderland and organisations such as Food Valley and OostNL, we are working to create an attractive business climate in the region. There were 63 active leads in 2022 relating to possible new parties yet to be established and/or expansion of already established parties. A total of 28 new organisations were established on Wageningen Campus by 2022.

2.6.4.2 Wageningen Campus Ecosystem

The Wageningen Campus ecosystem is now an established concept with a clear image. Important elements for maintaining this interactive and vibrant ecosystem are excellent education and research, valorisation activities, quality and talent, entrepreneurship and start-ups (including through StartHub and StartLife), various communications and organised events (see 2.6.4.3).

Interaction within the Wageningen Campus Ecosystem (including the Business & Science Park Wageningen (BSPW) and other regional parties) will lead to greater collaboration on and near the campus and to increased economic activity in the region.

The Plus Ultra II building has now been almost fully leased and houses many innovative organisations (e.g. OnePlanet Research Centre, Foodvalley, StartHub, WUR Student Challenges, StartLife, and large and small companies) that have moved into their offices and/or lab spaces here.

2.6.4.3 Wageningen Campus community & local buzz

Meeting in person contributes to a thriving ecosystem. Unfortunately, due to the coronavirus, it was still not possible to meet in person in early 2022. The meetings that were organised and facilitated during this period were mainly intended for the student community. From March/April, the restrictions were eased and in-person meetings were possible again. The Wageningen Campus Expedition presented a great kick-off. Besides various WUR facilities, a dozen other organisations opened their doors for a presentation, tour, and/or mutual interaction. The Expedition was successful and will be continued in 2023. Examples include the Wageningen Campus Connect cafés and the Wageningen Data Competence Centre meet-ups. A "Finding Answers Together" meeting on the topic of SRF for all campus residents led to new insights and connections. The "Sharing Innovation" event on the theme "Digital Twins" further strengthened collaboration with the regional IT business community. Several cultural events and exhibitions took place. The lunch concerts are particularly well attended by students and are an important addition to campus life. Most of the above events are organised at meeting centre Impulse. Various other efforts were made to keep the interaction between the different campus residents more vibrant. Forty news items have been shared on the revamped Wageningen Campus [website](#) (which went live in the summer of 2022). The campus community was also kept informed of developments at campus-based organisations through four e-newsletters. A virtual campus tour was further developed along with the Corporate Strategy & Accounts department. This tour was available in mid-2022 and is primarily intended for organisations interested in establishing themselves on the campus and to support the reception of national and international delegations.

2.6.4.4 Shared Research Facilities

WUR wants to retain its leading position in education and research and advanced research facilities are crucial for this. WUR invests in high-quality research facilities every year. These facilities range from high-quality laboratory equipment and the related expertise to larger research facilities. Through SRF, WUR offers access to its research facilities to third parties. This stimulation and facilitation of "joint use" not only contributes to more cost-effective operation of the research facilities, but it is also a good way for researchers (at WUR as well as outside it) to familiarise themselves with and utilise the facilities and expertise of others. This is often the basis for further collaboration in research projects and actively contributes to the strength of the Wageningen Campus ecosystem.

Major investments in 2022 include the Streak Camera (picosecond time-resolved fluorescence spectroscope), the vacuum dryer, an intensified HS imaging system, PI-SWERL (Portable In-Situ Wind

ERosion Lab), and two investments in mass spectrometers, specifically an IQ-X and an Orbitrap Q-Exploris 120. The High Performance Computing Cluster (HPC) was also updated. This new e-device was installed and commissioned partly in 2022 and partly in the first quarter of 2023. The draft WUR internal roadmap for research facilities was finalised in 2022, and the roadmap was then launched and put into use. This roadmap lists and prioritises all ideas for new WUR research facilities, following a clear process of decision-making in order to move from the concept to the realisation of a facility. The roadmap contained 72 initiatives, at various stages of decision-making, at the end of 2022. Ten initiatives were also honoured in 2022.

SRF's search engine for devices, [SEARCH](#), provides access to 427 devices, of which 205 are also accessible to external parties and SRF invested in 79 devices. Of the 427 pieces of equipment, 9 are owned by an external party (Unilever, MARIN), and 13 are located outside of WUR. The average occupancy of the SRF equipment portfolio (part of WUR's total equipment portfolio) was approximately 62.5% in 2022, of which 13% was by users outside of WUR, and the number of unique external organisations that used SRF equipment in 2022 was 63 (see Table B2.12 Appendix 2). The equipment was also widely used in research projects of WUR for external parties. The number of devices, which can be reserved via SRF's [reservation system](#), increased to 688 in 2022. [SEARCH](#), the search engine for devices, was updated in 2022, in terms of layout and usability as well as device information. This makes information on research equipment even more accurate and easy to find. We also started to improve the Booking reservation tool in 2022, which, in conjunction with shared equipment use, is offered by SRF to WUR researchers and third parties. The launch of the new version of Booking is scheduled to take place in April 2023.

WUR's SRF team also worked closely with Foodvalley NL in the area of shared facilities within the Foodvalley 2030 programme in 2022, in which WUR SRF staff and two colleagues from Foodvalley NL have been working together as a single facilities team. The €7 million RegioDeal Foodvalley subsidy, which started in 2020 for investments in shared research equipment and runs for five years, has resulted in over €6 million being invested in equipment thus far. A similar subsidy is also available from the RegioDeal Foodvalley for shared pilot facilities, in which Foodvalley NL has an advisory role. The first investment from this subsidy was made in 2022. Collaboration is further shaped with the [Shared Facility Finder](#). The Shared Facility Finder includes innovation facilities of more than 60 organisations.

Available equipment via search.researchequipment.wur.nl in 2022

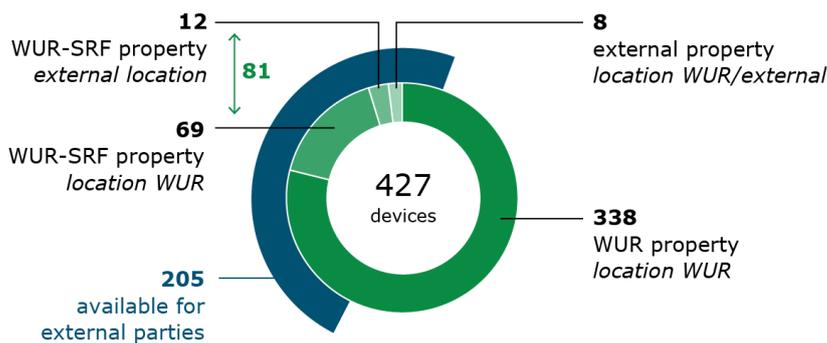


Figure 2.6 Equipment supply via search engine search.researchequipment.wur.nl in 2022

2.6.4.5 Physical aspects of campus development

Due to employees from many organisations being forced to work from home at the start of 2022, it was still quieter on campus in terms of meeting and interaction, but Wageningen Campus was not quiet when it came to property and housing.

A highlight was the completion and opening of Omnia. It is not only the new location for PhD graduations and inaugurations at WUR, but also the place for dialogue with society in the form of

symposia and other meetings, where researchers, partners, students, and society question, challenge, and inspire each other. This beautiful location on Wageningen Campus is a suitable place to host international delegation.

The Upfield Food Science Centre was also festively opened. The development of the in-person campus is therefore experiencing a momentum that will continue to be noticeable in the coming years, especially with regard to the development of a planned Plus Ultra III building and the adoption by the municipal council of the Born-Oost zoning plan, which will shape the further development of Wageningen Campus-East on the east side of Mansholtlaan with almost 80,000 m² for knowledge-intensive activities.

Wageningen Campus is increasingly becoming a residential environment for students. The Campus-East zoning plan allows for approximately 250 additional student rooms. Student housing provider Idealis is also working on a plan to provide approximately 350 additional student rooms at the star flat on Bornsesteeg, closely connected to the campus via the southern bicycle entrance.

BSPW is working hard on a quality stimulus and the promotion of available business accommodation and construction sites. One of the present premises has been completely renovated and provided with good office space, in addition to state-of-the-art lab facilities.

In the area of sustainability, subsequent steps were taken with regard to connecting additional campus buildings to the TES loop duct for thermal energy storage and strengthening green structures on Wageningen Campus. In terms of accessibility, improvement is underway for both cycling (Ede-Wageningen express cycle route and Kierkamperweg cycle path) and public transport (direct bus connection Arnhem Central station - Wageningen Campus - Ede-Wageningen station).

2.6.5 University Fund Wageningen

As an independent support foundation of WU, University Fund Wageningen raises funds from the national and international businesses community, institutions, public bodies, endowments and other funds, alumni, and other individuals in order to support WUR's objectives. This additional fourth type of funding makes it possible for projects and activities that are ineligible for regular funding to still be accomplished and expedited. This is how we increase the social impact of the WUR knowledge domain in the areas of talent development, groundbreaking research, and entrepreneurship.

University Fund Wageningen commenced repositioning in 2022, prompted by the split of alumni relations and fundraising. University Fund Wageningen has agreed to a total of six new major donations to foundations in 2022, with a total value of approximately €10 million. These donations lead to new research projects and long-term turnover within WUR. There were 19 research projects under way at WUR in 2022 that the fund financed with donations from foundations. Crowdfunding raised another €200,000 for water filters in Ukraine and for faster colon cancer detection.

The fund was able to grant partial or full scholarships in 2022 to 32 students, who would not have been able to study in Wageningen without financial support, and 30 students, researchers, and alumni were awarded prizes and stipends to further develop their talents.

2.6.6 Outlook

Value creation will remain a key driver for WUR staff in 2023. We will maintain our earlier commitment for 2023, with a particular focus on social value creation such as the open science collaboration platform "Plant2Food", co-funded by the Novo Nordisk Foundation and the African Food Fellowship and supported by the IKEA Foundation. It will also further detail and build on the SRF roadmap. Further development of Campus-East is scheduled for 2023.

2.7 Employees

The strategic priority areas established by the Executive Board form the basis for the HR policy of WUR. The HR policy in 2022 focused on the following five themes (again): Recruitment, Onboarding & Inclusion, Leadership & Talent Development, Organisational Development, Vitality & Health, and HR Operational Excellence. Special attention was also paid to social safety and work pressure. Finally, 2022 is characterised by the fact that, as a result of the end of the coronavirus pandemic, the working method — hybrid working — seems to have become the new normal.

The key figures that typify our workforce are included in more detail in the Social Annual Report (Appendix 3).



Figure 2.7 Infographic for new employees

2.7.1 One Wageningen

As part of One Wageningen, the collective labour agreements (CAOs) of Wageningen University and the Wageningen Research Foundation align with each other wherever possible, and all further regulations are applied throughout WUR as much as possible. Wageningen University & Research wants individual talents to develop to their full potential by offering employees a challenging, inspiring, safe work environment focused on collaboration. The implementation of the five HR themes, in which we also help to implement our Corporate Social Responsibility (CSR), support this.

2.7.2 Recruitment, Onboarding & Inclusion theme

Recruitment

In order to realise the organisation's ambitions, a large number of new employees were recruited in 2022 as well. This is a challenge in today's labour market, and that goes for WUR as well. While the recruitment of senior talent for the Wageningen Research Foundation and specific staff functions such as ICT and Finance required all our attention in previous years, the recruitment of support (secretarial) staff is now also proving to be difficult. To continue filling all vacancies, recruitment

strategies are developed for each target group, tackling them, even more than before, through a tailor-made approach. Further internationalisation of WUR is seen as an opportunity in this regard. For Wageningen University, this international focus in recruitment is already a given. At WR Foundation, there is an increasing focus on this.

Onboarding

Last year, 1121 new employees started at WUR. These were all offered a new Onboarding programme. This included bimonthly welcome sessions in the afternoon with an Executive Board member where information was shared about the organisation and employees were given a tour of the campus. An intranet channel has also been created with information about WUR where practical information can be found on how to arrange things. Together with the onboarding programmes within the units, WUR therefore aims to ensure that new employees feel welcome and get off to a good start.

Inclusion

We organised a very successful Diversity & Inclusion week in 2022 with more than 1,000 visitors. Diversity and inclusion is a topic of increasing importance both socially and on campus, in which topics such as anti-racism (DARE), neurodiversity, inclusion, LGBTQI+, and gender balance, are grouped together and coordinated centrally, in order to achieve a more inclusive WUR. The Gender+ SMART EU project was completed on 31 December 2022 and will have a follow-up in 2023. Tools with impact have been deployed, including coaching in recruitment committees and multiple safe-space meetings and lectures.

Diversity & Inclusion | 2022

What will you do to make the difference?



Figure 2.8 Diversity & Inclusion

2.7.3 Leadership & Talent development theme

Leadership development within WUR in 2022

In terms of leadership development, the focus in 2022 was on providing managers with better leadership tools and the connection between managers. Work has started on developing a tool for reflection to help managers. Furthermore, 2022 was mainly dedicated to rolling out redeveloped programmes such as a talent programme and an orientation programme for new managers. Three development programmes for experienced managers have also been realised. In total, approximately 90 (new) managers participated in a programme.

Learning and development

The strategy can be realised using all the talents and capabilities of WUR colleagues. This is why the motto of Learning & Development within WUR is: "Employ your potential in order to flourish." One of the ways WUR employees are able to continue their development is by attending a study programme or training course. Our catalogue (MyDevelopment) was updated in 2022 to make it easier to find a study programme.

Table 2.13 Overview of 2022 Learning & Development study programmes

Training (internal offer)	Number
PMC (Project-based Creation)	164
Tenure Track Development Programmes	46
Joint Value Creation	15
Managing Your Career	60
Feed Forward	47
Other demos/training for managers	74
External providers	Number
Edubookers	732
GoodHabitz	839

732 external training or coaching programmes were booked in 2022. This number includes bookings for individual employees and for groups. Topics included: professional topics, ICT, personal effectiveness, leadership, and personal coaching.

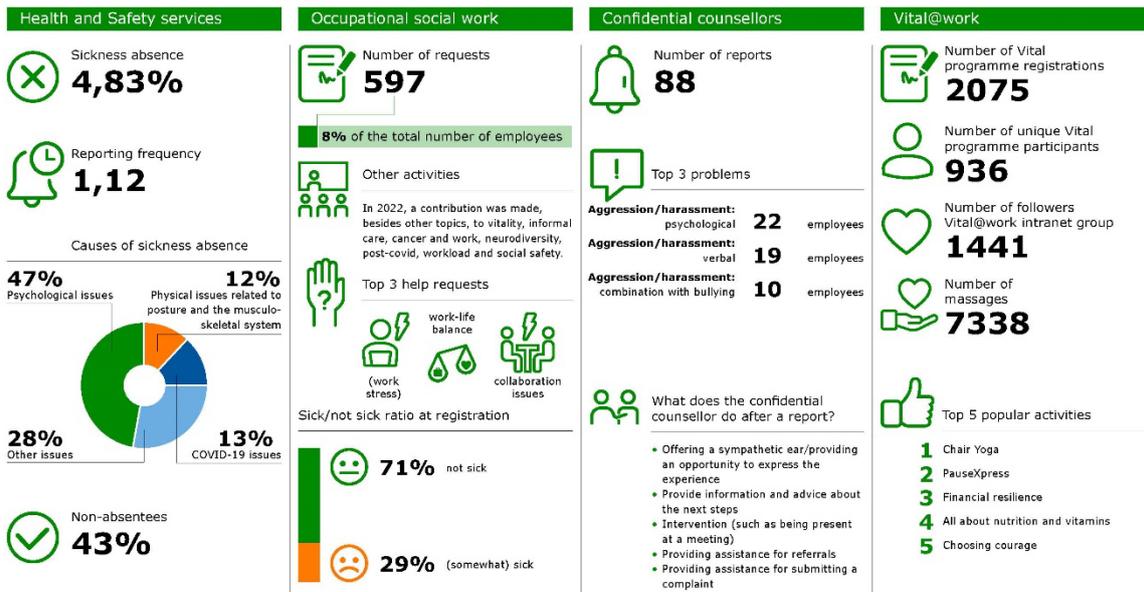
Three new internal development programmes were launched in 2022: Joint Value Creation for WR colleagues with a business developer role or position. Plus two development programmes for tenure trackers at WU: one for assistant professors and one for associate professors.

Within WUR, we are convinced that an important part of learning takes place in one's own workplace. Career and other types of development are important topics in the continuous dialogue (Let's Talk) between manager and employee. Feed Forward training sessions were organised for managers, enabling them to reflect purposefully and positively on employee development. Talent management is also included as a component in leadership programmes. Participating managers learn how to facilitate employees to use and develop their talents. Employees are offered information, a number of low-threshold tools and e-learning programmes to prepare for the conversation with their manager.

2.7.4 Organisational development theme

All restrictive coronavirus measures that allowed us to work on site were lifted in March 2022, and employees, managers, and teams actively embarked on a new way of working together: partly on site and partly from home. All units, departments, and teams addressed the introduction of hybrid working in their own way, matching individual needs and perceived options. The Working@WUR monitoring group met five times in 2022 and exchanged the experiences and information gained from the programmes, training sessions, and workshops set up for and by its own unit. The needs and advice identified in the monitoring group to organise and implement hybrid working within their own unit in their own way were adopted by the Working@WUR steering committee. Employees, managers, and teams know how to find existing regulations and provisions well and generally seem to have adopted hybrid working as a natural and enjoyable collaborative working concept. At the same time, some managers within WUR continue to find it challenging to get employees to work on-site sufficiently (often enough and at times that matter, for collaboration or social cohesiveness). Despite the wide range of tools offered by Working@WUR, a tendency remains for units, departments, and teams to look for their own solutions and support.

HRM Annual Figures - Vitality & Health 2022



We are champions of sitting in the Netherlands, even though regular exercise makes us more productive, de-stresses, and increases energy and focus. To encourage employees to exercise more often during the working day, four units continued using the exercise app, in which employees can collect Fitcoins by walking and/or cycling. The earned Fitcoins can then be used in the app's marketplace to purchase products or vouchers. Approximately 1,200 employees were participating in the programme by the end of the year. Various facilities are also offered to ensure we can work in a healthy and energetic manner, such as providing fruit at work and chair massages. In addition to chair massages, WUR employees can redeem their massage credits at a massage parlour near their home. A total of 7,338 massages were provided in 2022.

Vitality week was organised in June 2022 to further highlight vitality. The focus during that week was on International Yoga Day and various exercise workshops were offered. Inspirational sessions such as "Choosing Courage" also took place as well as a workshop for caregivers; "Goed voor jezelf en een ander zorgen" (taking good care of yourself and others). There were also several financial resilience workshops, which attracted a lot of attention. A total of 182 employees participated.

The Vital@work programme is offered in close coordination with Sports Centre De Bongerd and offers various workshops to stimulate working in an energetic way (including at home). These were workshops on exercise (597 registrations), relaxation (694 registrations), and nutrition (224 registrations) and workshops focused on working in an energetic way (560 registrations). There were a total of 2,075 registrations by 936 unique participants. The programmes are still partly offered through MS Teams which has the advantage of being accessible to colleagues who do not work in Wageningen as well, thus providing a much wider reach.

Sick leave

While we saw sickness absence drop significantly during the coronavirus pandemic in 2020 and 2021, the absence rate in 2022 is again following the upward trend of the years before the pandemic. The sharp rise is in line with the national trend, but the increase in mental health absences is particularly worrying. Over the coming period, we will receive further analysis from our Environmental and Occupational Health and Safety services (EOHSS) and in response to this we will determine where we will direct additional attention.

Social security

The Social Security team supports HR, managers, and employees with questions about social security in the broadest sense of the word. Well-known topics are short and long-term absenteeism, unemployment, and retirement. If employees leave the organisation and are awarded benefits on the basis of the Dutch Unemployment Insurance Act (WW), they are offered support from an internal work coach. The work coach assists former WUR employees in finding another job. In this way, we fulfil our re-integration obligations as a self-insurer for unemployment benefits. We fulfil our re-integration obligations regarding the scheme for returning to work for the partially disabled (WGA) and the Sickness Benefits Act (ZW) by involving an external reintegration coach. Due to the re-integration support under the WW, WGA, and ZW, the costs of paying out benefits for WUR are limited as much as possible. The table below explains the results of WW support in 2022.

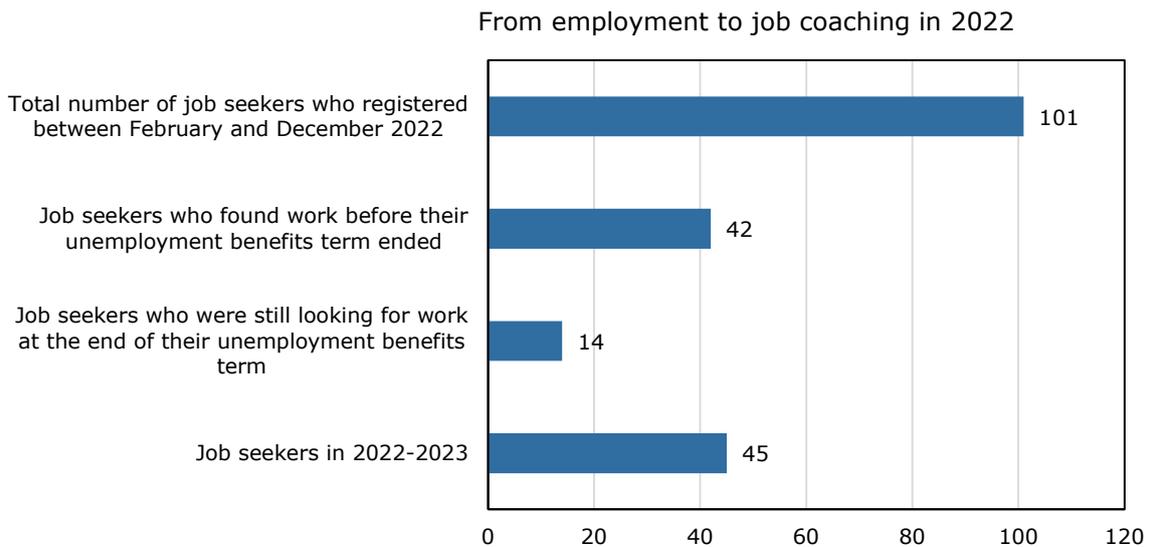


Figure 2.9 From work to work support

2.7.6 HR Operations theme

A lot of improvement projects were carried out in 2022, in addition to regular work such as collective labour agreement implementation, implementation of laws and regulations, and terms of employment. As part of further professionalising services, an HR Dashboard within Dashboard Operations was launched to replace standard HR reports. The MyHR portal/menu for employees was greatly improved and the digital personnel file project was launched as part of "Basis op orde" (solid foundation) to achieve a complete, correct, and accessible file for all stakeholders. A knowledge base for HR professionals was also introduced, the Intranet HR texts for employees were rewritten, and the process for requesting employer declarations was improved.

Five HR processes have been transferred to the standard (best practice) allowing the processes to run First Time Right: changing hours, scheduling, one-off payment, reporting hours, and terminating employment at one's own request. Process measurements have been set up with a dashboard containing four key performance indicators: Turnaround time, % Retroactive effect of changes, % Rework, and # steps in process. A WUR-wide HR survey was conducted to identify what contributed to satisfaction with HR services and provide direction for improvements. A standard functionality for temporarily appointing a "replacement" was also activated for managers and HR roles in MyHR, collaboration between HR roles was intensified to optimise process flow in the chain, and a project was launched to offer information and access to HR services in one place.

2.7.7 Employee participational structure

The participational structure is an important partner in policy formation for the Executive Board and the managing directors of the organisational units. Involvement of the employees and students in the decision-making process regarding important topics helps to generate broader support.

Employees of Wageningen University and Wageningen Research are represented in decentralised work councils. WUR also has three central participational bodies:

the Central Works Council (COR) which is made up from delegations from the Works Councils, the Student Council (SR), and the Student Staff Council (GV). The latter consists of employee representatives and students of WU. The COR and SSC together make up the WUR Council.

The GV has been involved in deciding on the Framework Letter and WU's budget in 2023, as it has been every year. The GV provided a positive recommendation in 2022 on the preliminary decision to start a new BSc programme in Marine Sciences. The GV was also heavily involved in the decision on reducing the number of resits and introducing an academic calendar with three resit periods. After an intensive and constructive process, the Executive Board agreed that the newly adopted policy should lead to a reduced work pressure for lecturers and students.

Among other things, the COR advised on the adjustments to the Whistleblower's Regulations and the Training and Development Facilities Regulations.

The WUR Council paid extra attention to internship allowances (company regulations for WUR interns) and to the gender and diversity theme: a theme that was the main focus at WUR in 2022 as part of the overall commitment to inclusiveness. The COR, SSC, or WU Works Council are involved in the appointment of the new chair of the Executive Board, the reappointment of the Rector Magnificus, who is also a member of the Executive Board, and the appointment of the new chair of the Supervisory Board.

2.7.8 Corporate Social Responsibility

As part of CSR, it is important to provide appropriate working conditions and work in a healthy and safe environment. Furthermore, in this respect, scientific integrity must be safeguarded and human dignity protected. The methods employed by WUR to achieve these are described below.

Employment conditions

WUR has two CAOs, the Collective Labour Agreements for Dutch Universities (CAO NU), and the Collective Labour Agreement for Wageningen Research Foundation (CAO WR). The Collective Agreement Dutch Universities (NU) was concluded for the period 1 April 2022 to 31 March 2023. The following agreements were made in this regard: on 1 July 2022, salaries were structurally increased by 4.0%. Staff employed at WU on 1 July 2022 also received a one-off payment of €400 gross (for those in full-time employment). Employees who were employed at WU on 1 July 2022 and who were receiving the minimum hourly wage for the university sector (€14 as of 1 July 2021) received this one-off payment of €750 gross (based on full-time employment). Part-time employees were granted an amount proportionate to the scope of employment.

The term of the Wageningen Research Foundation collective agreement also runs from 1 April 2022 to 1 April 2023. The salaries of WR employees were also structurally increased by 4%. The minimum hourly wage was also raised to €14 gross from 1 July 2022, except for some specific categories (participation act, students, on-call employees etc.). Staff employed by WR on 1 July 2022 also received a one-off payment of €400 gross (for those in full-time employment) in August 2022. Employees who were employed by WR on 1 July 2022 and were classified in a salary group/scale as of that date whose hourly wage was €14 gross received a one-off payment of €750 gross in the month of August 2022 if employed full-time. Part-time employees were granted an amount proportionate to the scope of employment.

The remuneration for senior executives is in line with the Standard Remuneration Act for Public and Semi-public Sector Senior Officials (WNT).

Risk analyses and evaluations

Risk analyses and evaluations (RI&Es) provide insight into the possible risks of certain work activities for the health of the employee. This insight is essential in order to be able to arrange the work activities in such a way so as to avoid adverse health effects. In a number of positions at WUR, it is useful to periodically perform medical checks on employees or to provide vaccinations. Where necessary, this is compulsory at WUR. If an employee is unable to comply with this (for example due to their religion), the employee will not be able to carry out the particular work activities and will be assigned other duties. WUR has also developed a policy for periodic occupational health examinations (PAGO). WUR uses the Occupational Health and Safety (Arbo) catalogue in collaboration with UNL.

Finally, special attention should be given to the health risks of employees who are posted abroad. They will be given the necessary preventative vaccinations and follow-up care will also be provided upon their return to the Netherlands, in consultation with organisations such as the Vaccination Centre.

Integrity and social safety

In order to guarantee that the work within WUR is carried out and published both independently and with integrity, we as an organisation apply a number of basic principles in the form of codes, regulations, and agreements.

Employees are required to familiarise themselves with these principles and verify this by signing their employment contract. More information on the integrity and independence of scientific research can be found in section 2.9.1 (Governance) and 2.9.2 (Independence).

In the context of a safe and enjoyable working and learning environment and the opportunities offered by WUR, we also worked to make it easier to find all the possibilities offered by our organisation for raising complaints against objectionable decisions or undesirable behaviour on the intranet. People can contact confidential counsellors, occupational social workers, HR advisors, and the ombudsperson. The ombudsperson can independently investigate on the basis of indications from the organisation about possible misconduct. A formal complaints procedure (Regulations on Complaints Procedure Undesirable Behaviour) can also be launched through the complaints officer.

In April 2022, the social safety programme was launched in response to the Social Safety Project Group's recommendation on undesirable behaviour. The programme consists of a culture change programme, Mindlab performances, establishment of the social safety point of contact, workshops and training sessions, and the drafting of a Code of Conduct. A website ([Sociale Veiligheid - WUR](#)) and an intranet page ([Groep - Intranet WUR](#)) have been set up to centralise and communicate information. The social safety point of contact was opened to staff and students on 24 October 2022. This facilitates easily accessible contact, appropriate referrals within the existing assistance structure and, through this combination, better insight into what is going on within the organisation. Mindlab is an intriguing theatre performance that connects to current themes within the research world such as social safety, integrity, and the balance between research and education. The Mindlab performances were organised to serve as a discussion starter for the topic of social safety. Twenty performances have since been staged.

Mindlab

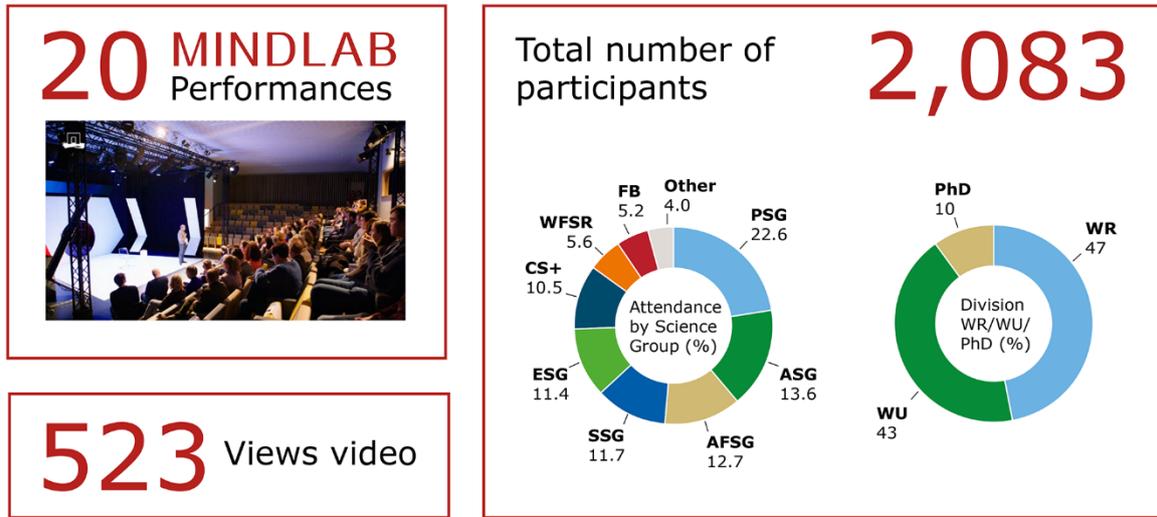


Figure 2.10 Mindlab participation

2.7.9 Complaint and arbitration procedures

Protection of employees against possible objectionable decisions or conduct is guaranteed through various complaints and arbitration regulations at WUR. The following provides an overview of the number of submitted or processed complaints in 2022 per procedure.

Wageningen University & Research

The Scientific Integrity Committee of Wageningen University & Research (CWI) issued recommendation at the request from the Executive Board on a situation concerning authorship in 2022. Three new complaints were submitted to the CWI in 2022. The CWI advised the Executive Board to declare all three complaints inadmissible. The Executive Board adopted these recommendations. The complainants in two cases of complaints subsequently sought advice from the LOWI. In both cases, the LOWI ruled that the complaint was rightly declared inadmissible by the Executive Board.

One complaint was referred to the Committee on Undesirable Behaviour based on the Regulations on Complaints Procedures Undesirable Behaviour at the end of 2022. The committee will submit its recommendation to the Executive Board in 2023.

Wageningen University

No application was made to Wageningen University’s arbitration procedure in 2022.

Stichting Wageningen Research

There were no complaints made based on the Regulations on the Individual Right of Complaint of the Wageningen Research Foundation in 2022.

2.8 Operational management

2.8.1 Management of information provision and IT developments

The management of information provision within WUR is done on a policy and strategic level by the Information Provision (IV) Portfolio Board, chaired by a member of the Executive Board and with representation from the primary domains of Education and Research.

A WUR-wide digitisation strategy was launched in 2022. This strategy has been discussed with various stakeholders and reviewed more broadly within the industry and with external parties. The digitisation strategy does not specifically target the act of digitising, but will determine how WUR deals with current developments and which choices WUR should make, from the point of view of identity and organisational form, in this regard. In addition to making clear architecture choices, a WUR-wide architecture is considered to be important. In order to take steps towards this, the “Werken onder Architectuur” (working under architecture) project was launched. The Wageningen Data Competence Centre (WDCC) also has a clear role in the broad collaboration on the digitisation strategy. This enables us to link up with a broad network, inside and outside WUR, in the field of data science and artificial intelligence.

After very big changes in the Education domain (see chapter 2.4.2) and hybrid working, the focus has shifted during 2022 to operations and (general) provisions in the Research domain.

Operational management domain

The organisation of the Operations domain has been adjusted after defining a vision. The chains of each business function are managed in a multidisciplinary way by a group director, at least one director of operations, and a representative from Information Management. All changes in operational management must tie in with our primary education and research processes. This has raised awareness that a broad approach to change is needed, taking into account the various interests and the speed at which it can be made. The new organisation has created a long-term, sequential approach that allows needed capacity (people and resources) to be allocated.

Top priority was given to the “HR Together” programme, which worked step by step to unify and standardise HR administrative processes. The aim was to better meet the needs of both employees and managers. This programme will continue in 2023. Alongside this, work is ongoing to develop centres of expertise within HR in areas such as Recruitment, Leadership & Development, and Vital & Health. The unified acquisition and contract management process was rolled out within WR and a number of WU departments in 2022. The dashboard that combines all overviews relating to acquisition, projects, finance, and HR in one single overview has progressed considerably. Defining a Marketing & Communications vision for revamping online channels, including the internet and intranet, commenced. A broad alignment course was set in the areas of Finance, Procurement and Project Management to guide developments for 2025 and onwards.

IT domain

There has been undiminished focus in the Information Technology (IT) domain on cyber security, service to end users, and renewal of the IT landscape.

In particular, security and privacy received even more attention due to the changing world and ever-increasing threats. This also remains a priority where all teams must take responsibility. An external audit in April 2022 confirmed that we have made steps towards growth in this. Due to the increasing dependence on suppliers and cloud developments, two IT contract managers have been appointed who will focus on the largest and most risky contracts.

Operational services provided through Servicedesk IT are running well and are highly rated in surveys and feedback. As a result of the growing number of employees, a new IT service management system was introduced in 2022. Interaction with users and greater focus on process management have further improved performance. A lot of lessons were learned during transition processes to keep our

services up to date, such as the Windows 10 migration, and services are running more smoothly than before.

In addition to the general IT tasks mentioned above, the IT department also contributes to other domains. This means that teams are increasingly focusing on value streams, such as the new Research IT Solutions team (research domain) and the Property & Facility Services team (operational management). The merger of the Compute & Platform Services team with the Cloud team was also a logical consequence.

As an organisation, WUR benefits from a unified architecture design. An Architecture Board was established in 2022, which is to take further shape in 2023. For any organisation, human capital is perhaps the most important factor. This is also where the primary task of our IT department managers lies. There is a focus on knowledge development, study programmes, and career development and talent development. We are therefore proud of our annual intake of new colleagues and IT trainees who take their first steps in the labour market with us.

Research domain

Teams were created in 2022 to develop (general) services in the Research domain for the target group of researchers. The Information Management Department, under the leadership of the Dean of Research, has a coordinating role in collaboration with the WDCC, the WUR library (Research Data Management support), and IT (various teams). The network of the WDCC (internally with e.g. data stewards, but also externally in coalitions) is combined with the substantive knowledge of research data management at the library, the technical expertise at IT, and the data science & artificial intelligence sciences in the WUR's sciences groups.

Specific results in 2022 include the rollout of a "Findable Accessible Interoperable Reusable" (FAIR) storage system for research data in collaboration with education and research IT cooperative SURF, AI building blocks in the cloud, and a consolidation of WUR-wide applications. The system for administration and tracking of PhD programmes has been replaced and modernised.

Education domain

Developments within the education domain are described in section 2.4.2.

2.8.2 Personal data protection (privacy)

The previous focus on developing integrated collaboration between privacy, security, data management, information technology, and making connections with existing domains - such as education, research, integrity and archives - continued in 2022. This will ensure broad-based responsibility for data protection and personal data. One of the results, stemming from this collaboration, is an e-learning module on topics such as keeping data safe, identifying phishing emails, and setting up secure passwords. Using an interactive and an instructional video with assignments followed by a series of questions, employees are provided with tools and are also made aware of the risks when working with data and personal data. Participation by employees in the e-learning is automatically registered and is mandatory for employees from the line. The Personal Data Protection Regulations were updated and adopted by the Executive Board in 2022. The data breach reporting process is supported through the incident registration tool "ServiceNow", which is an improvement on the previous reporting process. The [regulations for camera surveillance](#) are still in place.

2.8.3 International collaboration and knowledge security

International collaboration is increasingly facing challenges. There is attention and concern for academic values and freedom and other ethical principles in some partner countries. State actors, including in the Netherlands, can deploy means that affect the academic freedom of employees. Moreover, this puts pressure on the ambitions of open science and open access. WUR is responsible for safeguarding academic values, as laid down in laws and treaties. Academic freedom is a fundamental right and a human right. WUR has set up a knowledge security advisory group that advises the Executive Board on international collaborations and knowledge security and ensures

awareness of risks among employees. WUR is represented in the UNL (Universities of the Netherlands) project group and the TO2 knowledge security project group. UNL is working on partnering tools that support researchers and employees (contract managers and knowledge security advisers) in entering into, implementing, and evaluating international collaborations.

2.8.4 Corporate Social Responsibility

Our Corporate Social Responsibility (CSR) agenda highlights the social issues that will receive additional attention in the coming years. The CSR agenda includes social, environmental, and economic sustainability. It contributes to the goals of the [2019-2022 Strategic Plan](#), aligning as far as possible with the Change Performance Indicators (CPIs). For the current CSR agenda themes, see Section 2.3.3. More about WUR's CSR agenda can be found in the [Sustainability Report](#).

Through projects linked to WUR's CSR agenda, more and more employees and students are finding their way to the campus as a living lab. For example, by involving WUR researchers and students in plans for green space management on Wageningen Campus, or by having staff and students contribute ideas when drawing up policy visions. The starting point for a living lab approach is often an initiative from Green Office Wageningen students that brings together research, education and facilities support. Green Impact teams of staff and students are active within WUR, with the aim of making the workplace environment more sustainable. One example is tackling plastic and polystyrene packaging in laboratories in the Axis and Helix buildings. This was one of the reasons for introducing the Laboratory Efficiency Assessment Framework (LEAF) programme at WUR. LEAF provides employees and students with specific tools to make the labs in which they work more sustainable.

During the coronavirus pandemic, CSR continued receive our attention just as it did prior. Fortunately, universities were allowed to reopen at the beginning of the year and students were able to return to lecture halls. In March, regulations on working from home were converted into recommendations. Nevertheless, things remained quiet in most education and office buildings in the first few months. Over the course of the year, hybrid working became well-established at WUR. Increased activity and crowds at WUR sites resulted in increased travel, increased energy and water consumption, and increased waste disposal again.

The CSR theme of [diversity](#) was highlighted twice in 2022: in March during One Wageningen Week and in October during Diversity Week. The DARE project was increasingly taking shape. DARE stands for Decolonisation, Anti-Racism, Anti-Discrimination, Equity and Equal Chances and is aimed at minimising racism and discrimination at WUR. A varied health programme with activities and courses was offered online and in person as Vital@work and Student Training & Support. Job Participation Support (JOPS) provided hiring and mentoring for employees with disabilities, setting the numerical final goal of creating at least 230 valuable jobs by 2040. At the end of 2022 WUR had caught up as 111 jobs had been created. Longer-term prospects are encouraging: job retention (longer than one year) is at 85% at WUR, compared to approximately 60% nationally.

WUR is taking steps on various fronts to make its own operational management more sustainable. Under the umbrella of "WUR UP TO", this is made visible in all kinds of places in buildings and grounds, for example with the text "From conventional heating... to zero gas use" on the ATEs wells or "From bulging trash cans... to 50% less waste" on the waste bins outside. A QR code on site provides more information on sustainable operational management on the [WUR UP TO](#) website.

Three sustainability themes were highlighted in 2022: the energy transition, sustainable catering, and on-site biodiversity. It is no coincidence that these themes are connected to current global crises: the energy crisis, the climate crisis, and the biodiversity crisis.

While the coronavirus pandemic was increasingly brought under control in early 2022 and measures were being phased out, the war in Ukraine created a crisis with major implications for the Energy theme. WUR responded to the call to "[Turn it down a notch](#)" and turned down the heating in buildings by one degree. The "[2050 Energy Transition outline](#)" was developed into an implementation agenda with steps towards becoming gas-free over the next five years. Due to high energy prices, additional

measures were taken to save energy, such as adjusting the heating and cooling of buildings and, where possible, switching off lights and devices. The last quarter of 2022 in particular recorded high gas and electricity savings, down 24% and 5% respectively compared to the same quarter in 2021.

The [Food & Beverage vision](#) was drawn up in 2022, as a guide for the purchasing processes that WUR uses to procure food and drinks. The [Wageningen Biodiversity Initiative](#) (WBI) organised numerous activities, including a [biodiversity challenge](#) in 2022: are there 1000 species on our campus? WUR joined the [Nature Positive pledge](#) initiated by the WBI. Progress was also made in our own landscaping management.

Dialogue centre [Omnia](#) opened on Wageningen Campus in 2022. Companies can attend symposia, conferences, debates, roundtables, PhD graduations, workshops, and receptions. By engaging in dialogue together and exchanging knowledge and interests, we find solutions to the global issues we face as a society. Omnia is welcoming to guests, but unwelcoming to gas (no gas use whatsoever), and all WUR's electricity is green and CO₂ neutral. Omnia's roof is completely covered with sedum, the building has a natural look with lots of greenery and wood, and the surrounding wet nature garden contributes to biodiversity on Wageningen Campus. All this makes Omnia a very sustainable location.



WU was named the most sustainable university in the world for the sixth time in the [UI GreenMetric ranking](#) in December 2022. WU came third in [SustainaBul](#) — an annual ranking of Dutch educational institutions organised by students.

We participated in the Times Higher Education [Impact Ranking](#) for the second time and secured the 65th spot. The ranking lists universities according to their contribution to the Sustainable Development Goals (SDGs). WUR scores high on the SDGs Climate Action (third) and Zero Hunger (22nd). It shows how we contribute to societal challenges through our education and research: the first theme on our CSR agenda.

2.8.5 Safety and environment

WUR is taking its social responsibility seriously with sustainable operational management. This endeavour is also the starting point for the attention areas of safety and environment.

2.8.5.1 Safety

Education, research, and support activities are accompanied by risks. In the areas of health and safety, WUR wishes to protect employees and students as effectively as possible. The objectives are to ensure optimal working conditions, guarantee health and safety, and stimulate the well-being of employees and students.

WUR's health and safety policy (ARBO policy) and the practical implementation of this policy is set out in various theme-related policy documents and is based on the UNL Health & Safety Catalogue as much as

possible. These apply to both WU and WR. There are health and safety catalogues (and their translations) on the topics of occupational health and safety, risk assessment and evaluation (RI&E), hazardous materials, information, instruction and supervision (VO&T), and complaints of the arms, neck, and shoulder (CANS).

Each organisational division is responsible for having a current RI&E for all workstations and activities and for conducting in-depth RI&Es on themes. There was also an increased focus on the topic of Substances of Very High Concern (SVHC) last year. Activities that had already been initiated earlier, such as hazardous substance inventories at lab sites, clean-ups, and risk assessments using the Stoffenmanager, continued in 2022. We also developed two safe practices in 2022. For example, a ventilation protocol was developed to decide which ventilation facility is required to work safely during various operations involving hazardous substances in labs. We also created a decision tree for hand protection when using hazardous substances. There was a lot of attention to communication about and assurance of all the insights and tools we made in recent years as part of the SVHC project in 2022.

There was also a continued focus on occupational risks due to the coronavirus in 2022. Protocols and measures have been developed on the basis of the RIVM recommendations and the regulations of the Dutch government. This involved building-specific protocols, but also the drafting of a protocol for those working from home. Working from home is supported through targeted information, the provision of resources, workplace research, and support from managers.

2.8.5.2 Environment

The [2022 Sustainability Report](#) describes the policy, activities, and results in the area of environment, sustainability, and social responsibility. This annual report outlines the objectives achieved in 2022 for the four environmental themes of the CSR agenda (see section 2.3.3): Climate-Adaptive Environment, Waste & Circularity, Energy, and Mobility. Table 2.14 summarises the 2022 results. The result is explained per environmental theme.

Table 2.14 Summary of the environmental results of operational management

Component/Issue	Objective	Achievements in 2022
Climate-adaptive environment	Ensuring that our own buildings and surroundings are climate-adaptive: percentage of surface suitable for water absorption	Wageningen Campus: 73%
Waste and Circularity	Reduction relative to 2014	25% increase
	Percentage of waste separation	65%
Energy	2.0% reduction per year	4.3% reduction
	Sustainable electricity procurement	100% ^{a)}
	Renewable energy generation	70,248 MWh ^{b)}
Mobility	2.0% reduction in transport-related CO ₂ emissions per year	49% increase
	Share of transport in CO ₂ footprint	33%
CO ₂ footprint	Emission: reduction relative to 2010	60% reduction
	Footprint compensation ^{c)} : increase compared to 2010	45% increase

a) Purchase of wind energy with guarantees of origin, registered with CertiQ.

b) Using wind turbines in Lelystad, ATES on Wageningen Campus, and solar panels. This is 118% of the electricity consumption of WUR.

c) Calculation of CO₂ emissions that have been prevented by generating renewable energy.

Climate-adaptive environment

The ambition of creating a climate adaptive environment is described in the CSR agenda as: "To make our own buildings and surroundings climate-adaptive, using our own innovative knowledge on climate and biodiversity." Wageningen Campus serves as a groundwater drainage area. Excess water requires space and the campus provides plenty of that. A total of 73% of the Wageningen Campus surface will be suitable for water absorption by 2022. 4% of the surface area has forest or woody vegetation, 26% is planted, and 43% is permeable to water, including ponds, ditches, and vegetation that was not planted.

Circularity and waste

The vision for [circularity](#) adopted in 2020 marked the transition for WUR from a waste policy to a circular resource policy. WUR aims to halve the use of (abiotic) raw materials by 2030 compared to 2014, which is in line with the Dutch government's circular economy policy. This will not only reduce WUR's consumption of raw materials, it will also reduce our volume of waste. This will have an impact on procurement: circularity strategies will start to be incorporated in new contracts with suppliers wherever possible.

After an intensive tendering process, raw materials processing company PreZero and engineering and consultancy firm Witteveen+Bos started implementing [Material Flow Management](#) within WUR in 2022. They work together with WUR on our circular operational management. Through Material Flow Management, we want to get a grip on our raw material flows in order to keep as many raw materials as possible in the chain for as long as possible. The first year of this collaboration was mainly used to gain insight. For example, in 2022 PreZero conducted a raw materials analysis to find out which usable raw materials can still be found in WUR's residual waste.

WUR has three main waste streams: industrial, paper and hazardous waste. The volume of waste for each waste stream that is removed and how it is processed is known for virtually all locations in the Netherlands. The total waste stream remained almost the same in 2022 with a decrease of 6 metric tonnes (-0.2%) compared to the previous year (see Figure 2.11). The waste separation percentage was 65%. Differences between the volumes of raw materials disposed of in recent years are difficult to interpret due to the major impact coronavirus measures have had on operational management in recent years. There was a decrease in commercial, paper, and hazardous waste in 2022 compared to the last pre-coronavirus year. For more details and interpretation of the figures, please consult the Sustainability Report.

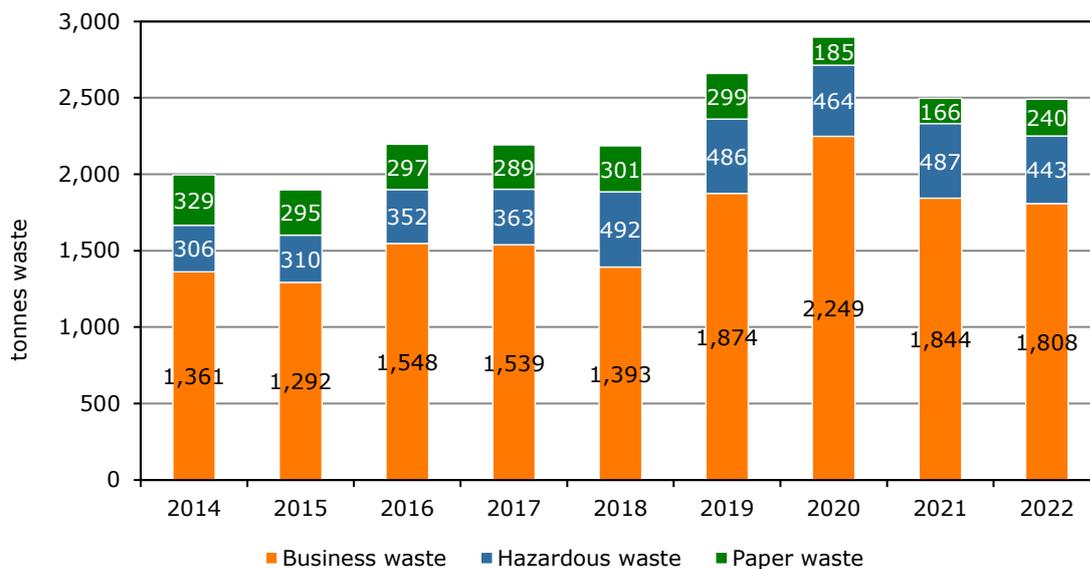


Figure 2.11 Amount of waste produced in tonnes, 2014-2022

Energy

The war in Ukraine, and the related energy crisis in Europe, had major implications for WUR's energy policy. The crisis caused electricity and gas supply rates to rise sharply. A decision was made to accelerate the connection of buildings to the aquifer thermal energy storage system (ATES) on Wageningen Campus, so that the overall 90% reduction in gas consumption — and thus the energy transition — could be achieved sooner. WUR joined the central government's "[Knop om](#)" (turn off) campaign by taking additional energy-saving measures, such as lowering the temperature in buildings and critically examining whether lights and equipment could also be switched off. Many of the

buildings were closed for a fortnight during the December holidays. This saved 23% energy in the last quarter of 2022 compared to the same quarter in the previous year.

The energy-saving measures have been effective.

A second factor was the relatively warm spring. We were able to make significant savings; WUR buildings' energy consumption in 2022 was 8.9% lower than in 2021. When corrected for climate influences, the energy consumption was 4.3% lower. 67% of WUR's total energy use was generated sustainably in 2022. As for electricity, 18% more renewable power was generated than power consumed. Table 2.15 shows the changes in energy consumption based on the scope and targets of the Energy Transition outline.

The [WUR 2050 Energy Transition outline](#) describes WUR's energy goals and how we will achieve them. The main focus is on achieving energy savings of 72% by 2050 compared to 2005, phasing out the use of natural gas, and continuous commitment to renewable energy generation. The outline was developed into an implementation agenda with concrete measures in 2022. Key elements in this are the expansion of the [ATES loop](#) on Wageningen Campus and the use of the nearly 17,000 solar panels on WUR buildings and fields in Wageningen and Lelystad. The solar panels generated 4.6 million kWh of energy in 2022.

Table 2.15 Changes in energy consumption 2005-2022

Energy consumption	Base year 2005	2015	2019	2020	2021	2022
Electricity (kWh)	66,019,426	61,674,576	55,486,852	52,072,490	56,123,986	53,292,589
Natural gas (Nm ³)	12,828,768	7,562,462	5,979,539	5,826,025	6,141,043	5,926,451
Total energy (MWh)	178,784	128,149	108,047	103,283	110,104	105,387
Primary energy (GJ)	1,000,205	794,423	688,634	653,046	699,480	667,208
CO ₂ (tonnes)	67,307	13,547	10,712	10,437	11,001	10,617
CO ₂ as a percentage of 2005	100	20	16	16	16	16
Energy consumption as % of 2005 (% MWh)	100	72	60	58	61	59
Annual energy reduction (% MWh)						4.3

Sustainable Mobility

Policies for sustainable (transport) mobility have been formulated in the [Mobiliteitsvisie 2030](#) (2030 mobility vision). The focus is on stimulating public transport for business trips in the Netherlands and Europe, promoting cycling when commuting, and reducing the use of fossil fuels involved in transport. The coronavirus pandemic boosted sustainable travel and work behaviour. After coronavirus measures were scaled back step by step over the course of 2022, questions were raised about the extent to which working differently, such as working from home regularly, meeting online, and travelling only when absolutely necessary, had become the "new normal".

Hybrid working appeared to be a well-established practice in 2022. A large group of employees alternate working in the office with working from home whenever it is possible and convenient. This was also revealed by the mobility survey conducted in 2022: 77% of respondents are able to work from home, given the nature of their work, and while employees were present 84% on average in 2019, this dropped to 56% on average in 2022. Commuting decreased in absolute terms, but on the other hand, the percentage of cars increased compared to cycling and public transport. Travel time and convenience are the main reasons for motorists to choose a car. Just under 10% of motorists consider cycling a real alternative given the travel time. Public transport is not a good alternative for a large number of employees. This explains why full reimbursement of public transport costs for commuting cannot persuade employees to choose it.

More staff and students were making international trips for work or study. Yet in 2022, there was not as much air travel; compared to 2019, 47% fewer plane trips were booked. The number of business trips within the Netherlands did increase again compared to 2020 and 2021. In the process, a greater

proportion of business trips were made using “Mobility as a Service” electric shared cars. Due to changes in tax regulations, the commuting compensation schemes were further adjusted. Instead of automatic reimbursement for commuting, employees can indicate on a monthly basis whether they worked in the office or at home. Commuting by public transport has been fully reimbursed since September (following collective labour agreement negotiations).

The ambition from the mobility vision is to reduce CO₂ emissions from all WUR transport by at least 2% annually. During the coronavirus pandemic, transport emissions were significantly lower. Coronavirus measures were progressively phased out during 2022. This is reflected in CO₂ emissions from transport. This amounted to 11.2 ktonne CO₂ equivalents in 2022 (up from 7.5 ktonnes in 2021). This amounts to a 33% share of total calculated CO₂ emissions. CO₂ emissions for mobility were 49% higher than in 2021. Transport emissions are not yet at pre-coronavirus levels: compared to 2019, CO₂ emissions are 42% lower.

CO₂ footprint

WUR annually calculates a [CO₂ footprint](#), in accordance with ISO 14064-1 and based on the “Greenhouse Gas Protocol”. Direct and indirect greenhouse gas emissions are used to calculate the footprint. Calculating emissions provides WUR with insight into what can be done to reduce and compensate for emissions. Figure 2.12 shows the results of CO₂ footprints in recent years.

The total CO₂ footprint will be 33.5 ktonnes of CO₂ in 2022. This reduced CO₂ emissions by 60% compared to the reference year 2010. When compared to 2021, the CO₂ emissions increased (13%; 4 ktonnes CO₂). Figure 2.12 shows the extent to which the sources of emissions contributed to CO₂ in 2022. The major sources are the buildings (especially natural gas), air travel, commuting, and agricultural lands. The increase in CO₂ emissions is related to an increase in transport. Following two years of the coronavirus pandemic, air travel in particular increased. WUR compensates for its CO₂ emissions by generating its own wind and solar energy, through thermal energy storage (TES) systems at Wageningen Campus. Expressed in terms of CO₂, this halted the emission of 37.8 metric ktonnes of CO₂.

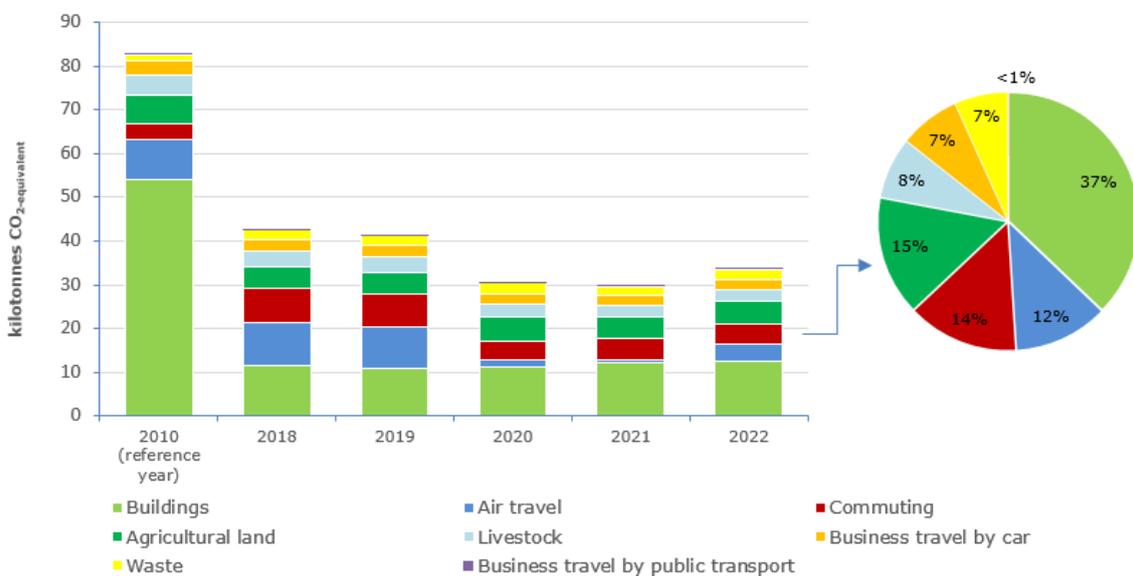


Figure 2.12 The CO₂ emissions in ktonnes, 2018-2022 and reference year 2010

2.8.6 Procurement policy and supply chain responsibility

WUR complies with all relevant laws and regulations in the area of procurement and adheres to the principles of Proportionality, Objectivity, Non-Discrimination and Transparency. In order to perform our procurement tasks responsibly, the integrity of the purchasers must be beyond repute. For this purpose, the NEVI Code of Conduct used as the foundation. This code of conduct respects the regulations of the

United Nations on human rights and the rights of children. This code serves as a test for assessing the behaviour of purchasers. The most recent government procurement terms and conditions also apply.

In addition to the existing laws and regulations, WUR also upholds its own procurement policy. The objective of this is to ensure that all controllable expenditures take place lawfully, efficiently and effectively, in accordance with the core values. The policies and procedures for procurement are determined by the Executive Board. The sustainability criteria of the Dutch government, as published on [mvicriteria.nl](https://www.mvicriteria.nl), are applied as much as possible. Additional sustainability criteria, including the International Social Criteria (ISC), are considered and upheld for each contract, where possible.

WUR continues to play a pioneering role in sustainability and CSR. In our purchasing policy, we put pressure on chains to operate in a transparent, sustainable, circular way and free of modern slavery.

WUR's procurement policy was updated in 2022. The threshold amounts used within WUR have been increased to better reflect current prices. Collaboration with other universities has also deepened by making joint efforts, based on equal purchasing requirements, to further eliminate child labour and modern slavery. The procurement department is also working on a vision document in which sustainability plays a prominent role. There were no complaints about our procurement processes in 2022.

More information about the activities and the results of the procurement policy in relation to sustainability can be found in the [Sustainability Report](#).

2.9 Compliance

2.9.1 Governance

Wageningen University and Wageningen Research operate as separate legal entities under the name Wageningen University & Research. In terms of administration, this collaboration has been shaped by a governance union: the Executive Boards of Wageningen University and Wageningen Research consist of the same members. This is intended to guarantee maximum administrative unity is achieved between the university and the DLO research institutes. The Executive Boards and Supervisory Boards of Wageningen University and Wageningen Research together form the Executive Board and Supervisory Board of Wageningen University & Research.

The Executive Board is responsible for the administration of the university and the research institutes and is accountable to the Supervisory Board. The Executive Board is advised by the Management Board, the body in which the five sciences groups are represented by their managing directors and the Wageningen Food Safety Research unit by its director.

The participational structure is an important partner in policy formation for the Executive Board and the managing directors of the organisational units. Each sciences group has a joint works council for employees of Wageningen University and Wageningen Research who work within the sciences groups. Additionally, there are separate works councils for Wageningen Food Science, Corporate Staff, and Facilities and Services. From these works councils, a Central Works Council (COR) has been formed for which members are elected by and from among the members of the works councils. The Student Council (SC) and the Student Staff Council (SSC) are participational bodies of the university. The SSC consists of members of the Central Works Council, supplemented by two directly elected employees, two directly elected PhD candidates and members of the SC. Students and staff have an equal number of votes in the SSC.

The COR and SSC together make up the WUR Council. The consultation meetings between the Executive Board and the central participational body take place in the WUR Council and the SC. However, the WUR Council does not have any authority, as this remains with the COR and SSC. The general principles of good governance are set out in the [University Governance Code as applied to Wageningen University & Research](#), effective 2020. The code is composed of the "Code for Good Governance in Dutch universities" and supplemented by the provisions of the Dutch corporate governance code (NGCG) 2016 that are relevant to Wageningen Research. The [Administration and](#)

[Management Regulations of WU and WR translate the method of administration, management, and organisation of WU and WR, based on frameworks as specified in the Higher Education and Research Act \(WHW\) and the WR Statutes.](#)

2.9.2 Independence

The independence of scientific research is an important topic. At a time when universities are cooperating more than in the past with governments, NGOs, and the business community, guaranteeing this independence is even more important. WUR has various regulations and procedures in place to guarantee the independence of research, such as:

- [Netherlands Code of Conduct for Research Integrity](#)
- [Wageningen University & Research Integrity Code](#)
- [General terms and conditions](#)
- [The Anti-Corruption Code](#)
- [Regulations for secondary activities](#)
- [Guidelines for Appointing Professors](#)
- [Wageningen University & Research Whistle-Blower's Regulations](#)

Anyone who has complaints about the independent operation of researchers at WUR can address the WUR Executive Board. The complaint will then be examined by the Scientific Integrity Committee. Complaints will be assessed on the basis of the [Scientific Integrity Complaints Procedure](#).

In addition to these WUR guidelines, peer reviews are conducted, there is legal supervision, and national and international on-site reviews are carried out periodically. These official inspections to assess the quality of programmes and research groups are carried out by both official bodies and independent external experts.

Conducting independent research and publishing the research results is the core activity of WUR. Conclusions on all research are reported on the basis of facts that were proved and analysed in the research. Commissioners and/or stakeholders have no influence on this. The report always mentions the funding providers. More information can be found on our website under [Onafhankelijkheid onderzoek \(independent research\)](#).

WUR not only carries out research independently, but also collaborates with businesses, governments, other knowledge institutes, citizens, and social organisations. They put knowledge into practice and challenge us to make science-based changes possible. This approach is an important aspect of our strategic plan Finding Answers Together.

Special and endowed chairs are funded by external parties. Standard agreements are in place to ensure independence from external funding providers. The full list of these chairs is published on our [website](#).

WUR employees are required to ask their employer for permission in advance to carry out secondary employment activities. It is important both for WUR and for potential clients to have insight into any secondary work activities in order to prevent a possible conflict of interest. The approved side activities can be found at [we@wur](#).

Even with this strong focus on the principle of independence and the associated assurances and control measures that were put in place, there are still situations in which we are called to account regarding our independence. Openness, discussion, and self-reflection are a great asset in a scientific environment. Input from our employees, students, clients, and stakeholders is important here. WUR can and must be called to account for its independence, and we also want to learn as an organisation in this respect: both with regard to actual breaches of our independence and imperfections in the communication about this.

2.9.3 Risk management

2.9.3.1 Risk profile and risk appetite

The social environment in which WUR operates is known for its high dynamics. In it, the government is faced with a number of complex issues that have a major impact on society, which require government interventions. For 2022, these included the climate crisis, the nitrogen crisis, the war in Ukraine that posed major national security and energy security challenges, high inflation, and geopolitical relations with China, among others. Addressing these problems demands a lot from society, but society's confidence in the government's ability to solve them is low, and society's ideas of the solutions are far from unified or clear. At the same time, the government is not losing sight of the long-term perspective and is willing to invest in innovation and strengthening the Dutch knowledge economy. In this social context, WUR faces many challenges. The government asks WUR to contribute to solving the problems by actively participating in new research programmes and public debate itself. At the same time, WUR is facing the consequences of several crises and developments such as high inflation, pressure on knowledge security, and the tight labour market. All these developments result in a heavier risk profile for WUR.

At the same time, WUR faces issues of increased complexity due to regulatory pressure from the government and uncertainty about the rules for programmes in which WUR is asked to participate. For example, regulations regarding knowledge security and sanctions mean that WUR has to put much more energy into customer acceptance and set up a "Know Your Customer" process. New grant programmes often require WUR's own contribution and put a strain, sometimes too great, on the organisation's free resources. Also, the rules to be followed when spending the funds are often not clear or appropriate for a research organisation, causing WUR to deal with issues of taxation, accountability, and procurement.

WUR acknowledges that it plays an important role in addressing the identified problems and contributes to the society of the future through its education and research. The social demand articulated to WUR exceeds the existing capacity and will require further growth of the organisation in the coming years as well. Facilitating that growth poses financial risks, for example because of the need to invest more in buildings and (digital) facilities and to hire more employees on permanent contracts. WUR is willing to take these risks. This is a carefully considered decision, as WUR has sufficient equity and liquidity to cover any temporary deficits. WUR is less willing to take additional risks associated with co-funding new research programmes, partly because of sometimes insufficiently clear (financial) legislation and regulations. WUR's own resources are limited and necessary to maintain its innovative capability. WUR is therefore reluctant to enter into new research programmes that are risky due to a lack of co-funding. Risk tolerance is low in the areas of compliance and image.

Risk management structure

2.9.3.2 Risks of Strategic Objectives

The 2019-2022 Strategic Plan for WUR was launched in 2019. The plan was extended to 2024 in 2021. The plan outlines how the organisation wants to answer the social issues in its domain. To maintain its global position as a top knowledge institution, the organisation will need to change. In the Strategic Plan, twelve Change Performance Indicators (CPIs) are defined to measure the progress of this change process. The twelve CPIs were further operationalised and quantified as part of the implementation process. This way, the Executive Board monitors the strategic progress at the highest level. The long-term financial forecast, including relevant internal and external developments and uncertainties, will be included in the multi-year projections for WU and WR, and will be shared with the Supervisory Board. These give an indication of the risks associated with the growth in student numbers, developments in research turnover, and support decisions for large investments, such as the third modular education building as well as the progress of the Strategic Plan. The results for WU are shared in the Continuity section.

The main strategic risks facing the organisational units are discussed in the quarterly meetings between the managing directors and the Executive Board. The Executive Board discusses risks with the Supervisory Board

2.9.3.3 Operational and Management Risks

In order to implement and monitor intended policies, WUR has a planning and control cycle. During this planning and control cycle, operational risks with an impact on results and assets are identified and given appropriate measures. The planning and control cycle includes:

- annually drawing up a framework letter (multi-annual framework) to define the tasks for the upcoming financial year;
- annual budget statement for each unit;
- quarterly reports on the balance and the development of results and the risks;
- monthly monitoring of financial and liquidity developments per organisational unit and department (early warning system);
- a budget allocation and project system process has been set up for Ministry of Agriculture, Nature and Food Quality (LNV) project budgets. These are used to inform cluster leaders and financial departments about the depletion of the LNV project budgets; Additional attention was given to managing the position of "Unfinished projects" in the second half of 2022, as LNV allows only limited annual underspending;
- recalculation of the cost per business unit. Deviations from previous years are being reviewed. Deviations from the previous year were clarified or explained.

The quarterly reports and the budget are a standard, integral component of the agenda in the discussions between the Executive Board and the management councils. These are organised four times each year.

Since the amount of liquidity is considerable, the policy requires regarding the spending of temporary liquidity surpluses. The Treasury regulations are the applicable framework here.

At WUR, an interest rate committee convenes once every quarter under the direction of a member of the Executive Board.

Operational risks include those relating to the quality of internal processes and internal reporting. These risks are controlled first of all using the classic tools of administrative organisation such as the division of duties. WUR has also been using BRIX as a system to monitor the quality of internal processes based on data analysis since 2020. BRIX detects and investigates unusual transactions and patterns in business management systems. By quickly detecting and resolving errors and deviations, the quality of processes is continuously improved. The implementation was carried out in close consultation with the decentralised organisation, thus ensuring maximum support for this project. During the first phase of the project, controls were mainly set up in the financial domain.

Managing grant projects poses significant risks due to the complexity of regulations and the high importance of grant projects to WUR's financial situation. Complying with increasingly strict conditions from funding providers requires adequate support to project leaders by well-trained project controllers, good knowledge of funding schemes, and a mature system of cost allocation to projects. WUR manages these risks by investing heavily in high-value project controllers and in high-quality second-line support that ensures good provision of information, standardisation of working methods, and appropriate working arrangements with providers of finance and auditors.

The internal management of financial processes and internal control fall under the responsibility of the Financial Accounting & Internal Control department. This department not only focuses on the drafting of guidelines, but also independently monitors compliance with these guidelines by the decentralised units.

2.9.3.4 Cybersecurity

Information security, also known as cybersecurity, was high on WUR's agenda again this year. The external risk assessment with input from SURF and the National Cyber Security Centre (NCSC) [still shows an increasing external threat picture](#).

The policy on information security is unchanged, but data classification and in turn, risk assessment in the sciences groups was moving too slowly. The Executive Board therefore provided a one-off project

budget to support the sciences groups. Information security officers have now been appointed (part-time) at all units as part of this project. These officers, in collaboration with privacy officers and data stewards, are further shaping the support in terms of working methods, documentation, supporting resources and, above all, knowledge sharing in the field of both privacy and information security.

The consultation of the directors of operations of all sciences groups discusses the various aspects at least once every quarter on the basis of the quarterly report on information security and the internal and external audits in this area. Another periodic external audit was conducted in 2022 to objectively measure whether WUR is on track to achieve the set target level. The target level has now been met in terms of the IT Security Operations aspect; in terms of human factors, a noticeable step has been taken from which we can deduce that the extensive campaigns and communication have been effective. A new e-learning module on Information Security & Privacy was also created in collaboration with the ESA department in 2022. It will be mandatory for all employees and will be launched in early 2023.

Besides these positive developments, we should also note from the external audit that in the aspects of (integrated) risk management and managing third parties (suppliers, partners), there are still improvements to be made. These are currently too implicit (not documented) and fragmented. *At WUR, an Architecture Board led by a member of the Executive Board meets regularly to monitor generic IT design issues on a strategic-tactical level.*

Social developments, both in the field of IT security and in our research domain and in conjunction with the open nature of the campus, result in the risk of emergencies for WUR. WUR also actively participates in the dialogue on knowledge security organised by OCW (for universities) and EZ (for TO2 institutions). We also participate in the platform for integrated safety in higher education. Insights from these discussions are translated into WUR policies and processes. The lessons learned in 2021 from the cybersecurity exercise (called OZON) were implemented in 2022 into the structure of the Crisis Management Team and Crisis Coordination Teams per unit.

In order to manage these risks when they occur for WUR as an organisation, WUR has an emergency team.

2.9.3.5 Tax, legal, and fraud risks

Tax laws demand a great deal of effort from the organisation. The main tax risks related to VAT concern the correct assessment of the VAT to be applied in the activities WUR undertakes and the correct calculation of recoverable VAT. Agreements have recently been reached with the tax authorities on the latter issue, reducing this risk. The correct application of VAT legislation is monitored by the tax controller, who, among other things, provides study programmes for financial employees.

WR is subject to corporation tax (VpB). The main risks for the corporation tax are the correct allocation of costs to WU and WR and the use of the correct transfer prices in the case of mutual provision of services. To prepare the annual accounts for tax purposes, advice is obtained from an external tax consultant. WUR regularly pays natural persons with whom there is no employment relationship such as students, guest lecturers, and PhDs. The correct application of tax laws for these payments is complex, but WUR has regular meetings with the tax authorities to discuss such cases.

The public procurement legislation and the increased control make high demands on the quality of the purchasing process. On the one hand, this requires the timely identification and tendering of purchases that should be put out to tender on the basis of national or EU procurement directives and, on the other, requires careful documentation of the legality of the other purchases. This matter is complex and requires an adequate information system and intensive management of the purchasing process. Illegitimate procurement poses risks in the procurement process itself, but also in grant accountability. In recent years, a great deal of attention has been devoted to improving compliance with procurement legislation and residual risks have been reduced.

The Ministry of Agriculture, Nature and Food Quality (LNV) has taken a clear stance that the spending and accounting for all funds provided under the TO2 scheme is the direct responsibility of WR and that funds awarded under so-called partner contracts in the past must also pass through WR's profit and loss account and TO2 accounting. This makes the management of Ministry of Agriculture, Nature and Food Quality funds more complex and risky. WR is currently considering how best to deal with this matter. The LNV has agreed that partner funds from collaborations concluded before 2021 will continue to be accounted for in the old way in 2022. The impact of this adjustment on the result is non-existent, but it does have an effect on the presentation of income and expenses and on the control to be exercised over these expenses.

The LNV has also indicated that the distinction between NAPRO (funds intended for projects still to be completed) and surplus (funds that have not been spent and for which there is no immediate destination) is not in line with the TO2 scheme. This may result in WR exceeding the norms for surplus in the regulation and having to repay the excess against the balance sheet item created. WR has agreed to a two-year period with the Ministry to resolve the consequences of this modified interpretation in 2021.

WUR conducted a fraud assessment, which identified fraud risks related to the misappropriation of assets and in the area of financial reporting, based on the fraud triangle. The management measures, aimed at preventing fraud and reducing impact, were then assessed. The ensuing residual risks will be discussed with the organisation in 2023, weighing whether the residual risks are acceptable or whether additional measures are needed against each other. WUR has a regulation for reporting and monitoring suspected (financial) fraud.

2.9.3.6 Risk management implementation and improvements in 2022

The risk committee met once in 2022, discussing, among other things, risks relating to knowledge security and cybersecurity. Two new reports of suspected fraud were received in 2022. These suspicions of fraud were investigated by the internal auditor and improvement points for administrative procedures were implemented where necessary. The financial impact of the fraud was very limited.

The strategic risks resulting from the organisation's continued growth have received a lot of attention from the organisation. This manifests itself, among other things, in the question of how to ensure that the organisation remains sufficiently flexible if growth stops or even turns into reduction. There is also a focus on housing the greatly increased number of employees. For this purpose, the Strategic Housing Plan (SHP) is being drawn up. The risks related to strategic growth for the coming years are described in the continuity section.

Much of the focus in 2022 was on the consequences of the war in Ukraine. The increased volatility of energy markets poses high risks to WUR. WUR therefore decided to accelerate the reduction of gas consumption by connecting buildings to the ATES loop. The changed geopolitical situation has also led to an increased focus on knowledge security and sanctions legislation. WUR thereby follows the policy of the Dutch government and checks whether existing and new relationships appear on the international sanctions lists.

In 2022, many efforts were made to improve the management of financial processes and internal control. Seven checks in BRIX were developed and put into use in 2022, including the matching of creditor and debtor lists with the international sanctions lists and the consistency of the ancillary work registration. A self-learning language model has also been implemented, which detects conspicuous transactions based on description. E-mail functionality has also been introduced, allowing direct communication with employees. We also introduced checks in the HR domain (declarations and ancillary work) and on compliance with legislation (sanction lists) in 2022.

The internal control of the grant projects continues to demand a lot of attention from the organisation. Under the direction of the Corporate Staff, efforts are carried out on the further standardisation of the instruments for project management and the implementation of the internal control of the projects has been centralised. The provision of information to project controllers from the Corporate Staff has been improved in 2022, the process of adjusted calculation of fees has been centralised and the request

process for access to information systems for finance staff has been streamlined and homogenised. The methodology of costing for Dutch subsidies has also been reviewed and approved by the Netherlands Enterprise Agency (RVO). This secures an important pillar of subsidy accountability.

Special attention is given to the many partnerships in which WUR participates. Key issues involved in entering into partnerships, such as pricing and application of VAT rules, have been identified and templates for designing new partnerships have been prepared. Criteria for entering into partnerships are currently being developed.

2.9.3.7 Looking ahead to 2023

The growth of the organisation described in the previous paragraphs, in conjunction with the increasingly stringent conditions and checks of our main funding providers and increasing laws and regulations, create a higher risk profile. Therefore, the risk management process must be further developed. As such, it is especially important that risks are detected and discussed by the relevant management transparently and in a timely fashion.

The key areas for attention for further risk management in 2023 are as follows:

- deepening the risk assessment and risk appetite for the strategic risks;
- strengthening IT control measures. These are focused on being better prepared for the increasing threats in the area of cyber security on the one hand, and on the auditor's recommendations regarding the general IT controls that guarantee the correctness and quality of the information systems on the other;
- the changing international political relations require more attention to knowledge security. Knowledge security was included in the internal assessment framework for partnerships in 2021. This framework was discussed with the general managers responsible for its implementation. Internal guidelines for co-operation with other high-risk countries were extended in 2022. A particular risk area is the security requirements relating to the WOT components, which can be designated as vital infrastructure/processes in the context of national security and are therefore subject to stricter requirements;
- geopolitical developments may lead to the reduced mobility of international students and opportunities to conduct research in and with other parts of the world. This may lead to a decrease in the number of international students and research projects in high-risk countries. There is also the risk of disruption to production chains, which could lead to problems for WUR's research, e.g. due to expensive natural gas, helium, and other specific materials and equipment. WUR continues to closely monitor developments so that any impact on the organisation's activities can be anticipated in a timely manner;
- stronger concentration of high-quality content expertise is needed to address increased complexity;
- attention to the cultural aspects, social safety, ethics, and knowledge security within the organisation. Organisations in a dynamic environment require an open culture with sufficient checks & balances built in. This prevents tunnel vision. For such a culture to exist, it is necessary that management provides space for critical voices and is willing to include independent opinions in the decision-making.

These points of interest are addressed in close consultation with the financial department and operational managers.

2.9.4 Remuneration of executives

The remuneration of WUR's executives and members of the Supervisory Board is established in accordance with the standards of the Wet Normering Topinkomens (standard remuneration act for public and semi-public sector senior officials) (WNT). In compliance with Article 1.1 of the WNT, Wageningen University & Research has summarised the remuneration of the Executive Board members and the Supervisory Board members in Tables 2.19 and 2.20.

Table 2.16 Classification

Classification 2022	Results	Complexity points
A. Turnover 2020 (* €1,000)	405,200	10
B. Number of students 2020	12,062	4
C. Number of education types or sectors	3	5
Total		19

The maximum remuneration for 2022 is €216,000.

Table 2.17 Remuneration for executives

2022 Overview (Amounts * € 1)	Fresco	Heimovaara	Mol	Buchwaldt
A. Remuneration	107,112	108,888	216,000	216,000
Minus additional tax liability for car	-	-	-	-
A1. Remuneration	107,112	108,888	216,000	216,000
B. Compensation in the event of termination of contract	-	-	-	-
C. Personal expenses				
Representation costs	1,200	1,200	2,400	2,400
Domestic travel expenses	9,024	11,249	10,431	13,561
International travel expenses	348	616	2,944	0
Other expenses	0	0	0	0
C1. Total personal expenses	10,572	13,065	15,775	15,961
D. Total expenses	117,684	121,953	231,775	231,961

Distribution across components ¹⁾	Fresco		Mol	Buchwaldt
A. Remuneration minus additional tax liability				
WU	55,505	56,426	111,931	111,931
WR	51,607	52,462	104,069	104,069
B. Compensation in the event of termination of contract				
WU				
WR				
C. Personal expenses				
WU	9,798	12,157	13,103	14,761
WR	774	908	2,672	1,200

¹⁾ The Executive Board's commitment is 50% for both WU and WR. Due to the maximum amounts set out in the Wet Normering Topinkomens for charged staff, not all equal costs are charged to WR.

Tables 2.18, 2.19 and 2.20 contain the consolidated information on the remuneration of the personal union of WUR. These tables will provide the user of the annual report with the required insight into the total cost of the top-level executives and members of the Supervisory Board. This list differs from statutory statements as the legislation requests information by entity. The statutory statements are included in WU and WUR's annual accounts. These are consistent with the consolidated financial statements attached below.

Table 2.18 Remuneration of executives (amounts in €)

The WNT applies to WUR. The applicable maximum remuneration for WU for 2022 is €216,000 (general remuneration limit)

	L.O. Fresco	S. Heimovaara	A.P.J. Mol	L.A.C. Buchwaldt
Job title	President of the Executive Board	President of the Executive Board	Executive Board member	Executive Board member
Period of employment in 2022	1-1 to 30-6	1-7 to 31-12	1-1 to 31-12	1-1 to 31-12
Extent of employment in FTE	1	1	1	1
(Technical) Employment relationship	Yes	Yes	Yes	Yes
Remuneration				
Remuneration and taxable expense reimbursements	94,942.05	96,804.75	191,659.44	191,659.55
Remuneration payable over the long term	12,170.28	12,082.92	24,340.56	24,340.56
<i>Remuneration</i>	<i>107,112.33</i>	<i>108,887.67</i>	<i>216,000.00</i>	<i>216,000.00</i>
Individual maximum remuneration	107,112.33	108,887.67	216,000.00	216,000.00
-/- unduly paid amount				
Total remuneration	107,112.33	108,887.67	216,000.00	216,000.00
Reason for exceeding the norm and other notes	n/a	n/a	n/a	n/a
Data for 2021				
Period of employment in 2021	1-1 to 31-12		1-1 to 31-12	1-1 to 31-12
Scope of employment in FTE	1		1	1
Remuneration				
Remuneration	185,216.24		185,216.12	185,216.12
Provisions for remuneration payable in term	23,783.76		23,783.88	23,783.88
Total remuneration	209,000.00		209,000.00	209,000.00
Individual maximum remuneration	209,000.00		209,000.00	209,000.00

Within our organisation, those who are identified as top executives with an employment contract do not have an employment contract with any other semi-public (WNT) institution(s) as managing top executives (who entered employment from 1 January 2019).

Table 2.19 Remuneration for supervisors (amounts in €, excluding VAT)

	J.R.V.A. Dijsselbloem 1)	E. Dijkgraaf 2)	M.A. Verhoef	T. Klimp	K.D. Schuijt	B. Jansen 3)
Job title	Chair	Member/Chair from 1-12	Member	Member	Member	Member
Period of employment in 2022	1-1 to 30-11	1-1 to 31-12	1-1 to 31-12	1-1 to 31-12	1-7 to 31-12	1-1 to 31-12
Remuneration						
Remuneration	9,258.48	12,859.33	12,344.64	12,344.64	6,172.32	12,477.62
Individual maximum remuneration	29,648.22	22,517.26	21,600.00	21,600.00	10,888.77	21,600.00
Reason for exceeding the norm and other notes	n/a	n/a	n/a	n/a	n/a	n/a
Payment on termination of employment	n/a	n/a	n/a	n/a	n/a	n/a
Data for 2021						
Duration of appointment in 2021	1-1 to 31-12	1-3 to 31-12	1-1 to 31-12	1-1 to 31-12		1-3 to 31-12
Remuneration						
Remuneration	17,745.00	9,811.45	11,829.96	23,097.36 4)		9,858.45
Individual maximum remuneration	31,350.00	17,521.64	20,900.00	20,900.00		17,521.64

1) Remuneration to Dijsselbloem Consultancy BV in 2021.

2) Remuneration to Dijkgraaf Strategisch Advies BV.

3) Remuneration to Wellant BV.

4) There is an apparent excess as a result of a subsequent payment of the remuneration for 2020, the right to which arose in 2020 and which is attributed to 2020 for the testing of the maximum individual remuneration.

Table 2.20 Remuneration of non-senior officials

Job title	Professor
Period of employment in 2022	1-1 to 31-12
Extent of employment in FTE	1
Remuneration	
Remuneration and taxable expense reimbursements	278,963.90
Remuneration payable over the long term	29,080.08
<i>Remuneration</i>	<i>308,043.98</i>
Individual maximum remuneration	216,000.00
Reason for exceeding the norm and other notes	Incidental payment related to compensation for exceptional achievements
Data for 2021	
Period of employment in 2021	
Scope of employment in FTE	
Remuneration	
Remuneration	
Provisions for remuneration payable in term	
Total remuneration	
Individual maximum remuneration	

2.9.5 Secondary employment activities of Supervisory Board members and Executive Board members

2.9.5.1 Relevant side activities as of 31 December 2022 – Supervisory Board

Prof. E. Dijkgraaf (1970) (Chair of Supervisory Board since 1 December 2022)

Principal appointment: Professor of Empirical Economics of the Public Sector, Erasmus University Rotterdam

Appointed on 1 March 2021, current term ends on 1 March 2025

Committees: Education and Research Committee (Chair), Audit Committee

Relevant side activities:

- Member of the Advisory Board of the Stewardship Foundation
- Member of the board of Noaber Foundation
- Member of the board of Eleven Flowers Foundation
- Owner of Dijkgraaf Strategisch Advies BV.
- Member of the Advisory Board of Van Westreenen
- Member of the Supervisory Board of SRK Groep
- Non-executive board member of De Vries en Verburg
- Chair of the Supervisory Board of Lelie Zorggroep
- Member of the Supervisory Board of New Amsterdam Invest
- Member of the Expertisekring Begrotingsadvisering Raad van State
- Chair of the Reflectieraad Landbouwakkoord

Mr B.C. Jansen (1959)

Principal appointment: -

Appointed on 1 March 2021, current term ends on 1 March 2025

Committees: Audit Committee, Appointments Committee

Relevant side activities:

- Chair of the Supervisory Board of Koninklijke Zeelandia Groep B.V.
- Member of the Supervisory Board of Darling Ingredients International Nederland holding B.V.

Mr T. Klimp (1972)

Principal appointment: CFO at Vion Food Group

Appointed 1 September 2018, end of current term: 1 September 2026

Committees: Audit Committee (chair), Appointments Committee

Relevant side activities:

- Member of the Supervisory Board of TopigsNorsvin

Dr K. Schuijt (1974)

Principal appointment: director-general of WWF-International

Appointed 1 September 2022, end of current term: 1 September 2026

Committees: Education and Research Committee

Relevant side activities:

- Supervisory Board (member remuneration committee) PWN Water Company
- Advisory Committee Royal Netherlands Institute for Sea Research (NIOZ)

Ms M.A. Verhoef (1959)

Principal appointment: Levvel Executive Board

Appointed 1 January 2017, end of current term: 1 January 2025

Membership: Appointment Committee (Chair) and Education and Research Committee

Relevant side activities:

- Member of the Supervisory Board of Nederlands Jeugdinstuut
- Chair of the Associatie voor Jeugd
- Member of the Audit Committee of the Ministry of Social Affairs and Employment
- Member of the Audit Committee of Social Security Bank
- Dean of the NSOB ("Nederlandse School voor Openbaar Bestuur") administrative learning network
- Member of the Board of Samenwerkingsverband Effectieve Jeugdhulp Nederland (SEJN)

An [up-to-date overview of the additional work activities](#) of the members of the Supervisory Board can be found on the website.

2.9.5.2 Relevant side activities as of 31 December 2022 – Executive Board

Dr S. Heimovaara (1965)

Chair

Appointed 1 July 2022, end of current term: 1 July 2026

- Vice-chair of Advisory Council for Science, Technology and Innovation (AWTI)
- Member of Netherlands Academy of Technology and Innovation (AcTI)
- Member of Advisory Committee of museum Staal
- UNL, member of the Steering Committee on strategy, public affairs & governance and member of Algemene Presidenten Vergaderingen (APV)
- Wageningen Ambassadors
- Board member of 4TU
- Member of the Scientific Advisory Committee of the UN Food System Coordination Hub
- Member of the Supervisory Board of the Institute for Sustainable Process Technology (ISPT)

Prof. A.P.J. Mol (1960)

Vice President of the Executive Board and Rector Magnificus of Wageningen University

Appointed 28 May 2015, end of current term: 10 March 2024

- Editor of book series New Horizons Environmental Politics (Edward Elgar)
- Member Editorial Board Journal of:
 - Current Opinion in Environmental Sustainability
 - Environment and Planning C
 - Nature & Culture
 - Open Environmental Sciences
 - The International Journal of Public Policy
 - Environmental Development
- Member of the Advisory Board of Stichting 45
- Member of the Supervisory Board of Wetsus
- Member of the international Advisory Board of Montpellier University
- International advisor to the Executive Board of Jingwa Agricultural Science and Technology Innovation Center, Beijing
- UNL:
 - Member of Rectorencollege
 - Member of the Education and Research Steering Committee
- President Association of European Life Sciences Universities ICA
- Member of the board of 4TU Federation, member of the Education Committee, chair of the Research Committee
- Chair of the Board of Euro League of the Life Sciences ELLS
- Member of the Supervisory Board of IHE Delft Institute for Water Education
- Chair of the Guidance Committee of the Netherlands Environmental Assessment Agency
- Member of Regieteam Groenpact 2.0, a structural consultation between the Ministry of Agriculture, Nature and Food Quality, employers in the green sector, and green education
- Member of the Stichting OnePlanet Research Centre Board
- Chair of the TO2 Federatie Board
- Member of the European Bioeconomy University Board
- Member of the Board of EWUU Alliantie (Eindhoven University of Technology, Wageningen University & Research, Utrecht University, University Medical Centre Utrecht)

L.A.C. Buchwaldt MBA (1961)

Portfolio of Finance, Business & Services

Appointed 1 September 2017, end of current term: 1 September 2025

- Member of Member's Council Coöperatie SURF
- Member of the steering committee Operational Management and Finance UNL
- Member of the DUWO Advisory Board (student housing)

- Member of the Supervisory Committee of the EFRO 2021–2027 Operational Programme, Eastern Netherlands region on behalf of WU, RUN, and UT
- Member of the Economic Board Regio Foodvalley
- Member of the Economic Board Arnhem-Nijmegen
- Chair of the Academic Transfer Supervisory Board
- Member of the jury for the Agrarische Ondernemer van het Jaar (Agricultural entrepreneur of the year)
- Member of the Stichting Foodvalley.nl Board
- Chair of the Advisory Council of the Belmonte Arboretum Foundation
- Member of the Board of ACCEZ (ACCElating Circular Economy Zuid-Holland)
- Member of the Administrative Steering Committee of Th!nk East Netherlands

2.10 Economic Performance Indicators

2.10.1 Direct economic value

WUR is a non-profit entity. Positive profit results are added to the organisation's reserves. The table below shows the main sources of turnover for WUR, divided between its two legal entities: Wageningen University (WU) and Wageningen Research Foundation (WR). More details and a substantiation of these key figures are described in the annual financial report (Chapter 3).

Table 2.21 Key figures for WUR (amounts in €1 million)

	2020	2021	2022
Wageningen Research turnover (WR)			
Contract research	88.3	96.5	93.3
Top sectors (including LNV part)	63.5	71.3	72.5
Matching market and NWO	26.6	29.3	30.9
LNV programme research (excluding top sectors, including PSR, SRT)	127.5	136.4	148.9
Wageningen University (WU) turnover			
Turnover from direct and indirect government funding	314.8	341.9	364.4
Turnover from contract funding	59.3	68.0	72.6
Solvency as percentage of total assets			
Wageningen Research	60.6%	62.4%	63.1%
Wageningen University	53.1%	53.2%	50.9%

2.10.1.1 Pensions

The pension provider for the whole of WUR is ABP. There was no obligation to make up any shortfall as a result of ABP's coverage ratio. This is why no provisions have been made for this. Pension accrual takes place on the basis of the average earnings system (middelloonsysteem). The General Pension Fund for Public Employees (ABP) indexes the pension benefits if the policy coverage ratio exceeds the required minimum. On 31 December 2022, the policy coverage ratio is 118.6% and indexation starts from 110%. ABP increased pension benefits twice in 2022.

2.10.1.2 Government funding

WUR receives financial support from the government. The extent of these contributions in 2022 is shown in Table 2.16.

Table 2.22 Overview of central government financial contribution to WUR (* €1.0 million)

Legal entity	Type of funding	Income	National Government contribution
Wageningen University	Direct government funding	295.6	295.6
	Indirect government funding and research funding, including targeted subsidies	108.6	41.7
	Tuition and course fees	32.8	0.0
	Other income	21.0	1.2
Wageningen Research	LNV and NVWA research programmes	193.6	86.4
	Contract research incl. NWO	152.0	17.5
	Other income	48.6	0.0
Total		852.2	442.4

The central government's contribution consists of funds that have been provided but from which it does not directly benefit and which it does not manage directly. This includes government funding for education and research of WU, the contribution from the LNV for knowledge base and top sector research, funding via contract research (NWO), and the TKI supplement for top sectors and other subsidies. The Ministry of Agriculture, Nature and Food Quality (LNV) has included programme research (BO and WOT) under the TO2 grant conditions, but maintains control over the use of these funds.

2.11 Wageningen University Continuity Section

In accordance with the guidelines set down by the Ministry of Education, Culture and Science (OCW), the Continuity Section is part of WU's Annual Report. For the financial outlook for WR in 2023, refer to the annual financial report of Wageningen Research.

Table 2.23 Key figures for WU, 2023-2027 forecast (excl. Welcome Center Food Valley)

	2022	2023	2024	2025	2026	2027
Direct government funding (in € millions)	295.7	313.8	318.8	330.3	341.1	349.2
Tuition fees (in € millions)	32.8	44.1	46.3	47.4	48.5	49.7
Direct government funding and research funding (including targeted subsidies) (in € millions)	108.6	115.3	124.1	127.0	129.9	132.9
Housing ratio ¹¹	9.1	11.9	11.5	11.8	11.4	11.8
Investments	27.6	37.8	43.8	62.7	49.4	27.9
Average number of employees (FTE) and allocation	3,735	3,943	3,989	3,959	4,001	4,021
Support staff (%)	5.1	5.1	5.1	5.1	5.1	5.1
Overhead (%)	16.2	16.2	16.2	16.2	16.2	16.2
Primary (%)	78.7	78.7	78.7	78.7	78.7	78.7
Number of enrolled BSc and MSc students	13,108	12,830	12,865	12,891	12,939	13,065
Number of PhD degrees obtained	320	289	298	316	332	346
Net result excl. sale of assets (in € millions) ¹²	-2.5	-6.0	-8.8	-2.7	-0.9	-4.0
Net result incl. sale of assets (in € millions)	14.1	-6.0	1.8	-2.8	12.6	-3.3
WU ASSETS						
Capital in fixed assets (in € millions)	314.1	319.9	329.9	354.6	363.7	355.4
Internal capital (in € millions)	258.3	252.3	254.1	251.3	263.9	260.6
Total liabilities (€ millions)	507.7	470.5	472.3	469.5	482.1	478.8
Solvency Ratio 1 (%) ¹³	50.9	53.6	53.8	53.5	54.7	54.4
Solvency Ratio 2 (%) ¹⁴	53.1	56.5	56.7	56.4	57.6	57.3
WU LIQUIDITY						
Liquid assets (in € millions)	116.7	104.8	95.8	68.3	71.8	76.1
Current ratio	0.82	0.75	0.71	0.57	0.59	0.61

¹¹ Result excluding a one-of tax refund.

The long-term projection takes into account an indexation of 2.3% per year - with the exception of depreciation - which is not indexed and statutory tuition fees where, in line with Ministry of Education, Culture and Science (OCW) policy, an indexation over 2024 of 4.73% is included for 2023 and the years thereafter are indexed by 2.3%.

WU's current ratio is lower than the Ministry of Education, Culture and Science's signalling value (< 0.75). The low current ratio is caused by high advances from providers of finance. The balance of liquid assets is more than sufficient to meet short-term obligations. In the unlikely event that WU's advance payments would cease, WU has sufficient possibilities to attract funding.

¹¹ Accommodation ratio: (depreciation costs of buildings and land + accommodation costs - / - rental of buildings) / total expenses.

¹² 2022 result excluding one-off VAT refund for 2016-2022.

¹³ Solvency ratio 1: equity capital / total liabilities.

¹⁴ Solvency ratio 2: (equity capital + provisions) / total liabilities.

2.11.1 Principles of the financial policy

WU enters the plan period with a budgeted negative operating result of -€6 million in 2023. In recent years, WU has funded many projects from the Van Rijn funds, sector plan B&T, and quality agreements (QA funds). Part of the additional funds did not come to fruition and WU, through its accumulated reserves (realised surplus from previous years), is targeting these funds to reduce the work pressure, improve the quality of education, and keep research growth somewhat in line with education growth. The operating result is projected to be negative for the entire duration of the plan period. WU considers this justified, given its favourable equity position. Solvency will remain above 50% throughout the entire planning period.

The composition of the operating result in the projections changes due to a number of factors:

- Regular student growth and PhD graduation growth: in 2024, compared to 2023, regular student growth results in an expected €6 million loss. Regular student growth in 2025 and 2026 is expected to result in smaller adjustments to the 2023 cash flow. Then, for 2027, regular student growth is expected to result in a €3 million loss again. This is mainly caused by an increase in personnel costs for non-programme teaching and a decrease in total student-related funding. Income from PhD graduations will increase from 2025: by €2 million in 2025 to €5 million in 2027 as a result of additional PhD programmes over the past few years. PhD graduation income is expected to continue to rise beyond the projected period.
- New programmes after 2023: the new and old sector plan funds and start-up grants are fully included in the 2023 budget and therefore no longer cause any changes to the result over the 2024-2027 period.
- Expiry of old programmes: this is the reduction of the existing research programme, including the phasing out of various preliminary investments from our own reserves. This also includes the decline in underinvestments. The decline in underinvestments is caused by programmes having picked up steam and a positive result is then no longer expected due to delayed start-up. In the projected period, the phasing out of the old programmes creates an annual result of approximately +€1 million in 2024 to +€5 million in 2027 compared to the 2023 budgeted result.
- Real estate investment: Strategic Housing Plan (SHP), which includes accommodating the space to the growth in FTEs, adapting the layout of these spaces to meet the changed use, and some additional major facilities. These investments lead to additional operating budget. From 2024, these property investments weigh on the result, rising to approximately -€6 million in 2027 (including research building). The current total expected size of investments as part of the SHP is approximately €62 million for WU and approximately €140 million for WUR as a whole. This already takes into account (partially or entirely) a substantial increase in (re-)construction costs, stipulated in the originally approved financial framework SHP.
- Energy costs: developments in the energy market are uncertain. Compared to energy costs in 2021, budgeted energy costs in 2023 at WU increased by approximately €10 million (factor 6). An expected price compensation from Ministry of Education, Culture and Science (OCW) was partly anticipated. However, the extent of the additional expenses, as well as their compensation from the government, is uncertain at the moment. The projections include a €5 million correction for high energy costs in housing expenses from 2024 onwards. The underlying assumption is that energy costs will normalise somewhat from 2024 and return to factor 3 compared to energy costs 2021.
- Average wage costs for tenure track: the past few years have seen a lot of new incoming staff, including tenure trackers. A lot of new additions are also budgeted for the coming year (2023). Apart from CAO effects, the wage costs of the newcomers will start to rise due to moving up the scales in the coming years. The present projection therefore anticipates an increase in average wage costs for these new hires from 2024 onwards. As a result, a deterioration in results of -€0.7 million is included in 2024, rising to -€2.6 million in 2027.
- The remainder of the changes compared to the 2023 budget is the balance of non-recurring income and expenditure, in particular as a result of the disposal of surplus fixed assets.

The organisation experienced significant growth in 2022, and the average staffing levels increased by 205 FTE to 3735 FTE. This achieves the growth in staff numbers envisaged in the 2022 budget. The additional funds provided under the coalition agreement require even further growth in staffing levels. The organisation was not yet able to fully achieve this growth in 2022 either, partly due to the tight

labour market. Scaling up in the current economic situation requires a relatively large amount of time. WU expects another sharp increase in average staffing levels of 208 FTEs to 3,943 FTEs in 2023. No major growth in staffing levels is expected in subsequent years, unless additional resources are allocated based on the new coalition agreement. Based on current projections, personnel costs will increase by about €19 million in 2023, after which personnel costs will stabilise from 2024 onwards.

To accommodate the growing organisation, expanding the research infrastructure, and at the same time making it more sustainable, a number of additional investments have been and will be made. WUR will invest in the SHP to address the need for laboratory facilities and office workplaces over the long term as well. With this, WU wants to offer employees and students a good and modern working environment that also anticipates “hybrid working”, partly at home and partly on campus. This does result in additional investment in regular growth of workplaces, but not as much as the rate at which employee numbers are expected to grow and have grown. WU expects to invest a minimum of €62 million in the period 2023-2027 under the SHP. WU also plans to invest €33 million in Unifarm’s greenhouses and in connecting buildings to the ATES loop. Investments in equipment, inventory, and major building maintenance are expected to amount to an average of €25 million per year.

WU will continue to create value from surplus real estate. Some acquisitions with book profits are still expected in the plan period, including the last phase of Kortenoord and De Dreijen. These book profits are partially used to fund WU’s new real estate and investments in existing WU properties.

WU BALANCE SHEET, 2023-2027 forecast (in € millions)

	2022	2023	2024	2025	2026	2027
Intangible fixed assets	3.4	3.4	3.4	3.4	3.4	3.4
Tangible fixed assets	308.4	313.4	324.2	348.9	358.0	349.7
Financial fixed assets	2.3	2.3	2.3	2.3	2.3	2.3
Total fixed assets	314.1	319.1	329.9	354.6	363.7	355.4
Stocks	0.0	0.0	0.0	0.0	0.0	0.0
Receivables	76.9	46.6	46.6	46.6	46.6	47.3
Short-term securities	0.0	0.0	0.0	0.0	0.0	0.0
Cash in bank and in hand	116.7	104.8	95.8	68.3	71.8	76.1
Total current assets	193.4	151.4	142.4	114.9	118.4	123.4
Total Assets	507.7	470.5	472.3	469.5	482.1	478.8
General reserve	239.7	233.7	235.5	232.7	245.3	242.0
Appropriated reserve	15.	15.4	15.4	15.4	15.4	15.4
Other reserve	3.2	3.2	3.2	3.2	3.2	3.2
Total equity capital	258.3	252.3	254.1	250.3	263.9	260.6
Facilities	11.3	13.6	13.6	13.6	13.6	13.6
Long-term Debt	3.1	3.1	3.1	3.1	3.1	3.1
Short-term debt	235.0	201.5	201.5	201.5	201.5	201.5
TOTAL LIABILITIES	507.7	470.5	472.3	469.5	482.1	478.8

WU PROFIT AND LOSS ACCOUNT, 2022-2026 FORECAST (in € millions)

	2022 ¹⁵	2023	2024	2025	2026	2027
INCOME						
Direct government funding	295.7	313.8	318.8	330.3	341.1	349.2
Tuition fees	32.8	44.1	46.3	47.4	48.5	49.7
Research funding and targeted grants	36.0	43.4	44.4	45.5	46.5	47.6
Co-funding and subsidy market	22.7	28.0	28.7	29.3	30.0	30.7
Contract research	49.9	52.7	53.9	55.1	56.4	57.7
Ancillary work and other income	20.9	24.7	25.3	25.9	26.5	27.0
Total income	458.0	506.7	517.4	533.5	549.0	561.9
EXPENDITURES						
Personnel costs	320.8	339.2	351.0	356.4	368.5	378.8
Depreciation	31.4	33.7	36.6	37.9	34.8	36.2
Accommodation/Housing Costs	29.2	47.4	44.2	45.6	48.0	50.5
General costs	37.4	47.3	48.4	49.5	50.6	51.8
Specific costs	42.1	45.1	45.9	46.8	48.0	48.6
Total expenditure	460.9	512.7	526.1	536.2	549.9	565.9
Operating result	-2.9	-6.0	-8.7	-2.7	-0.8	-4.0
Financial income and expenditure	0.4	-0.0	-0.1	-0.1	-0.1	0.0
Result from operational activities before tax	-2.5	-6.0	-8.8	-2.8	-0.9	-4.0
Third-party share, incidental entries, and value added ¹⁶	16.6	0.0	10.6	0.0	13.5	0.7
Net result	14.1	-6.0	1.8	-2.8	12.6	3.3

The operating statements included in the long-term plan are derived from the 2023 budget, which was adopted in December 2022. The long-term plan incorporates the expected developments mentioned under "Principles of financial policy". The actual 2022 result differs from the 2022 forecast on which the 2023 budget and the 2024-2027 long-term planning are based. This has consequences for the starting position of equity capital and liquid assets. These consequences are reflected in the figures for 2023 onwards.

2.11.2 Internal risk management

The presence and function of the internal risk management and control system is described in section 2.9.3 This section also includes a description of risks that have no direct impact on long-term plans.

2.11.3 Risks and uncertainties

The results of WU will be influenced by several uncertain factors, both exogenous and endogenous, in the years to come.

Geopolitical developments and transitions (exogenous factor)

Geopolitical conflicts in 2022 also have an impact on the organisation's risk profile, mainly indirectly. The direct interests (specifically financial) with the countries in question (Russia/Ukraine) are manageable. The indirect interests are greater. The indirect consequences include further disrupted production chains (e.g. helium as a by-product of gas extraction), significantly higher energy and material prices, a dormant wage-price spiral, and uncertain times in sectors relevant to WUR, such as horticulture. The apparent dependence on gas production does mean that society will focus even more on sustainability. WU occupies a strong position in the market when it comes to innovation. As an

¹⁵ The one-off VAT refund for 2016-2022 as a result of the agreements with the tax authorities is included in incidental entries.

¹⁶ The book profit on sold assets is included in this line in the multi-year planning. This income is recorded in the annual financial report under "other income".

organisation, WUR's recent installation of ATEs is fortunately a timely move towards an upcoming natural gas-free era. The big tasks facing society in the areas of sustainability, climate, energy, and the living environment mainly provide opportunities for WU. WU occupies an attractive position in terms of the future societal demand for knowledge needed to properly carry out these transitions.

Development of student numbers (exogenous factor)

The number of incoming Bachelor's students has declined relatively in recent years. Further substantial growth in incoming student numbers is not expected in the first few years based on the combination of demographic trends, interest from potential students, and the government's recent demand to recruit less actively in the international market. The organisation is now well aligned with expected student numbers both in terms of employee numbers and educational facilities.

Development of non-EEA student numbers (exogenous factor)

Approximately 11% of the students participating in study programmes at WU are non-EEA students who make a large contribution to the general cost coverage by paying institutional tuition fees, which are based on the full costs for this group of foreign students. The annual income that could be directly linked to these international non-EEA students was €17.2 million in 2022. This equals about 4% of the total income and about 15% of the size of the available liquid assets at the end of 2022. In the event of an unexpected sharp decline in this student category (for example, as part of the new coalition agreement), there may be a few financially more difficult years to come until WU's cost level is adjusted to the new situation.

Risk assessment about the additional resource allocation included in the projections (exogenous factor).

- **Quality agreements (QA):** the increase depends partly on the relative market share of WU. Despite the loan system coming to an end from September 2023, quality resources will be retained for higher education after 2024. It is not clear at this stage what conditions will be attached to its allocation from 2025.
- **WU relative market share:** the question for WU is how the market share in the student-based funding of the OCW funding model will develop in the coming years. After a long period of growth, there seems to now be stabilisation in the total student population at WU in 2023. However, WU's share of student-related funding will be in decline by 2023. If other universities continue to grow faster than WU on average in the coming years, then this could lead to a further decrease in the share of student-based funding. Whether the development in OCW's macro framework after 2023 is sufficient to absorb this possible decrease will become clear in the coming years. The projections assume constant prices for variable funding. This means that the government adjusts the macro framework to the total population of students.
- **Continuation of sector plans:** WU assumes that the associated funds will be incorporated into the direct government funding after the programme ends in 2025, and thus become a regular part of the direct government funding.
- **Other new initiatives:** participation in the Growth Fund (among others) is under way. These additional resources were not included in the projection due to too much uncertainty.
- **Government funding redistribution issues:** the current multi-year projection takes limited account of redistribution of funds among universities (redistribution of compensation for first-year tuition fees). It does not take into account, for example, a revised distribution of the Van Rijn resources.
- **Risk of declining student numbers:** the change in the number of non-EEA students is relatively volatile and, due to the level of institutional tuition fees (€19,600), has a material impact on the development of direct government funds.

Valorisation of real estate in the planning period (endogenous factor)

The developments in the property market may lead to the accelerated sale and valorisation of the surplus of fixed assets during the plan period. Three significant valorisations are scheduled and have been included in 2024, and 2026. There are still uncertainties regarding both the pace of the realisation and the amount of the valorisations. If the planned valorisations do not happen in the planned years, then the cumulative result over these two years will be €24 million less. With every

major investment, the effects on solvency, results, and liquidity will be taken into account in decision-making and, if developments in the external environment warrant, adjustments can be made.

Underinvestment of funding (endogenous factor)

There is a possibility that in 2023, WU will not be able to spend the funding designated for upscaling, made possible by the recent use of sector plan funds and start-up grants, due to the previously mentioned persistent saturation in the labour market. This risk has already been captured in the budget and in the long-term projections by including a significant “underspending” item in the operations budget. This will improve the reality of the projections, but will also raise the risk profile somewhat. However, the risk of underspending on the 2023 plan (drafted in autumn 2022) is estimated to be lower than in previous years. The item Underinvestment has been adjusted accordingly.

2.12 Report criteria and scope

With regards to the accountability for the societal impact of WUR, the materiality analysis took precedence in setting the limitations and scope of this report. In this analysis, relevant and material topics were determined on the basis of the Strategic Plan for the 2019-2022 period. Through identification, prioritisation, and validation, these topics were then assessed on the basis of their significance both for WUR and its stakeholders. This Annual Report focuses on these material topics. These topics form WUR’s CSR agenda see Figure 2.1 of section 2.3.3.

This report covers the 2022 fiscal year. Because the majority of the activities of WU and WR take place in the Netherlands, the sustainability reporting focuses on activities in the Netherlands.

3 Specific Ministry of Education, Culture and Science accountabilities

3.1 Quality Agreements report

3.1.1 Process

The 2019–2024 Quality Agreements were established by the Executive Board and approved by the co-participation council of WUR’s Student Staff Council and Supervisory Board in 2019. We have been implementing the Quality Agreement programme to strengthen the quality of our education for four years now. The results of these efforts are summarised periodically in dashboards. Using these dashboards, the steering group manages, monitors and reports on the implementation. The Executive Board, Student Staff Council and Supervisory Board evaluate and discuss the progress regularly. The latest version of the dashboard is also publicly available on the [Wageningen University website](#).

Overall, the realisation of the Quality Agreements is on track. Despite the coronavirus pandemic, all the projects have achieved their objectives successfully. All projects remain highly relevant, even accounting for the situation changing due to the coronavirus pandemic. Accordingly, no changes were necessary in 2022.

The funding we receive from the Ministry Education, Culture and Science (OCW) is spent entirely according to the established Quality Agreements 2019–2024. The financial table in Chapter 1.3 shows that WUR spent the funding it received from OCW in the 2019–2022 period and the plans for 2023 and 2024.

In 2022, we received the news from the Ministry OCW that funding will be continued after 2024. The exact conditions and process have not been decided on yet. Internally, we have initiated discussions with the Executive Board and the sounding group about how we want to continue the current projects funded through the Quality Agreements.

3.1.2 Progress

WU invests in five of the six quality themes. For each theme, different projects have been defined, each with concrete goals and budgets. For each project, we give an overview of the progress, along with an explanation and some reflections. According to our 2019–2024 Quality Agreements plan, we are not investing in the ‘study success of students’ theme. Our high study success rates make additional investment less urgent.

WU also evaluates the measures’ effectiveness. This impact analysis is used for internal discussions and can lead to changes in projects to increase the impact when necessary. The positive impact analysis from February 2021 did not lead to adjustments the plans for 2022 or for the following period until 2024. The 2022 impact report will be ready and discussed in the first quarter of 2023.

3.1.2.1 Small scale education

Project	Annual objective 2022	Objective achieved?
Thesis supervision	All chair groups will maintain intensive thesis guidance despite growing student numbers.	Based on the positive outcomes of ten random interviews per year with chair holders, we conclude that chair groups have retained or implemented intensive guidance.
Additional teaching staff for chair groups	25 FTE additional staff will be appointed by 84 chair groups.	25 FTE additional staff is appointed by 84 chair groups, including four chair groups that appointed double the number of staff.

The chair groups have noticed a clear reduction in the tasks lecturers have to perform, and they now have more time for education and their students. With that extra time, they have strengthened and increased small-scale education in our Bachelor's and Master's programmes.

Chair groups have hired extra staff to intensify thesis supervision. This is partly funded by extra quality agreements funding for thesis supervision. The additional staff to unburden thesis supervisors enables them to improve student supervision or keep the same level of intensive supervision despite the increased number of thesis students. An additional positive effect is that many chair groups invested in improving thesis coordination, procedures and processes. Many chair groups started thesis rings or other forms of support by lecturers for groups of thesis students on a variety of topics like writing, motivation, thesis planning, progress and stimulating students to help each other. In general, many chair holders find that students are more satisfied with their thesis supervision. Student satisfaction rates with thesis supervision support this conclusion. The survey shows a continuous high satisfaction score for the availability of thesis supervisors. The overall student satisfaction with thesis supervision increased from 3.9 in 2018 to 4.3 in 2022 on a five-point scale.

Most chair groups also receive funding for small-scale education in courses. They hired extra staff with this funding. The target increased from 11.1 FTE in 2021 to 25 FTE in 2022. In 2022, another 48 chair groups received €30,000 for extra staff to increase and maintain small-scale education. This increase is the result of a second 'call' or funding opportunity. In 2021, chair holders were again able to opt for funding. 60 chair holders applied, 44 chair holders of which have not received funding yet. The chair groups that did not yet receive funding were given priority. Four chair groups that received funding were selected for the additional funding based on the education load of the chair group. This brings us to a total of 84 chair groups that received funding, counting the four chair groups that already received funding twice. All these chair groups reported that they realised the approved plans for strengthening and realising small-scale education. With the extra staff, the chair groups were able to increase supervised group work or individual assignments, and decrease the group size in group work, lab work and excursions so the lecturer could better supervise students. Some chair groups also redesigned courses to be more intensive.

3.1.2.2 More and better study guidance

Project	Annual objective 2022	Objective achieved?
"Dealing with Stress" campaign	Organise a mental health week and at least four other activities . Continued presence of additional student psychologist (0.4 FTE) organising the events.	All activities have been organised , including the "Surf-Your-Stress" week. A coordinator has been in place for 0.4 FTE to organise the activities since 2018.
More study advisors	4.7 FTE additional study advisors.	5.8 FTE additional study advisors appointed.
More student psychologists	2.4 FTE additional student psychologist.	2.0 FTE additional student psychologist appointed (0.4 of which were FTE flexible capacity) and 0.4 FTE unburdening support for psychologists so they have more time for students.
Student initiatives for students	12 student initiatives funded.	Five longer term student initiatives were funded. 13 were approved in 2020 of which eight projects were ended by the project leaders. In addition, 34 short term small initiatives were realised.
Virtual training centre	Hire coordinator. Further improve and promote website.	Coordinator has been appointed. The website 'Student Training & Support' has been promoted and updated.
Training for staff	At least two training courses per year to recognise problems that students face and guide them.	Five sessions were offered by student psychologists to lecturers and new "walk-in" open consultations.

As of 2019, students have been able to attend the events and activities offered by the stress-prevention campaign. Students and other stakeholders (e.g. psychologists and Student Life Coaches) are involved in organising and developing the activities, ensuring that the activities match with students' needs. The activities focus on the concrete causes of stress and there is a mix of educational and relaxing activities. The "Surf-your-Stress week" was also organised, again offering a variety of activities. The evaluation surveys of the Surf-your-Stress week show that students greatly appreciate the variety of activities and the activities themselves: they rated the programme at 8.1 (versus 7.7 in 2021).

In 2021, extra study advisors were hired to support students. Every study programme, and therefore every student, benefitted from extra study advisors. This extra help was much needed, as students were facing the consequences of the coronavirus restrictions on their education, study planning and career preparation. New study advisors completed a specific training course. From the 2021–2022 academic year, Study Advisor Competence Supporters provide an elaborate training programme, coaching and peer feedback to every study advisor. The study advisors evaluated these services and most training courses positively.

Students can request help from an expanded group of student psychologists. In 2019, extra psychologists were hired for 2.0 FTE, of which 0.4 FTE is flexible personnel capacity, enabling WUR to deal with peaks in student demand. The waiting time reduced to two to three weeks, apart from one month when the waiting time went up to four weeks. However, due to the flexible hires, this was resolved quickly. The student psychologists adjust their services and support to students based on the needs they signal. In September 2022, the brief walk-in consultations, successfully started a year earlier, were expanded to Sports Centre de Bongerd. The psychologists also provided 26 group training courses on specific issues students are confronted with. These courses also helped to prevent significant wellbeing issues.

Students and student organisations realised five projects to support other students to increase their wellbeing and social interactions. These were projects that had been started in 2019 or 2020. The other eight projects have been ended by the student organisations for different reasons. The rest of the project budget was used to fund smaller student initiatives. We aligned this project with a project launched in 2021 with the National Programme Education (NPO). All 34 applications for smaller student initiatives that met the criteria were approved by the assessment committee. A wide range of

social activities was organised. With the smaller projects more students were reached, and it is more feasible to organise for students or student organisations. They all reported on the realisation and expenditure, which was according to the approved applications. More than 1,200 students participated in these extra social activities.

The Student Training & Support platform is well promoted to students, with nine newsletters per year, social media and banners in education buildings. The website has been revised, and the Dutch version was launched in September. According to the training course evaluations, 31% discovered the course through the website.

In 2022, the student psychologist offered five sessions for lecturers about possible signals that can be observed by students with mental health symptoms. They gave a presentation about how to signal student issues, what lecturers can do themselves and who they can approach for help. After the presentation, the questions and cases of lecturers are discussed. In total, 134 lecturers joined the sessions and evaluated the sessions positively. In October, the student psychologists started Walk-In sessions for teachers and staff to discuss cases where they were worried about students' mental wellbeing. A Q&A was organised for study advisors on Acceptance & Commitment Therapy.

3.1.2.3 Education differentiation

Project	Annual objective 2022	Objective achieved?
Student challenge	WU organises at least one student challenge per year.	Two student challenges have been launched.
Skills development	New skills implemented in study programmes, supported by instructional designers.	All programmes started implementing the skills trajectories .
	Six training courses for student assistants.	Seven training courses were organised for student assistants.
	Expanding digital learning environment on skills.	The use of the digital learning environment and digital tools for skills education is expanded.
Expand extracurricular activities	Increase in Career Service Centre activities and appoint 1.0 FTE for career coaching .	More activities by Career Service Centre and 1.0 FTE career coach is hired .
	Tailor-made "Bildung" programme for multiple study programmes.	'Bildung' pilots implemented in five programmes .
	More extracurricular workshops/training for all students: at least seven more .	Nine new training courses available for students via the virtual Student Training & Support centre.

Two "student challenges" were organised in 2022: Urban Greenhouse Challenge #3 (260 participants) and Nature-based Solutions Challenge (110 participants). Both challenges were evaluated positively by both students and involved stakeholders. Students indicated that the challenges were impactful and amazing learning journeys. Juries and partners were very inspired by the students' outside-the-box ideas and dedication.

All programmes started implementing the skills trajectories, and an overview has been provided on the presence of skills in all programmes ("fingerprints"). A guideline has been developed on how to implement skills learning trajectories. Some programmes have experimented or are experimenting with the use of this guideline. The changes programmes make depend on their ambitions or the challenges they faced at their starting point. Some programmes add skills education, while others focus on better alignment or visibility of the current skills education. Lecturers and skills-experts come together in communities. Skills-experts organise training workshops and offer programme teams support for implementing skills.

Student assistants are trained to support lecturers in offering their education. This year, four different training workshops were offered for the student assistants in multiple courses, and three workshops were offered for student assistants who had roles as mentors or buddies in an intercultural/international setting.

Five study programmes participated in the extracurricular ‘*Bildung*’ reflection programme. These tailor-made programmes are designed with the input of students from the respective studies. Participating students evaluated these pilots very positively and indicated that this reflection programme fulfils an essential element in their education, enriching their understanding of themselves and the world around them. More reflection programmes were planned but could not be realised due to understaffing. New staff will be added to the team in 2023. The Student Career Services have also organised more extracurricular activities. In 2022, 111 career activities were organised compared to 67 activities in 2021; this includes the activities funded by the extra funding from the National Programme Education (NPO). Again, more students were reached, and the activities were evaluated positively.

In addition, WUR also offered 70 extracurricular training courses and support, of which nine new courses on the topic wellbeing and development. These training courses aim at helping students in their development and well-being. In total, 401 students participated in the extra trainings. The trainings were positively evaluated by the students, usually rated at eight or higher. Students and other stakeholders are consulted to keep the portfolio of training courses up to date.

3.1.2.4 Lecturer professionalisation

Project	Annual objective 2022	Objective achieved?
Training for PhD candidates	At least 140 PhD candidates in a teaching role will receive didactic training.	189 PhD candidates in a teaching role have received didactic training.
Professionalisation fund	At least 20 requests for compensation funded. At least eight peer reviews per cluster compensated for.	22 compensations requests were funded. 66 courses/clusters were peer reviewed funded by the Quality Agreements.
Unburdening and support lecturers	16 FTE additional staff to unburden lecturers.	19.8 FTE additional staff has been appointed.

In 2022, more PhD candidates participated in the education training courses, which were offered online and in person when possible. All 189 PhD candidates successfully attended and finished the “Supervising BSc and MSc thesis supervision” training course. The PhD-candidates largely evaluated the training courses positively.

With the professionalisation fund, lecturers were able to make additional efforts to improve their didactic skills. In addition to the compensation requests, a pilot has been developed and realised for a Senior University Teaching Qualification. Simultaneously, 66 course teams organised a peer review for their course with internal and external peers. Two trainers for study advisors were hired to further train and professionalise study advisors. An education support desk has been implemented to help and support lecturers in improving the quality of their teaching, which in 2022 has solved over 2000 questions from lecturers.

In 2019, it was decided and approved to combine the former project 1.2 (extra staff for small scale education) with the project for unburdening and supporting lecturers. It was decided to do this in 2022. Lecturers were unburdened by the extra staff hired by science groups. Multiple science groups organised education support hubs on the science group level, with staff available to help, support and facilitate lecturers in their education. Other science groups organised the support decentral, by hiring supporting staff for each chair group or cluster of chair groups. This support has led to more supervisors during practicals and fewer administrative tasks for teachers (e.g. planning field trips). This support has enabled lecturers to spend more time on individual and content-related questions from students, share best practices to improve education or focus on UTQ trajectories and professionalisation.

3.1.2.5 Education facilities

Project	Annual objective 2022	Objective achieved?
Bring Your Own Device = study anytime, anywhere	Available WUR app store.	WUR app store is available, improved in its content and compatibility, and used by students.

The WUR app store is further improved and has been installed on 9,394 devices, with 8,305 unique users; some students use it on multiple devices. Every software students need for online computer practicals is available through this platform. Since last year, six new applications have been added, and several older versions of applications have been deleted. Compatibility problems with the WUR AppStore have been solved, making it more accessible to the students. The total number of purchased CANS articles that students can purchase at discounted rates on RSI prevention decreased by almost 60% in 2022. We will do an inventory among students about the changed needs. Fewer students have made use of the opportunity to buy laptops with a discount, possibly because there was a supply problem in the first two months of the academic year, and other students already had laptops. Since 2022, it has also been possible for students to rent laptops.

3.1.3 Budget

WU received for the year 2022, including wage compensation: this came to a total of €8,444,000 from the Ministry of OCW (Education, Culture, and Science) for the Quality Agreements. This is an increase of around €1.8 million in comparison to the OCW funding in 2021, excluding wage and price indexation. In 2022, WUR fully spent the funding received by the Ministry of OCW.

Wageningen University spent almost €24.1 million in the period 2019–2022. On the one hand, this is almost €2.1 million more than received from OCW so far. However, on the other hand, it is €600,000 less than planned, mostly due to our own contributions that were not fully effectuated. In 2019 and 2020, WUR contributed €2.7 million of its own to continue projects begun in 2018 and to help implement the new plans from the Quality Agreements. We plan to fully spend the underspending on this contribution in 2023 and 2024, leading to a total expenditure of €42.6 million.

In the table below, the financial report on the use of the Quality Agreements is listed for the whole 2019–2024 period, in accordance with the Quality Agreement monitoring criteria.

Quality Agreements 2019–2024									
x €1,000	2019	2020	2021	2022		Total '19-'22	2023	2024	Total '19-'24
	Realisation	Realisation	Realisation	Budget	Realisation	Realisation	Plan	Plan	Realisation & plan
1. Small scale education									
1.1 Thesis Supervision	1,799	1,907	2,113	2,283	2,283	8,102	2,224	2,299	12,625
1.2 Science Groups measures	500	500	513	0	-	1,513			1,513
1.3 Additional teaching staff for chair groups	127	959	1,329	2,820	2,669	5,084	2,913	2,913	10,910
Total Small-scale intensive education	2,426	3,366	3,955	5,103	4,952	14,699	5,137	5,212	25,048
2. More and better study guidance									
2.1 Dealing with stress campaign	50	68	53	52	48	219	54	54	327
2.2 More study advisors	30	153	547	486	473	1,203	500	500	2,203
2.3 More student psychologists	50	185	207	209	197	639	215	215	1,069
2.4 Student initiatives for students	5	8	11	42	41	65	54	54	173
2.5 Virtual training centre	10	88	51	52	51	200	54	54	308
2.6 Training for staff on student issues	24	10	34	42	44	112	42	42	196
Total More and better study guidance	169	512	903	883	854	2,438	919	919	4,276
3. Education differentiation									
3.1 Student challenges	300	300	308	313	313	1,221	322	322	1,865
3.2 Skills development	143	164	350	360	332	989	376	376	1,741
3.3 Expand extracurricular activities	57	131	346	365	328	862	370	545	1,777
Total Education differentiation	500	595	1,004	1,038	973	3,072	1,068	1,243	5,383
4. Professionalisation									
4.1 Training for PhD Candidates	73	31	64	78	82	250	81	81	412
4.2 Professionalisation Fund	0	110	181	222	230	521	322	322	1,165
4.3 Unburdening and support lecturers	75	218	637	1423	1,344	2,274	1,413	1,412	5,099
Total Professionalisation	148	359	882	1,723	1,656	3,045	1,816	1,815	6,676
5. Adequate facilities									
Bring your own device	200	319	191	104	108	818	54	-	872
Total Adequate facilities	200	319	191	104	108	818	54	-	872
6. To be planned								348	348
TOTAL EXPENDITURE	3,443	5,151	6,935	8,851	8,543	24,072	8,994	9,537	42,603
									-
Subsidy of OCW ('23-'24 indicative)	3,010	3,835	6,689	8,311	8,444	21,978	8,405	9,287	39,670
Expected wage indexation ('23)							128	128	256
Planned own contribution	1,175	1,502				2,677			2,677
TOTAL AVAILABLE FUNDING	4,185	5,337	6,689	8,311	8,444	24,655	8,533	9,415	42,603
Difference available funding and expenditure: under (-)/overspending (+)	-742	-186	246	540	99	-583	461	122	-

3.1.4 Student Staff Council and Supervisory Board

The progress of the Quality Agreements, presented in the monitoring dashboard, is regularly discussed by steering group representatives with the sounding group of the Student Staff Council (at least four times a year), by the Executive Board with the Student Staff Council (at least twice a year) and by the Executive Board with the Supervisory Board (at least twice a year). WU consists of one faculty and, as such, has one central co-participation council called the Student Staff Council. The progress of all the projects is discussed regularly and in detail with the Student Staff Council sounding group. The Board of Education also receives the monitoring dashboards three times a year, and the Board can discuss the outcomes with the chair and secretary of the steering group. The steering group can strengthen the projects based on input from these bodies. Any comments from these bodies can also be used to further improve the dashboard reports.

Every year, the steering group presents an impact report, providing more in-depth analysis of the evaluations and results of the projects, based on evaluations and input from project leaders. This impact report is discussed internally. The steering group, together with the project leaders and Student Staff Council sounding group concluded, that based on the positive outcomes of the projects in the impact report, no major changes were necessary in the plans for 2022–2024.

The project leaders also ensure and report on the involvement and contribution of students and staff in the realisation of projects. Students and/or staff participate in all projects through committees or broader evaluation surveys.

Every year, new members of the Student Staff Council are offered workshops or introductory courses on the Quality Agreements. In 2022, the new students in the Student Council participated in this introduction training. Members of the Student Staff Council or any other body within WUR can request information about the Quality Agreements or a meeting with members of the steering group.

The Supervisory Board's reflections on the Quality Agreements are integrated into their reflections on the WUR annual report. The Student Staff Council's reflection is presented in the next section.

3.1.5 Reflections from the WUR participational structure (the Student-Staff Council)

From: The Student Staff Council (SSC), part of the central participatory body of the WUR (WUR-Council). As WUR has no faculties, WUR has one central participatory body.

Date: 16 February 2023

1. Involvement of the SSC in the Quality Agreements

The Student Staff Council (SSC) was sufficiently involved in the implementation of the Quality Agreements project in 2022. The Student Council (SC) was invited to a presentation on the project, where the most important information regarding the Quality Agreements was explained. The goals and degree of progress were clearly explained, and SC members had the opportunity to ask questions about any matters that were still unclear. The SC appreciated this level of involvement in this large and important topic.

Over the past few months, a delegation from the SSC, comprised of both staff and students, has had regular meetings with the representatives of the Quality Agreements steering group to discuss the progress of the budget expenditure. Members of the delegation were also able to raise and adjust ideas about how to allocate the budget, and they were given the opportunity to give feedback on the implementation and development of measures that had been realised earlier, with help from the QA budget. A lot of attention was also paid to questions from the delegation members, resulting in clear understanding and thus fruitful discussions on the subject.

Nevertheless, due to the project's size, it was not always entirely clear what the meetings' overall goals were. In terms of the SSC delegation, this was because the organisation of the expenditure of the budget was in a later stage of implementation and, as such, the SSC delegation occasionally only acted in a monitoring role. The sounding group wants to stress that this makes sense because the last phase of the Quality Agreements had been initiated at the start of the academic year. Overall, the

involvement was very well organised, the sounding group was invited regularly, and their input was well considered.

To conclude, the SSC delegation felt they were taken seriously during the conversations. The input they gave was well-considered and referred back to in following meetings. Next to that, the delegation is satisfied with how the budget allocation was carried out, and it would like to see that the money that becomes available after 2024 does not disappear but remains visible in the Quality Agreements.

2. Progress of the Quality Agreements

The SSC delegation is happy to see that the completion of the projects is going well. The steering group expects that all the project goals will be realised in 2023–2024.

First of all, the delegation greatly appreciates the progress made in terms of the small-scale education pillar. We are particularly proud of the projects concerning more extensive and better thesis supervision and additional teaching staff for chair groups. Over the past few years, the Wageningen University participatory bodies and the Student Council in particular have received several complaints about the quality of thesis supervision. Organising thesis rings and more intensive support during thesis lab work are concrete steps towards improving that supervision. Since the student satisfaction with thesis supervision increased significantly, this is a project the student staff council is very pleased with. We received fewer complaints this year and are therefore very satisfied with this project. We hope to see ongoing improvements in the future. Moreover, the implementation of additional teaching staff for chair groups over the period in which student numbers at WU are stabilising is a project that positively affects the small-scale education character of Wageningen University according to the SSC. We are pleased to see WUR investing in improving small-scale education, which is a key element in the successes of Wageningen University according to the steering group.

Second, the pillar of more extensive and better study guidance is important for the SSC. Without high quality study guidance, students and staff are unable to reach their fullest potential and be successful in their future careers. Projects helping students cope with stress, mental issues and facilitate student initiatives were well-received by the steering group. We are especially happy with the reduced waiting times for student psychologists this year. Over the past few years, the SSC has noticed that student mental health has been a significant point of concern. According to the SSC, WO actions that have significantly improved student wellbeing in 2022 are: reducing waiting times for students to consult psychologists and lecturers being trained so they are better equipped to recognise and handle students' problems.

Study guidance is combined with education differentiation. The SSC believes that the skills development programme is a particularly important step towards improvement. It will make the goals of individual study programmes clearer, and it will help students understand what they are expected to learn during their studies. This year, the SSC was informed about the realisation of this project, and some clear ideas about the project were established, to the satisfaction of the SSC. The SSC also noticed a clear improvement concerning opportunities for extracurricular activities for students. Student Career Services organised a lot of different career activities and encouraged students to attend training sessions and other career events. As far as the SSC is aware, these events and training sessions were well attended. One example is the WUR career day, which was attended by over 800 students.

Finally, the Bring Your Own Device project is still a concern of the SSC. We are not sure about this project's contribution to the quality of education at WU. Since all monitors have been removed from Wageningen Campus, students are required to use their own laptops, which are often smaller in size, meaning it can be harder for lecturers to watch along with students and to guide them properly. Moreover, not every student has an ergonomic working place on campus during study hours, and this can increase RSI/CANS complaints. However, increasing numbers of students are using the WUR apps, and RSI and CANS prevention awareness is an important topic on the University's agenda. This is a good sign, but we want to encourage the re-implementation of monitors at campus.

To conclude, the SSC steering group highly appreciated the allocation of the budget for this year. They believe a great deal of progress has been made in realising the budget and, with that, the quality of education at WUR improved in 2022. We hope this improvement will continue: continuing to raise the already-high standard of education will remain the objective in the coming year. Finally, we really appreciated the SSC's involvement in the implementation of the plans, and we aim for the same degree of collaboration in 2023.

3.2 National Programme for Education/Coronavirus section

In the corona paragraph, WUR is asked to report for WU on 1) the impact of the coronavirus pandemic and restrictions, 2) the progress and expenses of the National Programme Education and 3) realised measures using funding received from specific subsidies. The guidelines for reporting on the coronavirus section are followed. The National Programme Education provides WU with funding from the "coronavirus envelope" for education and from the "support programme for recovery and prospects" for researchers.

The National Programme Education (NPO) is a nationwide programme for all levels and forms of education with the aim to repair what has been missed during the COVID-19 period, to support those who have been adversely affected and to offer prospects for the future. The funding is available on a temporary basis for 2021 and 2022, with the possibility of drawing down the funding in 2023 and 2024 as well.

WUR has drawn up a plan in 2021 for spending NPO funds for student wellbeing and study progress and to compensate for delays affecting researchers with temporary appointments. WUR has drawn up one integrated plan for education and research. The NPO plan for WUR has been drafted for the entire institution, with scope for diversity at the chair group and programme levels. In this chapter, we report on the realisation of the ambitions and budget set in WUR's NPO plan, using the monitoring framework provided by the Dutch Ministry of Education, Culture and Science (OCW).

3.2.1 Coronavirus impact

The coronavirus measures have had severe consequences for education, research, and the wellbeing of our students and staff. Although we have been able to offer our education online or as blended learning, we have not been able to provide students with the typical learning experience that is typical of WU. Many researchers faced delays in their research which affected their careers and the continuation of their research. Funding through the National Programme Education (NPO) and our own efforts managed to solve some of the problems faced by students, lecturers and researchers or allowed us to compensate researchers when it was not possible to prevent delays.

As in 2020 and 2021, we faced lockdown and other restrictive coronavirus measures in early 2022 and suffered the consequences. This annual report contains a description of consequences of the coronavirus measures for our education and research, but also in terms of facilities, finances, staff, ICT, and many other important parts of our organisation. We will repeat this reporting again in this chapter, but instead refer to the remainder of the annual report to learn more about the impact of the coronavirus pandemic.

3.2.2 NPO planning and monitoring process

The WUR NPO plan was established by the Executive Board and approved by the Student Staff Council, (a central participatory body within WUR), in the summer of 2021. The plan was also discussed with the education and research committee of the Supervisory Board. The NPO plan is the result of an interactive process between academic staff, students, the Student Staff Council, the Steering Committee, and the Executive Board. The plan of action for developing the NPO plan was discussed by the Executive Board and with the Student Staff Council. The Executive Board set up a steering committee to oversee the process as well as two project groups to develop concrete proposals

for the NPO plan. One project group set up a plan for NPO research funding and another did so for NPO education funding. In these two working groups the involved internal stakeholders were represented, including students, lecturers, PhD candidates, researchers, programme directors, and study advisors. The two project groups consulted researchers, lecturers, and students and used their input to develop plans that should meet the needs in our education and research. The Student Staff Council appointed its own committee to act as a brainstorming partner for the Steering Committee. Together, all these stakeholders ensured the feasibility of the plan and its suitability for our organisation.

Following the final approval of the NPO plan in August 2021, implementation began at full speed. Our ambition is to ensure that researchers and students can benefit from NPO funding as soon as possible. Two project coordinators, one for research and one for education, lead the implementation together with the project leaders of the individual projects. The project coordinators report progress to the Steering Committee using progress reports. The steering group meets every eight to ten weeks to discuss the progress and informs the Executive Board via its member in charge of the education and research portfolio. The Student Staff Council and the Supervisory Board are regularly updated on the progress, and the progress is discussed with the committee of the Student Staff Council.

Changes to the established frameworks in the NPO plan will first be presented to the Executive Board by the Steering Committee. These changes are also discussed with the Student Staff Council. Following the Executive Board's adoption of the change, approval is sought from the Student Staff Council. No changes were made to the established and agreed frameworks and plans in 2021 and 2022. Some changes were made at the project level within the agreed frameworks and agreements. The budget for the educational "peer guidance" project was over-budgeted. At the request of the steering group, the Executive Board decided to take away the unutilised €118,000 from this project and add it to the ongoing projects on career preparation and training and support for student wellbeing. The participational structure has been informed. This adjustment will allow these two projects to run longer in 2023 and possibly 2024 for the benefit of students. The NPO research plan was implemented without changes in 2022.

An adjustment to the Ministry of Education, Culture and Science's policy frameworks and criteria for NPO funding targeted at education gives WUR the opportunity to extend projects and advance funds to 2023 and 2024. Projects not yet completed may extend into the 2023-2024 academic year. This will spread the services and support they provide to students more evenly across the 2022-2023 and 2023-2024 academic years. The drawdown will therefore be lower than projected in 2022 due to this adjustment, as a portion will be carried forward to 2023 and 2024 in line with the ministry's adjusted criteria.

WUR was selected for the second interim NPO implementation monitoring by Berenschot in 2022. WUR has provided extensive reporting, and there was constructive discussion in September on the progress up to the reference date of 1 July 2022. All results have been incorporated into an overarching, national report that cannot be traced back to the institution.

3.2.3 NPO for education implementation progress

The NPO education plan consists of several ambitions and projects. This section summarises the progress of the various projects and expenses. The project objectives have not been changed or modified since they were identified in August 2021. Despite coronavirus measures in 2021 and 2022, most projects are progressing on schedule. However, several projects were delayed due to coronavirus measures or capacity problems. The projects generally match well with students' demands and needs. One project was still in search of an appropriate offer, given the wide variety of student needs. It was also a challenge to get new services, training, or activities well promoted to students.

WUR's NPO plan identifies projects for the three themes of the NPO Education Protocol in line with the inspectorate's letter: 1) transitions and study progress (3.2.3), 2) student wellbeing and social cohesion (3.2.3) and 3) the teacher training programme (3.2.3). WUR does not receive funding for other themes and topics because they are not applicable to universities or to WUR. The

measures/ambitions in our NPO plan are summarised by project for 2021 and 2022, followed by information on the results achieved in 2022. The last part of this chapter provides an overview of the expenses.

3.2.3.1 Theme: transitions and study progress

Subtheme: sufficient thesis positions and internship supervision

Project	Objective of the 2021 and 2022 NPO plan	2022 results
a. Graduation guidance	Chair groups provide graduation and internship support to more students to accommodate the expected increase from September 2021 to May 2022.	<i>Realised and completed.</i> Fifty chair groups provided guidance to 330 additional graduate students and 296 additional internship students.
b. Writing lab	Additional services from the writing lab to support Master's students in writing their thesis.	<i>Realised and ongoing.</i> The writing lab has developed and offered new additional services to students. One hundred and seventy students have been helped by these additional services.
c. Finding internship locations	More support from Student Career Services to help students find internship locations.	<i>Realised and ongoing.</i> Through Student Career Services, more internship positions were found and highlighted, and there were more one-on-one meetings with students to help them find internship positions.

a. Graduation guidance

The graduation guidance project addresses the increased demand for graduation and internship guidance. As a result of the coronavirus measures, students have had to change their study schedule, have suffered study delays, or want to do an additional thesis or internship. Therefore, more students needed a thesis or internship position from September 2021 to May 2022. A total of 50 chair groups applied to offer additional graduate project and internship locations with the help of additional funding. The applications met the set criteria. Funding was allocated to these chair groups by the steering committee in 2021. The chair groups appointed additional staff, extended contracts of current staff or took other measures that provided more capacity for thesis and internship supervision. Many of the 50 chair groups completed the project before summer 2022. Eleven chair groups also used funds to offer additional graduation projects and internships to students in the autumn. In 2022, the project was successfully completed and the budget was exhausted.

b. Writing lab

The writing lab supports thesis students in writing their thesis and it relieves the workload of supervisors, allowing them to focus more on helping with the content and less on writing. Students writing their thesis during the coronavirus measures benefited greatly from this additional support. The additional capacity enabled the writing lab to organise four additional writing weeks in 2022 and develop two new workshops, which are now part of the regular offerings. The new workshops focus on the specific needs of thesis students and on topics such as procrastination and efficiently reading literature. The writing lab was further promoted to students in 2022, resulting in more students using these services. The writing lab will continue to offer its additional services throughout the 2022-2023 academic year.

c. Finding internship locations

As a result of the coronavirus measures, students have experienced difficulties in finding a national or international internship location, which is required in many programmes. Students have had to postpone their internships, or there has been a delay in finding one. Therefore, Student Career Services has hired more staff to provide additional support to students and internship coordinators of the chair groups in finding internships. Student Career Services offers the following additional help:

- Proactively seeking internships and announcing them on the new career platform for students: in 2022, 601 internships were announced.
- Having one-on-one discussions with students on finding an internship or job: in 2022, 400 students received support through these one-on-one discussions and students rated this support positively.

- Providing all students with information on how to find internships.
- Offering more job application workshops, also relevant for applying for internships.
- Checking the students' CV, cover letter, or LinkedIn profile. This was used by 628 students in 2022.
- The total number of students who contacted Student Career Services increased again in 2022, which shows that more students are using the support offered. We will also continue to offer this additional support in 2023.

Sub-theme: more field trips and contact with the professional field

Project	Objective of the 2021 and 2022 NPO plan	2022 results
a. Study associations	More funding and support for study associations to organise more field trips and interaction with the professional field through the study association fund (current Kickstart Career fund)	<i>Realised.</i> Once again, 14 of the 19 study associations applied for the fund and received €2,800 each for additional field trips and interactions in 2022.
b. Studium Generale	Additional FTEs for Studium Generale to accommodate the peak of Bildung Reflection programmes in the second half of 2021 and to offer an additional programme in 2022.	<i>Delayed and postponed to 2023.</i> Offering an additional programme in 2022 was unsuccessful due to capacity shortages.
c. Student Career Services	Additional capacity of Student Career Services to organise more opportunities for students to explore the professional field.	<i>Realised and ongoing.</i> Student Career Services has organised 12 additional opportunities/events for students with the additional capacity.
d. Soft skills	An inventory and overview of available soft-skills courses to inform students about opportunities to gain more experience practising those skills to boost their confidence. No objective for 2022 and 2023.	<i>Realised and already completed in 2021.</i> The inventory and overview will be fully realised by 2021. The overview has been shared with all WUR students via our website.

a. Study associations

The first round of funding was completed in 2022. Fourteen study associations realised additional field trips and interaction with the professional field. They submitted reports on this and the reports were approved by the assessment committee of students and staff. The second round of funding was launched in autumn. Again, 14 study associations applied, and the assessment committee approved the plans based on the criteria. Following the previous funding round in 2021-2022, more support was provided to study associations to come up with a plan and budget for additional field trips and interaction with the professional field. Following the approval of the plan, the associations received €2,800. The implementation of the plans will run until the end of the 2022-2023 academic year. Study associations submit an accountability report at the end of the academic year. This was the last round of funding for these additional study association activities.

b. Studium Generale

Studium Generale offered five Bildung Reflection programmes along with five study programmes. These programmes encouraged students' academic and personal development and supported them in developing competences for reflecting on themselves, their environment, the world, and science. The funding for additional staff would be used to offer an additional Bildung Reflection programme in 2022. This unfortunately did not happen as there was a capacity shortage despite additional staff due to illness and staff resignations. There was insufficient capacity to realise the additional ambitions. Its realisation has therefore been deferred to 2023 and potentially 2024.

c. Student Career Services

Additional Student Career Services staff help students find internships, but also organise various additional events and activities for students to connect with the professional field. Examples include career days (in person and online) and networking drinks with companies and alumni. More companies are approaching Student Career Services because they want to make contact with our students. More

students have been reached in 2022 and these activities were positively assessed by them. In 2023 these additional activities will be continued.

d. Soft skills

This project was completed in summer 2021. A list of all available soft-skills courses has been provided to students. Students who did not yet feel well prepared or competent in specific soft skills (such as presentation skills or personal leadership) as a result of the lack of opportunities to practise due to the coronavirus measures have access to an overview of how to learn more about these skills and how to practise them.

Subtheme: more guidance on study progress and transition

Project	Objective of the 2021 and 2022 NPO plan	2022 results
a. Peer guidance	<p>Additional support for study programme teams to provide students with more opportunities to receive peer guidance.</p> <p>All students have some type of peer guidance available within their study programme.</p>	<p><i>Delayed and ongoing.</i> The study programme teams organised additional forms of peer-guidance opportunities or cohort-formation activities for the students in their programmes.</p>
b. Prerequisite knowledge	<p>Study programme teams inform their students on how they can improve their prerequisite knowledge to feel more confident.</p>	<p><i>Realised.</i> Study programme teams monitor what additional prior knowledge is needed and, if necessary, help students how to improve their prior knowledge.</p>

Both projects are carried out by the study programme teams of our Bachelor’s and Master’s programmes. The work pressure among the study programme teams was extremely high due to the coronavirus measures. The situation and needs of students are also very different across study programmes. The study programme teams have organised different formats and activities with varying degrees of success, also because, as time went on, what students need became clearer. Students were also still searching for this themselves.

a. Peer guidance

The study programme teams use the funding to hire student assistants and to cover other costs for organising and facilitating peer-guidance and cohort-formation activities. Larger study programmes receive more funding than smaller ones. All study programme teams have developed plans for additional peer-guidance in the programme, and implementation has started in 17 of the 18 study programme teams. Three study programme teams fully exhausted the budget as planned. The other study programme teams experienced delay in starting up the projects and extend the implementation of their plans until the end of this academic year (2022-2023). The study programme teams have indicated they need less money for this project.

b. Prerequisite knowledge

Study programme teams indicate that they experience little to no gaps in new students’ prior knowledge. The pass rates of first-year courses over the past two years are still good and sometimes even better than before the coronavirus pandemic. Most study programmes provide information on how students can brush up on any prior knowledge; it is used to very different degrees. A number of initiatives for refreshing knowledge have been discontinued again due to insufficient enthusiasm.

3.2.3.2 Theme: Student wellbeing and social cohesion

Subtheme: Increase training and facilitate interaction

Project	Objective of the 2021 and 2022 NPO plan	2022 results
a. Training courses and support	Additional capacity to offer more workshops and initiatives to improve student wellbeing.	<i>Realised and ongoing.</i> New activities and training workshops for students have been set up. Furthermore, 247 students also received coaching from fellow students.
b. Social activities	Student organisations help organise more activities to connect students.	<i>Realised.</i> 34 student organisations, groups of students and individual students received funding based on their approved proposals. Various activities were organised.
c. Sports activities	More frequent sports events on campus, supported by the Bongerd Sports Centre.	<i>Realised and ongoing.</i> Sports activities are organised on campus during breaks from March to October.
d. Outdoor facilities	Optimal use of the campus by creating more outdoor meeting areas with tables and seating.	<i>Realised.</i> Facilities are in place and the project has been completed.
e. Communication and coordination	Better inform students about opportunities to meet others and improve their wellbeing.	<i>Realised.</i> NPO-funded activities have been announced.

a. Training courses and support

A higher number of courses and more support is offered to students focused on their wellbeing and social networking. A total of 70 training sessions were provided (together with QA). A further 305 students received peer guidance from fellow students specifically trained for this purpose, or life coaching from professionals. A pilot where students study for the resits themselves, with the guidance of peer coaches, was launched in the summer. This is offered for smaller groups and is being very positively evaluated by the students. International students were able to attend a presentation on the healthcare system in Wageningen and the support provided by WUR.

b. Social activities

Student organisations, groups of students and individual students were again able to apply for funding to organise additional social activities to help students build their social network. A total of 34 proposals were approved by the assessment committee of students and staff. Most of these activities were done in 2022 and were completed by 1 February 2023. New activities were organised, or the fee for students to participate in scheduled activities was reduced to encourage participation. The funds have been exhausted, and the project is basically complete. New rounds of funding for social activities are forwarded from the quality resources.

c. Sports activities

Social activities and sporting activities were organised on campus by WUR's sports centre in 2022. The aim is to make participation possible for all students by organising activities during lunch breaks on campus. On average, 125 students participated in the four activities organised per week. These sports activities will also be offered in 2023, starting in spring.

d. Outdoor facilities

On campus, student interaction was stimulated by providing more outdoor meeting places. The 14 picnic tables and 39 seats have now been installed and were widely used in the second half of 2022.

e. Communication and coordination

Part of the NPO funding was used for the communication about all the activities and bringing them to the attention of students. Reaching students remains a challenge that requires extra effort.

Joint projects

Universities again discussed national projects focused on student wellbeing and the transition from previous education to university in 2022. Lessons were learned from other universities, and tools and knowledge were exchanged. As a result, two projects were launched at WUR:

- Transfer between previous education and a Bachelor's degree at a university: a tool has been developed to strengthen the learning and study skills of secondary school students. A successful course for teachers has been organised in which they are trained to use this tool. The aim is to better prepare secondary school students for studying at a university.
- Social safety: social safety training courses already offered to student organisations at other universities have also been purchased by WUR. These training courses are being attended by student associations and other student organisations.

3.2.3.3 Teacher training programme

Together with Radboud University, WUR offers a teacher training programme. WUR also receives some NPO funding for its contribution to this programme. The amount of €14,000 per year will be used to partially fund an additional staff member to catch up on internships. Students were unable to do enough internships due to lockdowns and other coronavirus measures. Those internships had to be caught up on, and this caused a spike in supervision that was made possible because of the additional funds. The additional staff also provided more room to invest in networking with training schools and applying for a training school subsidy. The network and additional training schools resulted in a better guidance for students at the schools.

3.2.3.4 Financial realisation of NPO education

WUR received a total accumulated funding of €2,660,000 across the years 2021 and 2022 from the Ministry of Education, Culture and Science (OCW) for the education projects in the approved NPO plan. Implementation began in August 2021, after the NPO plan was approved. Funding from the Ministry of Education, Culture and Science will cease as of 2023. The remaining 2022 funds will be spent in 2023 (and if necessary in 2024) as per the budget in the table on the next page.

2021-2023 WUR NPO education						
	2021	2021	2022	2022	2023	Total '21-'23
in €1,000	Budget	Realisation	Budget¹⁷	Realisation	Budget	Realisation and plan
Theme 1. Smooth process for incoming and transitioning students (transfers and study progress)	985	555	985	961	314	1,830
Theme 2. Student well-being and social cohesion programme	315	277	315	262	141	680
WUR & RU teacher training programme	14	14	14	14	0	28
Others (outside themes)	16	0	16	20	12	32
Still to be allocated due to underspending in previous years			484		90	90
TOTAL: planned/realised expenses	1,330	846	1,814	1,257	557	2,660
Funding from the Ministry of Education, Culture and Science						
WO teacher training programme	14	14	14	14		28
Coronavirus envelope	1,239	1,239	1,393	1,393		2,632
TOTAL: funding	1,253	1,253	1,407	1,407	0	2,660

¹⁷ 2022 and 2023 budget including unspent funds from previous years.

3.2.4 NPO research

3.2.4.1 Introduction

The NPO funds enable WUR to help researchers with temporary appointments whose research was delayed due to the coronavirus pandemic to complete their research. This is also important for tenure-track researchers supervising PhD and postdoc projects, because the research of the PhD candidates and postdoctoral researchers in their teams is part of the criteria in their tenure-track evaluations (research output, management output). The needs of researchers are diverse, and therefore the funding is used for customised solutions to solve or prevent delays within the NPO's criteria.

WUR expected 20-25% of PhD candidates to experience some delay due to coronavirus measures. For example, fieldwork or experiments could not be performed, courses were postponed, or staff stayed at home with their children. In all cases, supervisors and managers were encouraged to look for solutions, such as adjusted work schedules, within the means of their chair groups and departments, so that the project could be completed within the original timeframe. WUR also took measures to help and support the chair groups. Nevertheless, NPO funding was much needed to compensate the financial costs incurred by temporary researchers to complete their research.

WUR received a budget of about €2,673,000 in both 2021 and 2022 (total funding of €5,346,000). This funding has now been fully allocated to temporary researchers through two internal calls. Chair groups were able to apply for NPO funding for temporary researchers in their group. They use the funding for contract extensions and to compensate research costs. The proposals from chair groups that applied for the funding, were assessed based on the NPO criteria for research.

3.2.4.2 NPO measures and budget utilisation in 2022

WUR received €5,346,000 from the NPO research fund; this entire amount is allocated to chair groups for delayed researchers within the chair group.

A funding round was held in 2021 for researchers whose contracts ended in 2021 or 2022. Following the completion of the first call, a total of €317,000 was spent in 2021 to compensate seventeen researchers who had completed their projects in 2021 or 2022. The remainder of the NPO budget from the first round was paid in 2022. The total allocated funding of €2,850,000 helped 116 researchers complete their projects in 2022.

After this first round of funding, there was €2,200,000 left for a second round of funding. The second round of funding was launched in 2022 for researchers whose contracts expired in 2022 and who had not yet applied for compensation in the first round or whose contracts expired in 2023. The call was distributed through the research schools, PhD councils and, where they existed, postdoc councils. When this call had just been sent out, it was announced that the budget also had to be used to cover delays caused by the second and subsequent lockdowns, whereas the budget originally applied only to delays caused by the first lockdown in 2020.

The corona delays proved to be longer than anticipated in the NPO programme due to the multiple lockdowns. The graduate schools were mindful of these effects and therefore found it necessary to support all PhD candidates who need it to avoid substantial drop-outs. It was also considered essential to ensure equal treatment of all PhD candidates.

Given the available NPO budgets, the assessors (research schools/graduate schools) had to be very strict in assessing the applications in this second round of funding to enable a fair distribution of funds. Postdoctoral researchers, faced with the minor consequences of not being able to complete their research, received only a small portion of compensation and PhD applications were not compensated for the full maximum of six months in any of the cases. Most of the applications were reduced to three months of compensation at this stage of assessment.

Unfortunately, after this rigorous assessment phase, the budget was still not enough to make the desired allocations. The graduate schools have therefore had to reduce a large proportion of applications to 1.5-month extensions. Due to the limited budget, only 38% of the requested amount could be awarded and the NPO budget has been completely exhausted with this second round of

funding. So there was no more room for a third round of funding for researchers whose contracts expire in 2024.

The timing of when the chair groups spend the funding from the second round of funding depends on the planning of the final phase of delayed research by temporary researchers. The allocated funds were paid in two parts: 1) €677,000 in 2022 to compensate 55 researchers whose projects ended in 2022 and 2) €1,496,000 in 2023 to compensate 112 researchers whose projects ended in 2023.

Summary table according to NPO protocol

WUR NPO research	a. NPO support programme for recovery and support for researchers	b. Individual resources and financial and non-financial measures (approximate)
2021		
Number of supported researchers	17	See qualitative description of measures in 1.1.4.3.
Total spent (in thousands of €)	209	
2022		
Number of supported researchers	114 (first call) 55 (second call)	See qualitative description of measures in 1.1.4.3.
Total spent (in thousands of €)	3201	

3.2.4.3 Other financial and non-financial measures

Financial measures

Researchers with a scholarship are, in principle, not eligible for NPO funding. WUR strives to treat all PhD candidates equally, whether they are paid PhD candidates or researchers with a scholarship. Therefore, for all financial measures, WUR has made its own budget available to supplement the internal calls for paid PhD candidates with internal calls for grant PhDs. From the first funding round, WUR awarded compensation to a total of 30 researchers with a scholarship in 2021 (€178,000) and 74 researchers with a scholarship in 2022 (€729,000). During the second funding round, 58 researchers with a scholarship received funding for projects in 2022 (€300,000) and 57 researchers with a scholarship for projects ending in 2023 (€300,000).

Non-financial arrangements

The non-financial arrangements, made by WUR centrally and locally to mitigate the negative effects of the coronavirus measures, are described in more detail in the various sections of the WUR annual reports 2020 and 2021. They include the "matchpoint" to share the workload, ICT services such as the accelerated introduction of MS Teams, the vitality programme, extended testing facilities, online teaching and flexibility in the design of research projects and tenure-track evaluations. Regulations, facilities, and measures were available to all researchers to help them complete their research. Due to the many, varied measures, it is difficult to specify and verify to what extent the measures have prevented the delay.

3.3 Wageningen University & Research Profiling Fund

A number of regulations for supporting students financially have been incorporated into the WU Profiling Fund:

1. The Student Financial Support Regulation (FOS Regulation) for force majeure, including informal care, recognised administrative activities, and professional sport.
2. WU study financing for students following a two-year Master's programme in Social Sciences who are entitled to Dutch study finance (MCS, MDR, MID and MME).
3. Wageningen University Fellowship Programme (WUFP), scholarships/grants/tuition waivers for non-EEA students.
4. Emergency Student Funding.

Table 3.1 Overview of Wageningen Financial Support 2022

Category	Number of applications	Number of allocations	Total allocations (€)	Average payment (€)	Total duration (months)	Average duration (months)
1. FOS regulation ¹⁾						
1. HE students in force majeure situations Illness, disability, family circumstances, informal care, or non-feasible study programmes	188	188	184,736	982	543	2.9
2. Administrators of study or student associations or MR	475	475	663,594	397	1,871	3.9
3. Other categories Achievements in sports or culture, fin. support to non-EEA HE students, outgoing scholarships, etc.	2	2	2,022	1,011	6	3.0
Total student financial support (FOS) regulations	665	665	850,352	n/a	2,420	n/a
2. Social Sciences Master's, 2-year ²⁾	12	10	36,473	3,647	120	12
3. Fellowships ³⁾						
3.1 WUFP grants ⁴⁾	n/a	118	1,637,956	12,897	1298	11
3.2 WUFP tuition fee waivers ⁴⁾	n/a	195	549,500	2,817	780	4
4. Emergency Student Funding ¹⁾	9	5	2441	488	n/a	n/a
Total incl. WUFP	n/a	993	3,076,724	n/a	n/a	n/a
Total excl. WUFP	686	680				

1) EEA + non-EEA.

2) EEA.

3) Non-EEA.

4) WUFP: selection of accepted MSc students.

Note:

1. A total of 665 students utilised the FOS regulation (Student Financial Support), including 36 non-EEA students (18 due to circumstances beyond their control and 18 due to administrative activity). The application process is organised in such a way that only students who are actually eligible for the regulation can apply (student dean, head of the university sports centre).
2. A total of 10 students successfully applied for the "Social Sciences Master's" regulation.
3. Only non-EEA students are eligible for WUFP grants. In 2022, 24 new grants for a maximum of the institutional tuition fees were awarded to talented students and 6 full grants were awarded to talented African students. These figures apply to the first year. Additional payments were for ongoing grants that started in 2021. Total expenditures from the WUFP were €2,187,456 in 2022. This includes discounts and top-ups for scholarship programmes and bilateral agreements.
4. Donations from the Social Emergency Fund were granted to students who were in acute financial distress due to force majeure.

3.4 Indicators of the 2022 Higher Education and Science Administrative Agreement

Progress on the 2022 Higher Education and Science Administrative Agreement, which took effect on 1 July 2022, is monitored through a set of indicators developed within the sector. In this section, WU provides details of the indicators to be reported through the annual report.

Indicator C1 Start-up and incentive grants awarded

WU did not award any start-up and incentive grants in 2022.

WU has established the following policy on grant awards:

- Start-up grants of €300,000 are awarded to assistant professors who started permanent employment on or after 1-1-2022.
- Due to the limited budget available, a grant will be awarded to two assistant professors, with one of the assistant professors considered by mutual agreement as the lead applicant and the other as a co-applicant.
- An incentive grant of €75,000 will be added to the start-up grant.
- The start-up grant is awarded after the department confirms that the application meets all criteria.

Indicator E0 Sector plans

WU received €4,321,644 for the new sector plans in 2022. €266,130 of this was spent.

Indicator J2 % Permanently or temporarily appointed academic staff (WP)

The indicators for the WP% who are permanently and temporarily appointed are as follows

WP% with permanent appointment on 31-12-2022 (number)	55.8%
WP% with permanent appointment on 31-12-2022 (FTE)	56.5%

Indicator K1 Gender balance (students and staff)

Gender ratios are shown in Tables B1.2 to B1.5, pages 146-147 and Figures B3.4 to B3.6, pages 157-158.

3.5 Clarifications

Outsourcing of one or more components of CROHO Registered Study Programme(s) to a Private Organisation (+ costs).

WU does not outsource activities in the sense referred to above. Any outside expertise contracted for teaching (for example, as a consequence of the earlier "division of duties and concentration" operations) is contracted from higher education institution partners and not from private institutions.

Customised programmes for companies / organisations

WU does not provide any customised programmes for companies and/or organisations in the form of CROHO registered courses leading to a certificate. Under the WUR umbrella, customisation in the form of post-initial courses is provided by Wageningen Academy (WA).

Exchange agreements

WU has 283 exchange agreements with 177 institutions. The total number of incoming students is 411 and the total number of outgoing students is 661.

Allocation of direct government funding for private activities

Some of WU's activities fall under the definition of private activities as per the 2021 policy rule on investing public funds in private activities. In this annual report, WU qualitatively reports on the use of public funds for private activities. Activities for which WU receives a contribution from third parties and where the third party has no identifiable benefit from the activity or no influence on the content of the activity are not considered private activities. These include grants from EU and the Dutch Research Council (NWO).

WU has four categories of private activities:

1. activities that are very closely related to the funded educational task and aimed at optimising the performance of education and students;
2. activities related to our core tasks of Research and Valorisation;
3. activities aimed at generating additional income for the organisation;
4. activities carried out at the instruction or request of a private organisation.

Add 1. Education-related activities include facilities in our education rooms such as copying facilities, restaurant services, and sports facilities for students. Rates for these activities take into account the students' financial means. Employees can use the sports facilities at a market-oriented rate. The Executive Board annually assesses the proportionality of the used government funding. WU committed €2.6 million to these facilities in 2022.

This category also includes student accommodation and a lounge for international (MSc) students. Although the provision of student accommodation is not one of the university's primary duties, the acute accommodation needs nevertheless resulted in the Executive Board's decision in 2009 to invest in temporary accommodation for international students (Haarweg). The Supervisory Board agreed to this, in light of the state of Wageningen's housing market, particularly for students. Accommodation is rented out at fair market value prices. The objective is to achieve break-even operations with these investments. No investments were made in temporary student accommodations in 2022.

Add 2. One of WU's funded activities is knowledge valorisation. WUR and WU's collaboration during these activities is beneficial. Through education and valorisation, WU aims to further disseminate knowledge gained with public funds freely in society; research results only have impact when they are applied in society. To that end, WUR works intensively with businesses, governments, and civil society organisations to valorise those results. To do so, we can make our facilities available, assist start-ups in taking off, make the Wageningen Campus a vibrant incubator in our domain, and develop appropriate solutions to international issues. Most activities in this area are privately funded by WR. WU's contribution consists of making knowledge available; freely available in the domain or made available to a group on a limited basis, but always with an arms-length fee via, for example, a licence or patent arrangement, or via a sales transaction IP. Furthermore, WU (through platforms such as StartLife and StartHub) provides space and sometimes start-up loans to young entrepreneurs connected to WU. WU's participation in start-ups and enterprises is extremely limited in terms of risk. This participation is therefore always via "in kind" appreciation of the knowledge contributed by WU. WU does not aim to be a long-term participant in the start-ups, in which knowledge has been incorporated, and does not provide additional capital if needed for further development. Throughout 2022, WU also invested approximately €88,000 in the Innovation Industries investment fund, which invests as a fund in spin-offs from the 4TU & TNO domain. This limited investment is mainly a symbol of commitment.

Add 3. Activities aimed at acquiring additional income include the contribution to the Wageningen University Fund (UFW). The UFW liaises with alumni on behalf of WU and raises and manages donations and funds from individuals and charities for the benefit of WUR research and education. UFW staff capacity is provided by WUR. In return, WUR acquires additional funds from donations made to the UFW. The Executive Board periodically reviews whether the resources, used for the benefit of UFW, outweigh the additional funds obtained from it. The cost of supporting UFW is €627,000.

Add 4. As for activities commissioned by third parties, WU applies the criteria set out in the policy rule. For contract research, WU's policy is to charge at least full cost. WU also has projects focusing on fundamental research questions that do not directly lead to a usable result. Sometimes these projects are sponsored by external organisations, with the sponsor bearing part of the total project costs. In those projects, WU applies the principle that a sponsor will not receive any rights to the intellectual property if the sponsor has paid less than full cost or a market-oriented price for the intellectual property.

WU develops and organises training programmes and courses for the business community and government professionals. WU aims to break even on these activities, but is currently not succeeding; in 2022, WA incurred a loss of €220,000.

WU works closely with WR under the banner of WUR. Collaboration includes joint use of facilities and shared facility and staff services. External markets are also jointly approached. All joint costs and services are settled reciprocally based on transfer prices and actual consumption. These transfer prices are determined on the arms-length principle (cost including risk premium).

3.6 Treasury policy

WU has incorporated the conditions of the “Beleggen, Lenen en Derivatven OCW 2016” (2016 OCW investing, borrowing and derivative) regulations as policy in its Treasury Charter. Temporary surplus liquid assets will be deposited into savings accounts or held in deposits with financial institutions that at a minimum have an A rating from two of the three large rating firms, and that have headquarters in an EU member state. No liquid assets were held in term deposits from 31 December 2022. WU has no investments and did not negotiate any derivatives. This is equivalent to the situation on 31 December 2021.

4 Abridged WUR Annual Financial Report

4.1 Wageningen University

4.1.1 Annual Financial Report

Results developments

WU recorded a positive result of €14.1 million in 2022, which is an increase of €2.5 million in comparison to 2021, and €18.1 million higher than was expected in the budget. The result includes non-recurring items of €10.4 million (2021: €2.9 million).

Over the past few years, WUR has experienced significant growth in FTE and turnover. In particular, the direct government funding has increased in recent years due to the transition to the Ministry of Education, Culture and Science (OCW), quality agreements, Van Rijn resources, sector plan resources, and increased student numbers. The direct government funding has also increased further in 2022 compared to 2021. This partly concerns resources not yet taken into account in the budget. The halving of the statutory tuition fees for 2022-2023 is compensated by additional direct government funding. On the other hand, the government funding was reduced once by €2.3 million due to a redistribution between universities of the compensation over 2019-2021. Additionally, the turnover from research and contract funding continued to recover in 2022 from a decline in 2020. Opposite the additional income (€26.6 million) are higher operational expenses of €35.9 million. The departments strive to translate the growth in funding into additional manpower. This led to an increase in staffing level by 205 FTE to 3,735 FTE.

Only €0.3 million of the specific additional funds for education and research made available in the autumn (€7.2 million) were spent due to their late allocation. The remaining funding will not lead, deviating from the generic rule, to increased results for 2022. The remaining specific funding from the National Programme for Education (NPO) will be used in 2023 for the objectives as set in the previous year, and possibly a remainder in 2024.

Table 4.1 WU Results (in millions of euros)

	2022	2021
Reported result	14.1	11.6
Less: incidental results		
- Pro rata VAT over the years 2016-2021	13.7	5.0
- Redistribution of compensation for statutory tuition being halved in previous years	-2.3	
- Total additions to provisions regarding WIA and WGA	-1.0	-0.5
- Write-downs		-1.6
- Revision of reference estimates due to increased WO intake		6.8
- Addition made to the appropriated reserve for project costs in later years	1.1	-4.4
Operational result	2.6	6.3
Less: non-budgeted 2022 results		
- Pro rata VAT 2022	2.9	
- Better results units	3.7	15.3
Budgeted operational result	-4.0	-9.0

The departments achieved a positive joint annual result of €4.2 million, which is a decrease of €7.7 million in comparison to 2021. The departments of Plant Sciences, Environmental Sciences and

Agrotechnology and Food Sciences achieved a positive result. Animal Sciences and Social Sciences achieved a limited negative result. The positive results were largely driven by the fact that, due to the tight labour market, the units struggled to hire additional staff on time.

The operating result of the central departments amounted to -€1.6 million. This is €2.8 million lower than in 2021. This was mainly caused by the additional costs incurred for Aurora and Omnia, which were taken into use in autumn 2021 and June 2022, respectively. This resulted in a cost increase of €5.6 million for 2022. This is offset by a €2.9 million reduction in annual VAT costs due to new agreements with the Dutch Tax and Customs Administration on the calculation of recoverable VAT.

The incidental result for the Executive Board consists of a large positive effect due to a receivable from the Dutch Tax and Customs Administration regarding an additional VAT refund for the concluded fiscal years 2016-2021 (€13.7 million) as a result of a ruling by the Dutch High Council. This is offset by the one-off reduction in the government funding due to redistribution of the compensation for halving tuition fees among universities (-€2.3 million) and allocations to facilities (-€1.0 million).

The Executive Board and corporate staff also processed a number of result items amounting to €1.1 million that were or will be offset by positive results in other years. On the one hand this concerns the funding allocated in 2019 and 2020 on the basis of the Van Rijn Committee report and the additional funding for science and technology research (-€0.8 million) that was spent in 2022 as well as the income on internal projects which will be made in the coming years (€1.9 million). It was no longer possible to fully utilise the Van Rijn resources and the science and technology research funding in 2021. However, the annual reporting guidelines do require that this income be properly accounted for in the year of receipt in the income statement. The funding was partly spent in 2022, and will lead to a lower result. WU has set up an appropriated reserve for these funds. As the guidelines prescribe, WU provides accounting for the government funding in the year in which it was granted as income. Direct government funding related to project costs that will be incurred in later years is calculated as income in the reporting year and a write-down in later years. The distortion this causes is neutralised via the appropriated reserve. In accordance with this approach, €1.9 million of the result was added to this appropriated reserve in 2022.

Development of turnover and costs

Income increased by €26.6 million in 2022 in comparison to 2021. The basic funding (government funding excluding targeted subsidies and tuition fees) rose from €305.4 million to €328.4 million.

In the context of harmonisation with the OCW system, WU received a final instalment of additional funds (approximately €2.7 million) in the permanent components of the funding in 2022, in accordance with agreements made in 2018, to compensate for part of the arrears previously accumulated.

Lower input parameters — in this case the numbers of funded enrolments, degrees, and PhD graduations — and adjustment of the reference estimates caused the government funding to increase by approximately €0.6 million.

The additional government funding for WU in 2022 from past agreements on strengthening science education (“Van Rijn programme”) increased by €4.9 million to €8.9 million compared to 2021. The resources for the Quality Agreements also increased by €1.5 million.

The additional funds that have been made available in the context of the NPO represent an amount of €12.2 million. The normative part of this (€4.9 million) comes from compensation for halving statutory tuition fees in the 2022/2023 academic year. This is offset by a reduction of €2.3 million related to a redistribution between universities over 2021. The non-normative part of the NPO funding (€3.4 million) has been used for specific objectives related to education and research.

On the basis of the coalition agreement, additional funds were received for sector plans and start-up and incentive grants. €0.3 million of the allocated amount of €7.2 million was deployed in 2022. Finally, the compensation for increased wages and prices led to an adjustment of €9.3 million and €0.7 million of additional SEO funds were received.

The income from work for third parties increased by 4% from €104.5 million to €108.6 million. This income consists of programme research funding (research funding and targeted grants), which decreased by 1% to €36.0 million; co-funding projects and matching market funding, which decreased

by 12% to €22.7 million; and turnover from contract research and top sectors, which increased by 4% to €49.9 million.

In comparison to 2021, staff expenses increased by €19.2 million to a total of €320.8 million. This was due to a higher number of employees (+206 FTE, €16.1 million), 1.7% higher salary costs per FTE (€4.8 million) as a result of CAO adjustments, increases in pension contributions and higher average grading, and a €1.6 million decrease in other personnel costs due to lower costs for temporary employees and contracted personnel. In 2022, the staffing level (on the basis of the allocation) increased from 3,530 FTE to 3,735 FTE.

Tangible expenses increased by €5.2 million. This is caused by additional costs of €21.8 million, mainly due to the end of the coronavirus pandemic and a VAT refund for the period 2016-2022 of €16.6 million, of which €2.9 million is ongoing and €13.7 million is non-recurring. The rising costs are caused by growth in activities (€8.3 million) and by the return to the normal pattern of activities that had been largely cancelled due to the coronavirus epidemic, such as travel and catering (€5.9 million). The increase in the capitalisation limit for equipment to €25,000 resulted in an impact of €2.4 million. Rising market prices for energy have not yet had a major effect on costs, as WUR had pre-determined the purchase prices for 2022.

The income was €6.0 million higher than budgeted. This is partly caused by the higher direct government funding (€4.8 million). Income from tuition fees were €1.1 million higher than budgeted, income from work for third parties was €1.1 million higher than budgeted and income from secondary activities and other income excluding sales proceeds from fixed assets was €0.9 million lower than budgeted.

The costs are €11.7 million less than budgeted. The one-off tax refund of €16.6 million explains these lower costs.

Balance developments

The liquidity of WU increased in 2022 from €83.3 million to €116.7 million. The factors that affected this increase in liquidity are listed in Table 4.2.

Table 4.2 *WU liquidity development*

	2022
Result excluding participating interests	14.1
Cash flow from fixed assets (depreciation and sales less cash flow from investments)	4.2
Increase in claims	-21.3
Debt increase	37.0
Decrease in provisions	-0.6
Total	33.4

Investments in buildings, equipment, and intangible assets (€27.6) are lower than depreciation (€31.4 million) and proceeds from sales of assets (€0.4 million). The increase in receivables is mainly caused by the calculated receivable from the Dutch Tax and Customs Administration for the years 2016-2022 regarding additional recoverable VAT. The increase in short-term debts is due to the increase in paid advances by funding providers. The total liquidity of €116.7 million includes advances and prepaid amounts of €159.6 million, of which €15.1 million are funds to be passed on to partners. These funds to be passed on to partners were received due to WU being the lead party for a number of consortia. These funds will be passed on to partners in 2023.

WU's solvency ratio was 50.9% on 31 December 2022. This was 53.2% on 31 December 2021.

Changes in the legal structure and capital stake

There were no changes in the legal structure and capital stake in 2022.

Prospects for 2023

WU has budgeted an operating result of -€6.0 million in 2023. The result will decrease compared to 2022 due to additional costs incurred by departments. Departments expect further growth in their staffing levels by approximately 200 FTE. General costs will also rise further due to the complete removal of the coronavirus measures that still impacted the organisation's costs in the 1st half of 2022.

Turnover is expected to increase to €506.7 million in 2023. This €48.7 million increase is caused by an increase in basic funding of €29.5 million to a total of €357.9 million and an increase in research funding and contract research funding of €15.6 million to a total of €124.1 million. The other income and secondary activities will increase by €3.7 million to €24.7 million.

Government funding will increase by €18.2 million to €313.8 million. Of this, €10.3 million relates to the expected salary and price compensation, €5.7 million to starters and incentive grants, and €11.1 million to sector plans and as a consequence of a lower impact of the redistribution of compensation for the halving of tuition fees between universities (€1.3 million). The government funding decreases due to the removal of NPO compensation for halving tuition fees and NPO funds for specific education and research activities (€11.3 million) and changes in funding variables (€2.6 million). A part of the non-normative government funding received in 2022 will also be spent in 2023. Together with the other benefits, this results in an additional gain of €3.7 million.

Tuition fees will increase by €11.3 million to €44.1 million due to the end of halving statutory tuition fees for the 2022-2023 academic year (€7.5 million) and due to higher statutory tuition fees (€4.8 million). The total student population (BSc + MSc) will stabilise at an estimated 12,850 students in October 2023.

Direct personnel costs will increase by €18.4 million to €339.2 million. This is caused by an increase in staffing levels by 208 to 3,943 FTE, a decrease in other staff costs by €8.3 million due to a decrease in the number of temporary workers, and an increase in the average salary costs by 3.4% due to increases and wage cost developments.

Liquidity will decrease by €21.7 million to €95.0 million. With this cash position, the continuity of business operations in 2023 is guaranteed. However, should an additional need for liquidity arise, WU also has the option of requesting peer funding from WR or provide access to treasury banking.

Investments for WU are budgeted at €37.8 million. These are mainly investments in the context of the strategic housing plan Remote Working (€3.8 million) and for thermal energy storage (ATES, €3.5 million) as well as investments in new construction for the greenhouses at Unifarm (€3.1 million) and a new research building (€1.4 million). Major necessary maintenance (€2.1 million) will be carried out on buildings, land, and installations.

Facilities and Services will invest €12.2 million, mainly in IT hardware, expansion of data storage, and inventory.

Decentralised investments are budgeted at €10.1 million. Of this amount, Shared Research Facilities will invest €4.1 million and Agro Technology and Food Sciences will invest €3.6 million into laboratory equipment.

For further information on the development of the results in the coming five years, we refer to the continuity section in the management report.

4.1.2 Abridged Wageningen University Annual Financial Report

Consolidated balance sheet after the allocation of the net result

	31-12-2022	31-12-2021
ASSETS		
FIXED ASSETS		
(1) Intangible fixed assets	3,355	3,927
(2) Tangible fixed assets	308,437	313,388
(3) Financial fixed assets	2,284	2,590
Total fixed assets	314,076	319,905
CURRENT ASSETS		
(4) Stocks	5	5
(5) Receivables	76,934	55,368
(6) Cash in bank and in hand	116,698	83,329
Total current assets	193,637	138,702
TOTAL ASSETS	507,713	458,607
LIABILITIES		
EQUITY CAPITAL		
General reserve	239,626	226,527
Statutory reserve	3,241	3,366
Appropriated reserve	15,409	14,263
(7) EQUITY CAPITAL	258,276	244,156
(8) PROVISIONS	11,340	11,920
(9) LONG-TERM DEBT	3,061	4,083
(10) SHORT-TERM DEBT	235,036	198,448
TOTAL LIABILITIES	507,713	458,607

Consolidated Profit and Loss Statement

	Result 2022	Budget for 2022	Result 2021
(11) INCOME			
Direct government funding	295,650	290,900	269,756
Tuition fees	32,798	31,700	35,677
Research funding and targeted grants	35,990	38,300	36,430
Co-funding and matching market revenue	22,650	24,100	20,160
Top sectors	6,877	5,600	3,804
Bilateral market	43,035	39,500	44,077
Secondary activities	15,726	17,100	16,620
Other income	5,265	4,800	4,858
Total income	457,991	452,000	431,382
EXPENDITURES			
(12) Personnel costs	320,763	312,300	301,524
(13) Depreciation	31,368	33,100	28,758
(14) Accommodation/Housing Costs	29,214	31,900	28,622
(15) General costs	20,792	38,300	21,120
(16) Specific costs	42,135	40,300	39,764
Total expenditure	444,272	455,900	419,788
OPERATING RESULT	13,719	-3,900	11,594
(17) Financial income and expenditure	381	-100	-56
RESULT FROM OPERATIONAL ACTIVITIES BEFORE TAX	14,100	-4,000	11,538
Taxation on operational activities	0	0	0
(18) Result from participating interests	20	0	99
RESULT FROM OPERATIONAL ACTIVITIES AFTER TAX	14,120	-4,000	11,637
Third-party share	0	0	0
NET RESULT	14,120	-4,000	11,637

Consolidated Cash Flow Statement

	2022	2021
OPERATIONAL ACTIVITIES		
Operating result	13,719	11,594
Adjustments for:		
Sale of assets	-470	2
Depreciation and impairments	31,368	28,758
Change in provisions	-579	-1,078
	44,038	39,276
Changes in working capital:		
Change in stock	0	0
Change in receivables	-21,294	-10,022
Change in short-term debt	36,988	10,781
Cash flow from business operations	59,732	40,035
Interest received	428	1
Interest paid	-47	-57
Cash flow from operational activities	60,113	39,979
INVESTMENT ACTIVITIES		
Investments in intangible assets	-375	-2,138
Disinvestment in intangible assets	0	0
Investments in buildings and sites (incl. WIU)	-8,810	-45,249
Investments in other tangible assets	-18,449	-19,971
Disinvestments in tangible assets	818	4,245
Investments in participating interests and members' capital	0	0
Disinvestments in financial fixed assets	72	49
Cash flow from investment activities	-26,744	-63,064
FINANCING ACTIVITIES		
Newly acquired loans	0	0
Repayment of long-term debt	0	0
Change in long-term receivables	0	0
Changes to investment subsidy equalisation account	0	2,216
Cash flow from financing activities	0	2,216
CASH FLOW	33,369	-20,869
CHANGE IN LIQUID ASSETS		
Balance of liquid assets on 1 January	83,329	104,198
Balance of liquid assets on 31 December	116,698	83,329
Change in liquid assets	33,369	-20,869

4.1.3 Accounting principles

General

WU is a legal entity on the basis of the Higher Education and Research Act. WU is located in Wageningen and registered with the Chamber of Commerce (KvK) under the number 9215846. The annual financial report was prepared and validated by the Executive Board on 24 April 2023 and approved by the Supervisory Board on 24 May 2023. The annual financial report was prepared in accordance with the below accounting principles. Any departure from these principles is stated alongside the relevant financial information.

The settlements and debt ratios between the various members of the group (which are referred to as inter-group payments) have been eliminated. The figures for the previous financial year are in accordance with the figures in the annual financial report of the relevant year. Variations may arise as a result of corrections, shifts between items or changes in the rounding-off method. Variances of relevant significance are indicated in the annual accounts.

General accounting principles for the preparation of the annual financial report

WU is part of a group in accordance with RJ940 that also comprises WU Holding BV, ISRIC Foundation, and Welcome Center Food Valley foundation.

Receivables and payables are stated at fair value plus transaction costs on initial recognition after which they are stated at amortised cost minus any necessary provision for uncollectible debts. The amortised cost generally corresponds to the nominal value.

The amortised cost is the amount at which a financial asset or financial liability is stated in the balance sheet on initial recognition, minus principal repayments, increased or decreased by the cumulative amortisation calculated on the basis of the effective interest method of the difference between the initial amount and the instalment, and minus any write-offs (either direct or by making a provision) due to impairments or uncollectible debts.

Monetary assets and liabilities in foreign currencies are converted at the exchange rate on the balance sheet date.

Exchange rate differences are included in the profit and loss statement. Revenues and expenses in foreign currency are included in the profit and loss statement at the exchange rate on the date of receipt or payment.

The annual accounts were prepared in accordance with Annual Accounts Regulations for Educational Institutions (Regeling Jaarverslaggeving Onderwijs) and the guidelines from the Dutch accounting Standards Board.

Use of estimates

The preparation of the annual financial accounts demands that the board draw conclusions and makes estimates and motivations that affect the accounting principles and reported value of fixed assets and obligations, as well as of income and expenditures. The actual outcome will deviate from these estimates. The estimates and underlying motivations are continually evaluated. Adjustments to estimates are implemented in the period during which the adjustment is made as well as the following periods that are affected by this adjustment. The principal items subject to estimates are:

- valuation and life span of fixed assets
- provision of receivables and projects
- provisions
- claims

Consolidation

The consolidated reports incorporate the annual financial accounts of the institution, its subsidiaries and other organisations over which the institution exercises control (pursuant to the actual situation) or central management. The subsidiaries are legal entities directly or indirectly controlled by DLO Foundation, given that the institution possesses the majority of the voting

rights or can control the financial and operational activities in some other manner. Also taken into account are potential voting rights that may be exercised directly on the balance sheet date. Subsidiaries and other organisations over which WU exercises control or central management are fully incorporated into the consolidated financial report. Third party shares with respect to internal capital and the group result are reported separately.

Table 4.3 Consolidated participating interests

	Shareholder	Registered office	% 31-12-2021	% 31-12-2022
Wageningen Universiteit Holding BV	Wageningen University	Wageningen	100	100
ISRIC Foundation	n/a	Wageningen	n/a	n/a
Stichting Welcome Center Food Valley	n/a	Wageningen	n/a	n/a

Table 4.4 Non-consolidated participating interests

	Registered office	% 31-12-2021	% 31-12-2022
Ceradis B.V.	Wageningen	2	2
Green Dino BV	Wageningen	11	11
A-Mansia Biotech SA	Louvain-la-Neuve	5	5
Innovation Industries	Amsterdam	0	0
Caribou Biosciences Inc.	Delaware	0	0
Scope Biosciences Holding B.V.	Wageningen	10	10
Plant Meat Makers B.V.	Ede	5	4

ACCOUNTING PRINCIPLES FOR ASSET AND LIABILITY VALUATION

Intangible fixed assets

Intangible fixed assets are valued at acquisition price or production price less cumulative depreciation and, if applicable, cumulative impairments. Development costs, patents and licenses, software, goodwill, and production rights are capitalised if the conditions set for them are met. Intangible fixed assets are valued at acquisition or production cost. Depreciation takes place on a linear basis over five years. Pursuant to statutory obligations, a statutory reserve is maintained for the capitalised amount of development costs. Write-offs as a result of impairment, sale, loss or discontinuation are listed separately.

Tangible fixed assets

Tangible fixed assets are valued at acquisition price or production cost minus accumulated depreciation. Depreciation is applied using the linear method on the basis of the estimated useful life and the residual value. Depreciation is proportionally applied in the purchase year. Tangible fixed assets under construction or in production are valued at the acquisition price or for the amount that has already been invoiced to the company by third parties. Equipment of less than €25,000 is charged directly to the profit and loss statement. Until 2021, equipment of less than €5,000 was charged directly to the profit and loss statement.

Table 4.5 Depreciation periods

Type of funding	Linear depreciation in years
Company property/Work in progress	Do not
Site layout and infrastructure	30 years, linear
Buildings:	
Shell	60 years, linear
Fittings	30 years, linear
Greenhouses	20 years, linear
Fittings and furnishings package	15 years, linear
Sheds, miscellaneous buildings/structures	15 years, linear
Machinery and equipment	
Office furniture/machines and equipment/inventory of catering facilities/fibre-optic network/other inventory	10 years, linear
Laboratory equipment/audio-visual equipment/vehicles/PR and information material	5/8 years, linear
ICT equipment including software (network hardware)	5 years, linear
ICT equipment including software (other hardware)	3 years, linear
Personal computers	4 years, linear

Acquired investment subsidies and amounts from externally-financed projects are deducted from the capitalised amount in the year of purchase. Funding received with regard to assets for which a cost-covering market rate must be calculated based on funding rules and expected usage are shown as liabilities and are released during the asset's useful life. Highly specialised equipment that can only be used for a specific project and has no value outside this project is capitalised but depreciated in its entirety over the possibly shorter duration of the project (in accordance with the accounting principles). After all, the useful life of this specialised equipment is equal to the duration of the project. Expenses for major maintenance are included in the cost of assets as they arise and meet the capitalisation criteria. The book value of the replaced components is then considered disinvested and charged to the profit and loss statement in a lump sum. All other maintenance costs are recorded directly in the profit and loss statement.

The institution carries out an evaluation on each balance sheet date to determine whether there are indications that a fixed asset may be subject to a write-down. Should there be any such indications, then the realisable value of the asset is determined. If the realisable value of the individual asset cannot be determined, then the realisable value of the cash flow generating unit to which the asset belongs is determined. An impairment is applicable when the book value of an asset is higher than the realisable value, where the realisable value is higher than the market value and the business value.

When it is determined that a write-down that was included in the past no longer exists or has decreased, then the increased book value of the asset is set no higher than the original book value would have been without the application of the write-down of the asset.

Fixed assets that are no longer usable for the primary operations are not depreciated. Write-offs as a result of impairment, sale, loss or discontinuation are listed separately.

Financial fixed assets

Receivables

Receivables from and loans to participating interests, as well as the other receivables provided, are initially recognised at fair value plus the directly attributable transaction costs and subsequently valued at amortised cost using the effective interest method. Income and expenses are recognised in the profit and loss statement as soon as the receivables are transferred to a third party or are subject to an impairment (or a reversal thereof) as well as via the amortisation process.

Participating interests and member's capital over whose business and financial policy the institution exerts a significant influence are valued at net asset value. This value is determined on the basis of the group's accounting principles for the valuation and determination of the result.

Participating interests and capital of members over whose business and financial policy the institution does not exert a significant influence are valued at acquisition cost. The valuation of these assets takes into account any permanent decline in value, where relevant.

Member certificates and member accounts at cooperatives are valued at the value determined by the cooperative on the balance sheet date.

Stocks

This item comprises the trading stock. The trading stock is valued in accordance with the FIFO method at the acquisition cost or production cost increased by a margin for the indirect costs.

The value of unmarketable stock or stock with a lower market value is decreased accordingly.

Receivables and prepayments

Receivables and accrued assets are stated at fair value plus transaction costs on initial recognition after which they are stated at amortised cost minus any necessary provision for uncollectible debts.

Project costs yet to be invoiced

The balance of projects arising from work commissioned by third parties results in a receivable or payable on the balance sheet. The third-party contract research is valued at the actual costs incurred, consisting of costs that are directly related to the project (such as direct personnel costs and the costs of the acquired equipment and inventory), costs that are attributable to the project activities in general and that are allocatable to the project (including the cost of technical assistance and the overhead costs of the project activities), and other costs insofar as they are contractually reimbursed by the client, minus the provision for expected losses and invoiced instalments or received advances relating to the third-party contract research. Other receivables include projects where prepaid costs exceed invoiced instalments/received advances. Projects for which this occurs are included under short-term debts.

Cash in bank and in hand

Liquid assets are understood to mean cash and cash equivalents, the balances on bank accounts, bills of exchange and checks that are recognised at nominal value. Deposits are included under liquid assets if they are in fact immediately available — although this may be accompanied by loss of interest income.

Liquid assets that are unavailable or are expected to be unavailable for more than twelve months are classified as financial fixed assets.

Equity capital

WU does not distinguish between private and public capital.

- *General reserve*

This reserve is credited with the operating result in any year in which the result is not allocated to a specific use.

- *Appropriated reserve*

Two designated reserves are formed within the equity capital at corporate level:

- The innovation fund
- Reserve in relation to projects to be carried out in the future

- *Statutory reserve*

A legal reserve is maintained equal to the book value of the capitalised development costs.

Facilities

The provisions are valued at nominal value, with the exception of the personnel provisions formed on the basis of RJ 271. The determination of the amount of the obligations accounts for future indexation and price increases. If the effect of the time value is material, the provisions are stated at cash value. The amount of the provision included in the annual accounts is the best estimate of the amount that will be required to settle the relevant obligations and losses on the balance sheet date.

Provisions are created for:

- legally enforceable or actual obligations that exist on the balance sheet date;
- the settlement of obligations that will probably require an outflow of funds;
- obligations when a reliable estimate can be made of those obligations.

Provision for unemployment insurance obligations and civil obligations

The provision for unemployment insurance and civil obligations covers existing unemployment insurance and civil obligations on the balance sheet date and expected future obligations in relation to personnel that have already left and personnel with a temporary employment contract.

Provision for WIA/ZW-flex

The provision for the act on work and income according to labour capacity (WIA) and sickness benefits act (ZW-flex) covers the WIA and ZW-flex obligations as anticipated on the balance sheet date.

Service bonus provisions

The anticipated obligation arising from future service (anniversary) bonuses is determined on the basis of historical information and withdrawals are made on the basis of realisation. The present value is determined on the basis of the prevailing market rate of interest for WU.

Provisions for reorganisation expenses

This provision was formed to cover anticipated costs incurred as a result of decisions regarding current or intended reorganisations that have been made and announced within the organisation.

Provision for product and contract risks -

This provision covers the expected cost of loss-making contracts, guarantees and claims arising from services and products delivered to third parties.

Long-term Debt

Long-term debt concerns liabilities that are due in more than one year from the end of the relevant financial year.

On initial recognition of long-term debt, this is stated at fair value, less the directly attributable transaction costs.

The long-term debt is valued after the first valuation at the amortised cost price according to the effective interest method. Profit or loss is recognised in the income statement as soon as the payables are no longer recognised in the balance sheet, as well as through the amortisation process.

Short-term debt

Short-term debt concerns liabilities that are due within one year from the end of the relevant financial year.

On initial recognition of short-term debt, this is stated at fair value, less the directly attributable transaction costs.

The short-term liabilities are valued after the first valuation at the amortised cost price according to the effective interest method. Profit or loss is recognised in the income statement as soon as the payables are no longer recognised in the balance sheet, as well as through the amortisation process.

ACCOUNTING PRINCIPLES TO DETERMINE INCOME AND EXPENDITURE

General

Income and expenditures are the proceeds and costs which can be allocated to the relevant financial year or activity, regardless of whether they have resulted in receipts and payments during the annual reporting period.

Income is recognised in the year in which the products were delivered or the services were provided to clients. Losses and risks arising before the end of the financial year are taken into account if they are known before the preparation of the annual financial report.

Direct government funding and other payments

Direct government funding is included as income in the year in which the funding is received. Components of direct government funding that can be considered to have been specifically allocated (non-normative direct government funding) are added as income to the extent to which costs have been incurred for the activity in question. Other payments are credited to the result in the year in which the project is carried out or the costs are incurred.

Tuition and course fees

The statutory tuition fees and institutional tuition fees are recognised in the accounts of the reporting year under tuition fees. The payments for post-graduate courses are included under course fees.

Other government contributions and subsidies

Government grants are initially recognised on the balance sheet as income received in advance as soon as there is a reasonable certainty that they will be received and that WU will meet the associated conditions. Funding to offset costs incurred by the group are systematically included as income in the profit and loss statement in the same period in which the costs are incurred. Funding that compensate the group for the cost of an asset are included in the profit and loss statement systematically over the useful life of the asset. If revenue relates to a specific activity, it is recorded as income in proportion to the work performed.

Income from work for third parties

Proceeds in respect of third-party contract research are recorded as income in the statement of income and expenses for an equal amount of incurred costs, insofar as these are contractually reimbursed by the client. If the contractually agreed service consists of several distinguishable performance obligations, the agreed fee is divided on the basis of the cost of the performance obligations and the extent to which each performance obligation has been realised is determined.

Expenses

The costs are determined with due observance of the aforementioned accounting policies and allocated to the relevant reporting year. Foreseeable payables and possible losses that originate before the end of the financial year are taken into account if they became known before drawing up the annual financial report and the conditions for recognising provisions have been met.

Wages, salaries, and social security contributions are recognised in the profit and loss account on the basis of the terms of employment, insofar as they are owed to employees or the tax authority respectively.

Interest

Interest is allocated to successive reporting periods in proportion to the remaining principal. Premiums/discounts and repayment premiums are attributed to the successive reporting periods as interest charges so that, together with the interest payable on the loan, the effective interest is recognised in the profit and loss account and so that the balance sheet shows the amortised cost of the debt on balance. Periodic interest expenses and similar charges are charged to the year in which they become due.

Accounting principles for the cash flow statement preparation

The cash flow statement was prepared using the indirect method.

System changes

Not applicable.

4.1.4 Auditor's report by the independent auditor

The auditor's report on the 2022 financial statements is included in the Dutch version of the Annual Report.

4.2 Stichting Wageningen Research

4.2.1 Annual Financial Report

Results developments

Wageningen Research Foundation (WR) obtained a positive net result of €3.9 million in 2022. This result is €5.5 million lower than the net result for 2021 (€9.4 million). The result from operational activities before tax is €1.9 million.

A major cause of the lower pre-tax result was the increased material and energy costs due to inflation, a new collective labour agreement in which a higher salary increase was agreed than was incorporated into the rates (over 2%), a decrease in rates due to subsequent costing effects from the past (4.5% for research turnover excluding contract research), and a higher capitalisation limit for equipment (€25,000 instead of €5,000) than in previous years, resulting in higher expenses (€2.6 million). On the other hand, one of WR's major holdings, Wageningen Business Generator BV (WBG), actually recorded a higher result (€2.6 million) due to higher wind revenues at the wind farms, which neutralised some of the increase in energy costs at WR. Furthermore, the HCU operating surplus position fell in the result (€8.0 million).

Table 4.6 Breakdown of the result of Wageningen Research foundation (in € millions)

	2022	2021
Net result Wageningen Research	3.9	9.4
<i>Incidental result</i>	5.2	-0.5
HCU operating surplus	8.0	-
Other incidental results	-2.8	-0.5
<i>Operational result</i>	-1.3	9.9
Result from institutes and primary process	-6.1	13.2
Central departments including WBG	-1.8	-5.2
Result from housing, internal WW/BW premiums including cost of capital	4.6	5.6
Corporate tax	1.9	-3.9
Third-party share	0.1	0.2

Development of turnover and costs

The turnover of 2022 was €394.2 million, an increase of 5.9% compared to 2021. For 2021, the total turnover was €372.1 million.

An additional turnover of €22.1 million was achieved compared to 2021. Only the bilateral market remains below the 2021 realisation. The increase in ancillary activities is mainly due to higher wind farm revenues of €5.7 million. Furthermore, the Ministry of Agriculture, Nature and Food Quality (LNV) knowledge base includes the HCU operating contribution of €8.0 million.

The direct staff costs of temporary and permanent personnel increased by €17.0 million. This increase is caused by the following factors:

- increase of staffing levels by 129 FTE;
- increase in wages with 3.0% per FTE, mainly as a result of the continuation of the CAO 2021 (wage increase of 1.64% from 1 October 2021) and the new CAO over 2022 (wage increase of 4.0% from 1 July 2022);
- premiums for social security costs and pensions per employee are almost identical to 2021.

Balance developments

At the end of 2022, liquidity had increased by €1.5 million compared to 2021 (€135.8 million), reaching a level of €137.3 million.

Table 4.7 Wageningen University liquidity development (in € millions)

Net result	+3.9
Net decrease in fixed assets (investments minus depreciation and sales)	+5.6
Decrease in short-term debts and increase in short-term receivables/stock	-9.5
Decrease in provisions	-1.6
Increase in long-term debt and decrease in long-term receivables	3.2
Third-party share	-0.1
Total change in cash and cash equivalents	1.5

The change in fixed assets consists of €20.3 million in building and inventory depreciation; investment expenditures (including participating interests and members' capital) to the amount of -€15.1 million; and disinvestments in the amount of €0.4 million. The amount of the advances received, including funds to be passed on to partners, amounted to €90.1 million on the balance sheet date. Partially due to the positive result, solvency rose to 63.1%. At the end of 2021, solvency was 62.6%.

Changes in the legal structure and capital stake

There were changes in the legal structure and capital stake of the Wageningen Research Foundation in 2022.

Prospects for 2023

Wageningen Research (WR) budgets for a zero result. Rising costs in 2023 are expected to be offset by additional income and partly by passing cost increases on to clients.

The institutes are estimating a result of -€5.3 million for 2023. The losses are mainly caused by non-deductible (energy) price increases. Prices will rise by about 7% in 2023. The central divisions are estimating a result of €5.3 million. The positive result is mainly due to higher energy revenues from the wind farms.

The budgeted income amounts to €440 million. This is an increase of 12% when compared with 2022. The increase is mainly happening within the Ministry of Agriculture, Nature and Food Quality (LNV) funding partly due to a 7% increase in hourly rates and compensation for increased energy costs for the High Containment Unit. Contract research is also increasing. The co-funding and subsidy market is growing proportionately.

The budgeted costs amounts to €435 million. This is an increase of 12% when compared with 2022. Personnel costs increase mainly because the collective labour agreement expires at the end of March 2023 and a new collective labour agreement is expected to be concluded in 2023. The increase in general costs is mainly the result of higher energy costs. The fixed-price contracts expired and were extended again in 2022. Higher energy costs are partly offset by higher energy revenues from the wind farms.

The investment budget is €47.1 million. The budgeted investments at the corporate level amount to €36 million. They mainly concern investments in a business complex of ASG Research in Lelystad located at Runderweg (€7.9 million) and Edelhertweg (€1.7 million). Investments under the strategic housing plan (€4.7 million) and in thermal energy storage (€4.7 million). Other investments include Smart fabric (€3.2 million) for Food & Biobased Research, in Droevendaal experimental farm (€2.7 million), and Lumen building (€2.4 million). This includes planning costs for Born East (€2.2 million) as well.

Major maintenance investments amount to €9.9 million, mainly for buildings located on Runderweg and Edelhertweg and in the High Containment Unit (HCU) for ASG Research (€3 million).

The institutes are estimating an investment of €11.1 million. This mainly concerns investments in laboratory equipment by the institutes ASG Research (€2.9 million), Plant Research (€2.7 million), and Food & Biobased Research (€1.5 million).

Wageningen Research expects a cash position of €120 million by the end of 2023. This is €17 million lower than the expected final position for 2022. The decrease in cash in 2023 is mainly the result of higher investments than depreciation.

Solvency (equity/total assets) remains stable at 65% (rounded).

4.2.2 Abridged Wageningen Research Annual Financial Report

Consolidated balance sheet after the allocation of the net result

Balance sheet	31-12-2022	31-12-2021
ASSETS		
FIXED ASSETS		
(19) Intangible fixed assets	5,364	3,905
(20) Tangible fixed assets	294,955	301,966
(21) Financial fixed assets	33,900	36,806
Total fixed assets	334,219	342,677
CURRENT ASSETS		
(22) Stocks	5,762	4,293
(23) Receivables and prepayments	99,735	93,196
(24) Cash in bank and in hand	137,338	135,803
Total current assets	242,835	233,292
TOTAL ASSETS	577,054	575,969
LIABILITIES		
EQUITY CAPITAL		
Foundation capital	118,280	118,280
General reserve	8,001	0
Statutory reserve	5,338	3,866
General reserves	227,837	232,147
Appropriated reserve	4,813	6,030
(25) Total equity capital	364,269	360,323
THIRD-PARTY SHARE	0	0
GROUP CAPITAL	364,269	360,323
(26) PROVISIONS	11,979	13,580
(27) LONG-TERM DEBT	27,983	27,680
(28) SHORT-TERM DEBT	172,823	174,386
TOTAL LIABILITIES	577,054	575,969

Consolidated Profit and Loss Statement

	Result 2022	Result 2021
INCOME		
	41,705	34,851
	109,017	103,898
	29,021	26,989
	72,521	71,316
	93,298	96,511
	44,743	36,039
	3,863	2,545
(29) Total income	394,168	372,149
EXPENDITURES		
(30) Personnel costs	253,277	233,707
(31) General costs	84,157	72,641
(32) Specific costs	51,689	49,043
Total expenditure	389,123	355,391
Other income and expenditures	0	0
OPERATING RESULT	5,045	16,758
(33) Financial income and expenditure	-3,169	-3,606
RESULT FROM OPERATIONAL ACTIVITIES BEFORE TAX	1,876	13,152
(34) Taxation on operational activities	1,938	-3,965
(35) Result from participating interests	132	173
RESULT FROM OPERATIONAL ACTIVITIES AFTER TAX	3,946	9,360
Third-party share	0	0
Exceptional income and expenditures	0	0
NET RESULT	3,946	9,360

Consolidated Cash Flow Statement

	Result 2022	Result 2021
OPERATIONAL ACTIVITIES		
Operating result	5,045	16,758
Adjustment for sale of assets	-133	-494
Depreciation and impairments	20,323	20,303
Change in provisions	-1,601	-2,248
	23,634	34,319
Changes in inventory	-1,469	-942
Change in receivables	-6,539	-5,184
Change in short-term debt	6,936	-1,872
Cash flow from business operations	22,562	26,321
Interest received	451	136
Interest paid	-3,620	-3,742
Income tax paid	-6,777	-6,867
Cash flow from operational activities	12,616	15,848
INVESTMENT ACTIVITIES		
Investments in intangible assets	-2,209	-1,642
Investments in buildings, sites, and WIU	-9,483	-11,421
Investments in other tangible assets	-3,213	-7,023
Investments in participating interests and members' capital	104	-167
Disinvestments in fixed assets	483	3,145
Cash flow from investment activities	-14,318	-17,108
FINANCING ACTIVITIES		
Changes in long-term Ministry of Agriculture, Nature and Food Quality receivables	3,944	3,944
Changes in long-term Ministry of Agriculture, Nature and Food Quality debt	862	-6,409
Change in other long-term debt	-1,569	-4,212
Decrease in lease obligations	0	0
Change in equity capital	0	0
Change in third-party share	0	0
Cash flow from financing activities	3,237	-6,677
CASH FLOW	1,535	-7,937
CHANGE IN LIQUID ASSETS		
Balance of liquid assets on 1 January	135,803	143,740
Balance of liquid assets on 31 December	137,338	135,803
Change in liquid assets	1,535	-7,937

4.2.3 Accounting principles

General

The Wageningen Research Foundation has its registered office in Wageningen and is registered in the commercial register under number 09098104.

The annual financial report was prepared and validated by the Executive Board on 24 April 2023 and approved by the Supervisory Board on 24 May 2023. The annual financial report was prepared in accordance with the below accounting principles. Any departure from these principles is stated alongside the relevant financial information.

The settlements and debt ratios between the various members of the group (which are referred to as inter-group payments) have been eliminated. The figures for the previous financial year are in accordance with the figures in the annual financial report of the relevant year. Variations may arise as a result of corrections, shifts between items or changes in the rounding-off method. Variances of relevant significance are indicated in the annual accounts.

General accounting principles for the preparation of the annual financial report

Wageningen Research Foundation, Wageningen Research Holding B.V. and a number of subsidiaries are grouped together.

Receivables and payables are stated at fair value plus transaction costs on initial recognition after which they are stated at amortised cost minus any necessary provision for uncollectible debts. The amortised cost generally corresponds to the nominal value.

The amortised cost is the amount at which a financial asset or financial liability is stated in the balance sheet on initial recognition, minus principal repayments, increased or decreased by the cumulative amortisation calculated on the basis of the effective interest method of the difference between the initial amount and the instalment, and minus any write-offs (either direct or by making a provision) due to impairments or uncollectible debts.

Monetary assets and liabilities in foreign currencies are converted at the exchange rate on the balance sheet date.

Exchange rate differences are included in the profit and loss statement. Revenues and expenses in foreign currency are included in the profit and loss statement at the exchange rate on the date of receipt or payment.

The annual financial accounts are prepared pursuant to the Netherlands Civil Code, Book 2, Title 9, and the accounting standards issued by the Dutch Accounting Standards Board, in particular guideline 630.

Use of estimates

The preparation of the annual financial accounts demands that the board draw conclusions and makes estimates and motivations that affect the accounting principles and reported value of fixed assets and obligations, as well as of income and expenditures. The actual outcome will deviate from these estimates. The estimates and underlying motivations are continually evaluated. Adjustments to estimates are implemented in the period during which the adjustment is made as well as the following periods that are affected by this adjustment. The principal items subject to estimates are:

- Valuation and life span of fixed assets
- Provisions for receivables and projects
- Facilities
- Claims

Consolidation

The consolidated reports incorporate the annual financial accounts of Wageningen Research, its subsidiaries and other organisations over which the institution exercises control (pursuant to the actual situation) or central management. The subsidiaries are legal entities directly or indirectly controlled by Wageningen Research, given that the institution possesses the majority of the voting

rights or can control the financial and operational activities in some other manner. Also taken into account are potential voting rights that may be exercised directly on the balance sheet date. The annual financial accounts of Wageningen Research, its subsidiaries and other organisations over which the institution exercises control (pursuant to the actual situation) or central management are fully incorporated into the consolidated financial report. Third party shares with respect to internal capital and the group result are reported separately.

Table 4.8 Consolidated participating interests

	Shareholder	403	Registered office	% Ultimo 2021	% Ultimo 2022
Agri New ventures B.V.	WBG	N	Wageningen	100%	100%
Wageningen Research Holding B.V.	Wageningen Research	N	Wageningen	100%	100%
Exploitiemaatschappij Windmolenparken Lelystad B.V.	WBG	N	Wageningen	100%	100%
Wageningen Business Generator B.V.	Holding	N	Wageningen	100%	100%
Windmolenpark Neushoortocht B.V.	WBG	N	Wageningen	100%	100%
Windmolenpark Mammoethocht B.V.	WBG	N	Wageningen	100%	100%
Stichting Akkerweb	n/a	N	Wageningen	n/a	n/a

Table 4.9 Non-consolidated participating interests valued at acquisition cost

	Shareholder	Registered office	% Ultimo 2021	% Ultimo 2022
Isolife B.V.	WBG	Wageningen	5%	5%
Wageningen Science & Technology Consulting Services Ltd.*	Holding	Beijing	100%	100%

* in connection with small size, processed at acquisition price.

Table 4.10 Non-consolidated participating interests valued at net asset value

	Shareholder	Registered office	% Ultimo 2021	% Ultimo 2022
CoVaccine B.V.	WBG	Lelystad	25%	25%
Fresh Forward Holding B.V.	WBG	Wageningen	49%	49%
VOF Oostwaardhoeve	ANV	Slootdorp	50%	50%

ACCOUNTING PRINCIPLES FOR ASSET AND LIABILITY VALUATION

Intangible fixed assets

Intangible fixed assets are valued at acquisition price or production price less cumulative depreciation and, if applicable, cumulative impairments. Development costs, patents and licenses, software, goodwill, and production rights are capitalised if the conditions set for them are met. Intangible fixed assets are valued at acquisition or production cost. Depreciation is linear over five years except for the data warehouse Open Up which is depreciated over 10 years. Pursuant to statutory obligations, a statutory reserve is maintained for the capitalised amount of development costs. Write-offs as a result of impairment, sale, loss or discontinuation are listed separately.

Tangible fixed assets

Tangible fixed assets are valued at acquisition price or production cost minus accumulated depreciation. Depreciation is applied using the linear method on the basis of the estimated useful life and the residual value. Depreciation is proportionally applied in the purchase year. Tangible fixed assets under construction or in production are valued at the acquisition price or for the amount that has already been invoiced to the company by third parties.

Investments in equipment of less than €25,000 are charged directly to the profit and loss statement. The limit for equipment capitalisation was increased from €5,000 to €25,000 in 2022. Previously capitalised assets have not been removed from assets.

Table 4.11 Depreciation periods

Type of funding	Linear depreciation in years
Company property / Work in progress	Do not
Site layout and infrastructure	30 years, linear
Buildings:	
Shell	60 years, linear
Finishings (limited to company building end date)	30 years, linear
Greenhouses	20 years, linear
Fittings and furnishings/interior of company buildings (limited to company building end date)	15 years, linear
Sheds, miscellaneous buildings/structures	15 years, linear
Machinery and equipment	
Office furniture / machines and equipment / inventory of restaurant facilities / fibre-optic network / other inventory	10 years, linear
Laboratory equipment / audio-visual equipment / vehicles / PR and information material	5/8 years, linear
ICT equipment including software (network hardware)	5 years, linear
ICT equipment including software (other hardware)	3 years, linear
Personal Computers	4 years, linear

Acquired investment subsidies and amounts from externally-financed projects are deducted from the capitalised amount in the year of purchase. Subsidies received for the purchase of assets required for the primary operations are shown as liabilities and are released during the useful life of the asset.

Highly specialised equipment that can only be used for a specific project and has no value outside this project is capitalised but depreciated in its entirety over the possibly shorter duration of the project (in accordance with the accounting principles). After all, the useful life of this specialised equipment is equal to the duration of the project. Demo greenhouses are an example of this and are depreciated over a five-year period.

Expenses for major maintenance are included in the cost of assets as they arise and meet the capitalisation criteria. The book value of the replaced components is then considered disinvested and charged to the profit and loss statement in a lump sum. All other maintenance costs are recorded directly in the profit and loss statement.

The institution carries out an evaluation on each balance sheet date to determine whether there are indications that a fixed asset may be subject to a write-down. Should there be any such indications, then the realisable value of the asset is determined. If the realisable value of the individual asset cannot be determined, then the realisable value of the cash flow generating unit to which the asset belongs is determined. An impairment is applicable when the book value of an asset is higher than the realisable value, where the realisable value is higher than the market value and the business value.

When it is determined that a write-down that was included in the past no longer exists or has decreased, then the increased book value of the asset is set no higher than the original book value would have been without the application of the write-down of the asset.

Fixed assets that are no longer usable for the primary operations are not depreciated. Write-offs as a result of impairment, sale, loss or discontinuation are listed separately.

Financial fixed assets

Deferred tax assets

For the valuation and processing of deferred tax assets, reference is made to the separate section on taxation of the profit or loss.

Receivables

Receivables from and loans to participating interests, as well as the other receivables provided, are initially recognised at fair value plus the directly attributable transaction costs and subsequently valued at amortised cost using the effective interest method. Income and expenses are recognised in the profit and loss statement as soon as the receivables are transferred to a third party or are subject to an impairment (or a reversal thereof) as well as via the amortisation process.

Participating interests and capital of members over whose business and financial policy the institution exerts a significant influence are valued at net asset value. This value is determined on the basis of the group's accounting principles for the valuation and determination of the result.

Participating interests and capital of members over whose business and financial policy the institution does not exert a significant influence are valued at acquisition cost. The valuation of these assets takes into account any permanent decline in value, where relevant. Member certificates and member accounts at cooperatives are valued at the value determined by the cooperative on the balance sheet date.

Stocks

This item is comprised of the trading stock, finished product, livestock and stock of harvested agricultural produce. The trading stock and finished product are valued in accordance with the FIFO method at the acquisition cost or production cost increased by a margin for indirect costs.

The valuation of livestock and stock of harvested agricultural produce is based on market prices.

The value of unmarketable stock or stock with a lower market value is decreased accordingly. On the basis of the average annual use in the last 10 years, antisera that, according to this calculation, have been in stock longer than 3 years, are provided.

The stock of finished product is valued in accordance with the FIFO method at the acquisition cost or production cost increased by a margin for the indirect costs.

Receivables and prepayments

Receivables and accrued assets are stated at fair value plus transaction costs on initial recognition after which they are stated at amortised cost minus any necessary provision for uncollectible debts.

Project costs yet to be invoiced

The balance of projects arising from work commissioned by third parties results in a receivable or payable on the balance sheet. The third-party contract research is valued at the actual costs incurred, consisting of costs that are directly related to the project (such as direct personnel costs and the costs of the acquired equipment and inventory), costs that are attributable to the project activities in general and that are allocatable to the project (including the cost of technical assistance and the overhead costs of the project activities), and other costs insofar as they are contractually reimbursed by the client, minus the provision for expected losses and invoiced instalments or received advances relating to the third-party contract research. Other receivables include projects where prepaid costs exceed invoiced instalments/received advances. Projects where the invoiced instalments/received advances exceed the prepaid costs are included in current liabilities.

Cash in bank and in hand

Liquid assets are understood to mean cash and cash equivalents, the balances on bank accounts, bills of exchange and checks that are recognised at nominal value. Deposits are included under liquid assets if they are in fact immediately available — although this may be accompanied by loss of interest income. Liquid assets that are unavailable or are expected to be unavailable for more than twelve months are classified as financial fixed assets.

Equity capital

- Appropriated fund
An HCU designated fund was created in 2022 from the remaining reserve. This appropriated fund will be released to the other reserve once the purpose of the fund (new HCU construction) is met.
- Statutory reserve
The mandatory maintenance of a statutory reserve for research and development costs capitalised in the balance sheet.
- Appropriated reserve
Concerns a future use established by means of a decision of the Executive Board, without establishing any obligation to a third party in this context, be it legal or factual.
- Other reserve
This reserve is credited with the operating result in any year in which the result is not allocated to a specific use

Third-party share

The share of third parties in a participating interest consolidated in full by the group is included in the "Third-party share" item in the annual financial report.

Facilities

The provisions are valued at nominal value, with the exception of the personnel provisions formed on the basis of RJ 271. The determination of the amount of the obligations accounts for future indexation and price increases. The amount of the provision included in the annual accounts is the best estimate of the amount that will be required to settle the relevant obligations and losses on the balance sheet date. If the effect of the time value is material, the provisions are stated at cash value.

Provisions are created for:

- legally enforceable or actual obligations that exist on the balance sheet date;
- the settlement of obligations that will probably require an outflow of funds;
- obligations when a reliable estimate can be made of those obligations.

Provision for unemployment insurance obligations

The provision for unemployment insurance and civil obligations covers existing unemployment insurance and civil obligations on the balance sheet date and expected future obligations in relation to personnel that have already left and personnel with a temporary employment contract.

Provision for WGA/ZW-flex

The provision for the Resumption of Work for Partially Disabled Persons Act (WGA) and Sickness Benefits Act (ZW-flex) covers the WGA and ZW-flex obligations for which the organisation bears the risk as of 1 January 2017, as anticipated on the balance sheet date.

Service bonus provisions

The anticipated obligation arising from future service (anniversary) bonuses is determined on the basis of historical information and withdrawals are made on a realisation basis. The present value is determined on the basis of the prevailing market rate of interest for WR.

Provisions for reorganisation expenses

This provision was formed to cover anticipated costs incurred as a result of decisions regarding current or intended reorganisations that have been made and announced within the organisation.

Provision for product and contract risks -

This provision covers the expected cost of loss-making contracts, guarantees and claims arising from services and products delivered to third parties.

Long-term Debt

Long-term debt concerns liabilities that are due in more than one year from the end of the relevant financial year.

On initial recognition of long-term debt, this is stated at fair value, less the directly attributable transaction costs.

The long-term debt is valued after the first valuation at the amortised cost price according to the effective interest method. Profit or loss is recognised in the income statement as soon as the payables are no longer recognised in the balance sheet, as well as through the amortisation process.

Short-term debt

Short-term debt concerns liabilities that are due within one year from the end of the relevant financial year.

On initial recognition of short-term debt, this is stated at fair value, less the directly attributable transaction costs.

The short-term liabilities are valued after the first valuation at the amortised cost price according to the effective interest method. Profit or loss is recognised in the income statement as soon as the payables are no longer recognised in the balance sheet, as well as through the amortisation process.

ACCOUNTING PRINCIPLES TO DETERMINE INCOME AND EXPENDITURE

General

Income and expenditures are the proceeds and costs which can be allocated to the relevant financial year or activity, regardless of whether they have resulted in receipts and payments during the annual reporting period.

Income is recognised in the year in which the products were delivered or the services were provided to clients. Losses and risks arising before the end of the financial year are taken into account if they are known before the preparation of the annual financial report.

The income from contract research is determined on the basis of the direct costs, including a supplement for indirect costs to a maximum of the rate to be paid by the finance provider. Results are calculated in proportion to the progress of the project.

Income from the Ministry of Agriculture, Nature and Food Quality (LNV) falling under the ministry's funding scheme for institutes for applied research is determined on the basis of the direct costs, including a supplement for indirect costs. The margin for indirect costs is determined once a year in accordance with the prevailing system for calculating the margin. Results are calculated in proportion to the progress of the project.

Income from work for third parties

Proceeds in respect of third-party contract research are recorded as income in the statement of income and expenses for an equal amount of incurred costs, insofar as these are contractually reimbursed by the client. If the contractually agreed service consists of several distinguishable performance obligations, the agreed fee is divided on the basis of the cost of the performance obligations and the extent to which each performance obligation has been realised is determined.

Taxation on the profits includes the corporate tax (payable and deductible) for the entire financial year. The payable and deductible corporate income tax for the financial year is the corporate income tax expected to be payable for the taxable profit in the financial year, taking into account the fiscal legislation and facilities, calculated on the basis of tax rates set on the reporting date, and any corrections to the taxes owed for prior years, such as fiscally compensable losses from prior financial years.

Furthermore, Wageningen Research has made a number of deferred tax assets. Firstly, it concerns a deferral based on the difference between the valuations for tax and commercial purposes of tangible fixed assets (company buildings in particular) at the time of the introduction of the liability to pay tax and the limitation of fiscal depreciation to the value of buildings to the value for the purposes of the Valuation of Immovable Property Act (WOZ). The deferral relates to receivables and liabilities. The term of the tax liability has been used as the calculation period for both the tax asset and tax liability. This calculation period is 13 years.

Secondly, it relates to a deferral based on the difference in settlement of equipment with an acquisition value up to and including €25,000 (for 2022 this was €5,000). These assets are expensed

directly to the commercial annual accounts; for tax purposes, a depreciation period of 5 years is taken into account. This results in a tax asset.

The costs are determined with due observance of the aforementioned accounting policies and allocated to the relevant reporting year. Foreseeable payables and possible losses that originate before the end of the financial year are taken into account if they became known before drawing up the annual financial report and the conditions for recognising provisions have been met.

Wages, salaries, and social security contributions are recognised in the profit and loss account on the basis of the terms of employment, insofar as they are owed to employees or the tax authority respectively.

Interest is allocated to successive reporting periods in proportion to the remaining principal. Premiums/discounts and repayment premiums are attributed to the successive reporting periods as interest charges so that, together with the interest payable on the loan, the effective interest is recognised in the profit and loss account and so that the balance sheet shows the amortised cost of the debt on balance. Periodic interest expenses and similar charges are charged to the year in which they become due.

Accounting principles for the cash flow statement preparation

The cash flow statement was prepared using the indirect method.

SYSTEM CHANGES

Not applicable.

CHANGES IN ACCOUNTING ESTIMATES

Not applicable.

4.2.4 Auditor's report by the independent auditor

The auditor's report on the 2022 financial statements is included in the Dutch version of the Annual Report.

Appendix 1

Education at Wageningen University

Table B1.1 List of Bachelor's and Master's programmes 2022-2023

Bachelor's programme	Master's
WO Development Studies	
<i>Internationale Ontwikkelingsstudies</i> (International Development Studies)	International Development Studies
WO Health Sciences	
<i>Gezondheid en Maatschappij</i> (Health and Society)	
WO Leisure and Tourism	
<i>Tourism (joint degree)</i>	Tourism, Society and Environment
WO Environmental Sciences	
Environmental Sciences	Environmental Sciences Urban Environmental Management <i>Metropolitan Analysis, Design and Engineering (joint degree)</i>
WO Earth Sciences	
Soil, Water, Atmosphere	Earth and Environment
WO Management Studies Group	
<i>Bedrijfs- en Consumentenwetenschappen</i> (Business and Consumer Studies)	Management, Economics and Consumer Studies
WO Communication Science	
<i>Communicatie en Life Sciences</i> (Communication and Life Sciences)	Communication, Health and Life Sciences
WO Chemistry	
<i>Moleculaire levenswetenschappen</i> (Molecular Life Sciences)	Molecular Life Sciences
WO Life Sciences and Natural Resources	
<i>Agrotechnologie</i> (Biosystems Engineering)	Animal Sciences
<i>Biotechnologie</i> (Biotechnology)	Aquaculture and Marine Resource Management
<i>Bos- en Natuurbeheer</i> (Forest and Nature Conservation)	Bioinformatics
Animal Sciences	Biosystems Engineering
International Land and Water Management	Biotechnology
<i>Landschapsarchitectuur en Ruimtelijke Planning</i> (Landscape Architecture and Planning)	Climate Studies
Food Technology	Development and Rural Innovation
<i>Plantenwetenschappen</i> (Plant Sciences)	Food Quality Management
	Food Safety
	Food Technology
	Forest and Nature Conservation
	Geo-information Science
	International Land- and Water Management
	Landscape Architecture and Planning
	Organic Agriculture
	Plant Biotechnology
	Plant Sciences
	Water Technology (joint degree)
	Biobased Sciences
WO Biology	
<i>Biologie</i> (Biology)	Biology
WED Economics Group 1	
<i>Economie en Beleid</i> (Economics and Governance)	
WED Biomedical Sciences	
<i>Voeding en Gezondheid</i> (Nutrition and Health)	Nutrition and Health
Yet to be assigned to a visitation group	Data Science for Food and Health

Table B1.2 Number (first-year at WU) enrolled students at Wageningen University by type of enrolment and gender on 1 October 2022 (source: Osiris)

Type of Enrolment	First-year			All enrolments		
	Male	Female	Total	Male	Female	Total
Students	1,161	1,653	2,814	5,733	7,375	13,108
Other enrolments:						
Contract Students	30	10	40	35	10	45
Second Enrolment Students	80	126	206	96	152	248
Exchange student / Erasmus student	78	184	262	85	192	277
Total	1,349	1,973	3,322	5,949	7,729	13,678

Table B1.3 Number of students, first-year at WU and total, at Wageningen University by study phase and gender on 1 October 2022 (source: Osiris)

Types of Enrolment	First-year			All students		
	Male	Female	Total	Male	Female	Total
BSc	594	794	1,388	2,643	3,097	5,740
Pre-MSc	30	57	87	37	65	102
MSc	537	802	1,339	3,053	4,213	7,266
Total	1,161	1,653	2,814	5,733	7,375	13,108

Table B1.4 Number (first-year at WU) of Bachelor's students at Wageningen University by programme and gender on 1 October 2022 (source: Osiris)

Study programme	First-year			All students		
	Male	Female	Total	Male	Female	Total
Animal Sciences (BAS)	35	108	143	122	352	474
Agrotechnologie (BAT)	25	7	32	118	30	148
Bedrijfs- en Consumentenwetenschappen (BBC)	32	40	72	221	187	408
Biologie (BBI)	78	67	145	336	260	596
Bos- en Natuurbeheer (BBN)	59	39	98	197	148	345
Biotechnologie (BBT)	31	24	55	187	88	275
Communicatie en Life Sciences (BCL)	4	13	17	27	71	98
Economics and Policy (BEB)	26	11	37	106	47	153
Environmental Sciences (BES)	31	50	81	145	230	375
Food Technology (BFT)	45	77	122	180	266	446
Gezondheid en maatschappij (BGM)	8	29	37	31	124	155
International Land and Water Management (BIL)	34	24	58	167	111	278
Internationale Ontwikkelingsstudies (BIN)	18	35	53	58	189	247
Landschapsarchitectuur en Ruimtelijke Planning (BLP)	36	56	92	179	185	364
Molecular Life Sciences (BML)	33	35	68	144	108	252
Plantenwetenschappen (BPW)	38	34	72	168	142	310
Soil, Water, Atmosphere (BSW)	28	24	52	132	99	231
Tourism (joint degree) (BTO)	6	20	26	34	62	96
Voeding en gezondheid (BVG)	27	101	128	91	398	489
Total number of enrolled students	594	794	1,388	2,643	3,097	5,740

Table B1.5 Number of Master's students, first-year at WU and total, at Wageningen University by programme and gender on 1 October 2022 (source: Osiris)

Study programme	First-year			All students		
	Male	Female	Total	Male	Female	Total
Aquaculture and Marine Resource Management (MAM)	6	8	14	78	83	161
Animal Sciences (MAS)	33	45	78	101	259	360
Biosystems Engineering (MBE)	12	5	17	125	34	159
Bioinformatics (MBF)	8	10	18	59	42	101
Biology (MBI)	23	19	42	198	183	381
Biobased Sciences (MBS)	16	7	23	66	32	98
Biotechnology (BBT)	37	46	83	243	196	439
Communication, Health and Life Sciences (MCH)	0	8	8	14	120	134
Climate Studies (MCL)	9	19	28	78	114	192
Development and Rural Innovation (MDR)	7	10	17	26	52	78
Data Science for Food and Health (MDS)	5	12	17	8	20	28
Earth and Environment (MEE)	6	9	15	102	90	192
Environmental Sciences (MES)	31	53	84	168	242	410
Forest and Nature Conservation (MFN)	37	39	76	199	218	417
Food Quality Management (MFQ)	7	22	29	37	74	111
Food Safety (MFS)	9	40	49	34	102	136
Food Technology (MFT)	58	116	174	225	465	690
Geo-information Science (MGI)	27	13	40	101	52	153
International Development Studies (MID)	15	29	44	60	193	253
International Land and Water Management (MIL)	6	9	15	85	89	174
Landscape Architecture and Planning (MLP)	3	4	7	51	64	115
Metropolitan Analysis, Design and Engineering (joint degree) (MMD)	16	24	40	67	77	144
Management, Economics and Consumer Studies (MME)	47	45	92	215	201	416
Molecular Life Sciences (MML)	3	10	13	82	60	142
Nutrition and Health (MNH)	13	70	83	58	470	528
Organic Agriculture (MOA)	11	30	41	97	160	257
Plant Biotechnology (MPB)	14	16	30	70	78	148
Plant Sciences (MPS)	56	49	105	298	264	562
Tourism, Society and Environment (MTO)	2	9	11	11	62	73
Urban Environmental Management (MUE)	14	23	37	80	108	188
Water Technology (joint degree) (MWT)	6	3	9	17	9	26
Total number of enrolled students	537	802	1,339	3,053	4,213	7,266

Table B1.6 Success rate of the MSc programmes in percentages for the starting class of 2018-2019 to 2020-2021 (source: Osiris)

Study programme	Class of 2018			Class of 2019			Class of 2020		
	N	%			N	%		N	%
		After 2 yrs	After 3 yrs	After 4 yrs		After 2 yrs	After 3 yrs		
MAM	38	18%	66%	87%	65	15%	65%	85	16%
MAS	147	23%	71%	82%	138	30%	75%	138	31%
MBE	53	11%	66%	74%	50	12%	66%	63	17%
MBF	47	17%	66%	81%	45	11%	51%	50	18%
MBI	88	8%	50%	70%	116	9%	47%	120	8%
MBS	20	20%	55%	70%	58	28%	69%	35	11%
MBT	135	11%	65%	86%	163	14%	64%	147	10%
MCH	63	17%	65%	79%	61	23%	61%	66	18%
MCL	36	3%	58%	78%	62	21%	65%	73	19%
MDR	33	21%	55%	64%	28	18%	71%	20	20%
MEE	76	9%	62%	78%	87	17%	63%	75	16%
MES	173	23%	71%	82%	206	20%	65%	152	19%
MFN	108	14%	56%	81%	134	16%	60%	175	13%
MFQ	49	35%	76%	80%	48	40%	79%	43	33%
MFS	69	38%	77%	87%	55	31%	71%	52	23%
MFT	266	42%	85%	93%	240	42%	82%	264	38%
MGI	56	18%	80%	89%	54	30%	70%	51	12%
MID	113	8%	50%	65%	95	16%	61%	113	18%
MIL	56	13%	71%	88%	75	20%	56%	66	6%
MLP	29	10%	55%	79%	38	11%	53%	43	14%
MMD	40	18%	70%	83%	36	31%	72%	62	35%
MME	133	14%	72%	83%	152	24%	68%	148	18%
MML	43	9%	58%	81%	52	19%	71%	60	10%
MNH	152	18%	72%	82%	205	20%	73%	210	20%
MOA	89	27%	75%	80%	101	26%	66%	96	22%
MPB	60	18%	70%	85%	67	21%	64%	56	14%
MPS	131	19%	67%	76%	199	25%	67%	193	18%
MTO	27	37%	70%	74%	30	23%	73%	40	28%
MUE	49	29%	67%	73%	63	29%	71%	74	23%
MWT	19	79%	89%	89%	15	53%	73%	12	58%
Total MSc	2,239	21%	71%	84%	2,568	24%	70%	2,613	21%

- *Generation 2018: students who commenced the study programme in academic year 2018-2019 etc.*
- *N: number of enrolments in the relevant academic year.*
- *% after 2/3/4 years: percentage of students (based on N) graduating within 2/3/4 years.*
- *At the education level, switchers (students who switch MSc programmes within WU) count as dropouts for the programme they started in, but are then included again as first-year students for the programme they switched to. For the total MSc, the switchers within WU are not counted as dropouts and if these switchers obtain a degree then that counts towards the success rate for the total MSc.*

Table B1.7 Success rate of the BSc programmes on the basis of re-enrolments in the second year for the intake of 2017-2018 to 2019-2020 (N in absolute numbers, dropouts first-year and graduation after x years in %) (source: Osiris)

Study programme	Class of 2017					Class of 2018				Class of 2019		
	N	%				N	%			N	%	
		Drop-out year 1	After 3 yrs	After 4 yrs	5 yr		Drop-out year 1	After 3 yrs	After 4 yrs		Drop-out year 1	After 3 yrs
BAS	109	20%	33%	70%	79%	134	25%	34%	64%	145	17%	22%
BAT	47	13%	29%	61%	83%	52	13%	42%	67%	50	10%	18%
BBC	145	12%	37%	77%	86%	125	10%	23%	69%	141	6%	23%
BBI	172	19%	19%	64%	73%	185	16%	28%	66%	159	25%	22%
BBN	99	22%	18%	61%	77%	86	16%	38%	69%	91	27%	29%
BBT	90	13%	32%	62%	74%	98	19%	38%	59%	81	25%	21%
BCL	29	7%	48%	81%	89%	29	17%	42%	67%	26	15%	23%
BEB	65	20%	19%	62%	83%	54	17%	18%	49%	47	11%	14%
BES	61	20%	51%	80%	86%	87	20%	37%	76%	130	17%	29%
BFT	193	18%	48%	76%	88%	187	17%	43%	75%	158	14%	42%
BGM	62	16%	65%	94%	96%	67	24%	61%	90%	53	19%	44%
BIL	80	20%	33%	77%	84%	100	21%	38%	63%	79	13%	13%
BIN	91	18%	36%	73%	83%	63	14%	35%	76%	70	14%	28%
BLP	79	19%	30%	63%	88%	86	14%	26%	70%	111	15%	22%
BML	77	9%	31%	69%	81%	57	12%	46%	72%	82	13%	38%
BPW	100	17%	40%	78%	86%	109	16%	43%	74%	86	16%	18%
BSW	72	18%	36%	81%	88%	88	25%	24%	73%	85	12%	23%
BTO	39	18%	69%	84%	84%	39	18%	53%	72%	48	27%	71%
BVG	157	8%	50%	90%	92%	150	13%	42%	81%	117	15%	35%
Total BSc	1,657	10%	36%	72%	83%	1,683	11%	35%	69%	1,597	11%	27%

- *Generation 2017: students who commenced the study programme in academic year 2017-2018 etc.*
- *N: number of enrolments in the relevant academic year.*
- *% dropout year 1: percentage of students who dropped out in the first year in the relevant study programme.*
- *% after 3/4/5 years: percentage of students (based on second-year re-enrolment) graduating within 3/4/5 years.*
- *At the education level, switchers (students who switch BSc programmes within WU) count as dropouts for the programme they started in, but are then included again as first-year students for the programme they switched to. For the total BSc, the switchers within WU are not counted as dropouts and if these switchers obtain a degree then that counts towards the success rate for the total BSc.*

Explanation of the tables:

WU migrated to a new student information system in December 2020. As of the 2021 annual report, this has meant some definitions are different from before.

- Definition of first-year students: all students who commenced their first year of study at WU between 1 September 2022 and 1 October 2022 (tables B 1.2, 1.3, 1.4 and 1.5).
- The yield data in tables B1.6 and B1.7 of all cohorts are derived from Osiris, so the data are comparable between cohorts.

Appendix 2: Knowledge valorisation indicators

1 Indicators for the UNL domain “People”

1.1 Research into entrepreneurship

Table B2.1 Percentage of MSc graduates who find employment per sector

	2019	2020	2021	2022
Business community ¹⁾	23%	21%	33%	33%
Business services ²⁾	12%	14%	6%	6%
Government ³⁾	8%	8%	12%	12%
Other non-academic sectors ⁴⁾	40%	41%	39%	39%
Universities ⁵⁾	17%	16%	10%	10%

Source: National Alumni Survey.

1) Industry, trade, transport.

2) Information and communication, financial services, legal services, human resources, press and information, other business services.

3) Relevance to government.

4) Research institutes, schools of higher professional education, other education sectors, hospitals (including academic medical centres), health and well-being institutions, other healthcare, other sectors.

5) Academic universities (not including academic medical centres).

1.2 Entrepreneurship

Table B2.2

Course code	Course name	#Students 2021-2022
BSc. skills – Entrepreneurial skills		
FQD-24306	Case studies product quality	122
FHM-31806	Biotechnology 2	66
BSc. Minor - Innovation and Entrepreneurship		
BMO-22706*	Principles of Entrepreneurship	93
BMO-51306*	Management of Science and Technology	30
BMO-57306*	Entrepreneurship-Innovation in Practice	10
BEC-52306	Financial and Business management	49
BMO-24306	Management and Marketing	149
CPT-22806	Innovation and Transformation	44
MSc. – Entrepreneurship track**		
BEC-52306	Financial and Business Management	49
BMO-55806	Entrepreneurship and Innovation in Emerging Economies	19
BMO-33806	Entrepreneurship in the circular economy	45
ELS-51306	Intrapreneurship: Impacting existing organizations	14
BMO-23406	New Venture Creation: from idea to reality	31
BMO-56806	Business Cases Agri-Food Entrepreneurship	33
ELS-59206	Responsible Learning Organization for Sustainability	9
MSc. – other courses		
ELS-66100	Developing Entrepreneurial Agency: from ideas to impact	32
ELS-66700	Pursuing and Realising Entrepreneurial projects	89
BPE-37306	Economy and Management in Biotechnology	20
YMS-31803	Entrepreneurial Thinking	60
YMS-31903	Entrepreneurial Skills	60
PhD – courses⁶		
	Entrepreneurship in and outside science	12
	4TU Entrepreneurship training	24

* mandatory courses.

** Track consisting of choice of 2 courses, an entrepreneurial Academic Consultancy Training course, and an internship.

1.3 Lifelong Learning

Table B2.3 Courses for professionals

Wageningen Academy (WU)	2019	2020	2021	2022
Number of open registrations	1,047	566	2,374	1,649
Number of open registrations for courses	43	27	38	55
Number of course participants in in-company courses	805	76	175	427
Number of in-company courses	21	4	5	10

WCDI (WR)	2019	2020	2021	2022
Course participants open registrations	968	784	749	584
Number of courses given	35	34	32	27
Number of completed course days*	12,225	5,465	12,460	9,450

*Number of course days x number of students.

2 Indicators for the UNL domain "Results"

2.1 Patents

Table B2.4 Number of new patent applications from Wageningen University & Research and total active patent families in portfolio

	2019	2020	2021	2022	Total number of active patent families in Wageningen University & Research's portfolio
WU	8	16	5	11	67
WR	5	4	8	2	61
Wageningen University & Research new applications	13	19*	13	13	128

* Due to joint WU/WR applications.

2.2 Licences

Table B2.5 Number of licenses for patents, breeds, models and materials in 2022

	Number of licenses
WU	10
WR	61
Total for Wageningen University & Research	71

2.3 Entrepreneurship

Table B2.6 Number of new spin-offs and student or staff start-ups

	2019	2020	2021	2022
Number of spin-offs	4	3	0	1*
Number of start-ups	3	7	1	11

* Vivotro: founded as a joint venture between WUR and JBI Innovations.

2.4 Client satisfaction and knowledge utilisation Wageningen Research

Table B2.7 Customer satisfaction in 2022

Customer satisfaction	Number	Score	Total	Final score
Very satisfied	133	10	1,330	
Satisfied	119	8	952	
Neutral	24	6	144	
Dissatisfied	2	4	8	
Very dissatisfied	2	2	4	
Total number of respondents	280		2,438	8.7

Table B2.8 Knowledge utilisation in 2022

Assessment of project results	Percentage
Useful	92.8%
Not useful	2.0%
No comment	5.2%

Of these, the project results were used for:

Knowledge utilisation	Percentage
New/renewed product	18.0%
New/renewed process	13.8%
Policy formation	21.6%
Strategic decision-making	9.6%
Legal obligation	3.9%
Basic knowledge	10.5%
Follow-up research	8.1%
Not yet known	14.4%

3 Indicators for the UNL domain "Collaboration"

3.1 Collaboration

Table B2.9 Number of completed research projects for the benefit of societal, non-affluent organisations

Initiative	Target group	Number of completed research projects in 2021	Number of students involved (Bachelor's and Master's)	Number of WU/WR employees involved (including project leaders)	Number of external stakeholders involved in projects
Science Shop	Social organisations	18	207	48	76

Table B2.10 Number of student projects carried out in response to requests from various societal stakeholders

Initiative	Target group	Number of student projects conducted in 2022	Number of students involved (Bachelor's and Master's)	Number of WU/WR employees involved in supervision
Society Based	SME & start-ups	94		
Education	Multinationals	22		
	PPS consortia	1		
	Relevance to government	10	1,797	402
	Social organisations	65		
	Knowledge institutes	31		
	Other	7		

Table B2.11 Contribution to other education: number of pupils and teachers reached, number of Wageningen University employees involved and teaching product selection

Initiative	Target group	Number of pupils in activities	Number of lecturers in activities	Number of WU employees involved	Total selection of teaching materials	Online Websites
Smaaklessen support point & EU Schoolfruit - Curriculum - Smaaklessen	Primary education	212,681	17,432	8	7	119,021
EU school fruit and vegetables programme	Primary education	416,337	19,328	8	4	306,762
Wetenschapsknooppunt	Primary education	27,431	2,220	37	18	23,682
Wageningen Pre-University	Secondary education (senior)	19,185	1,591	152	41	103,220
Wageningen Youth Institute	secondary education	300	85	8	6	6,721

Table B2.12 Capacity utilisation of the Shared Research Facilities equipment portfolio as well as the share of external companies and institutions

Shared Research Facilities equipment portfolio	2021	2022
Average utilisation (%)	62.5%	-
Of which from external users (%)	13%	-
Number of external users	57	63

Table B2.13 Number of temporary exchanges/secondments with the business community

	2019	2020	2021	2022
Number of WUR employee secondments with the business community	9	8	5	12

3.2 Funds

Table B2.14 Wageningen University & Research turnover from the business community (in € millions)

	2019	2020	2021	2022
WU				
Business community contribution to research in top sectors	0.0	0.0	0.0	0.0
Contract Research for Business Community	17.0	14.2	18.3	17.4
Total business community contribution to WU research	17.0	14.2	18.3	17.4
WR				
Business community contribution to research in top sectors	14.1	17.1	18.6	18.7
Contract Research for Business Community	47.6	42.7	46.3	42.8
Total business community contribution to WR research	61.6	59.8	64.9	61.4
TOTAL BUSINESS COMMUNITY CONTRIBUTION TO RESEARCH at Wageningen University & Research	79.0	74.0	83.0	79.0

Table B2.15 Wageningen University & Research turnover from EU grant programmes (in € millions)

	2019	2020	2021	2022
WU	16.6	17.0	18.0	20.5
WR	20.5	19.0	21.3	22.5
Total EU Turnover Wageningen University & Research	37.1	36.0	39.3	43.0

3.3 Publications

Table B2.16 Number of public-private Wageningen University & Research co-publications

	2019	2020	2021	2022	2022	2022
		WUR	WUR	WU	WR	WUR**)
Total publications including:	3,043	3,363	3,779	3,018	800	3,573
Corporate (business community)	279	273	357	247	108	309
Academic	2,805	3,110	3,468	2,797	706	3,308
Government	1,159	1,289	1,488	1,104	393	1,368
Medical	68	96	145	155	26	177
Other	100	169	238	176	58	211

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**) WUR total is lower than separate data from WU and WR due to joint publications and use of multiple sources.

Table B2.17 Number of professional publications, publications for the general public, other publications

Type of publication	WU				WR			
	2019	2020	2021	2022	2019	2020	2021	2022
PROFESSIONAL PUBLICATIONS								
a. Journal articles	99	103	102	129	206	242	244	235
b. Books	7	2	6	3	19	6	11	5
c. Book chapters	10	49	36	39	8	28	20	25
d. Annotations	0	0	0	0	0	0	0	0
e. Conference papers	5	4	0	5	2	6	1	5
f. Protocols	0	0	0	0	0	0	0	0
g. Reports	151	184	201	165	676	745	799	810
PUBLICATIONS FOR THE GENERAL PUBLIC								
a. Books	0	0	0	2	0	0	0	0
b. Book chapters	0	4	0	4	1	0	0	0
c. Article in newspapers/magazines/journals	30	9	8	22	9	6	3	8
OTHER PUBLICATIONS								
a. Book reviews	10	13	23	13	1	1	2	2
b. Book editorships	17	21	20	25	5	8	7	6
c. Journal editorships	29	55	38	32	3	2	5	4
d. Inaugural speeches	2	1	2	2	1	0	1	1
e. Abstracts	336	160	232	361	137	55	84	188
f. Designs	0	1	0	1	0	1	0	1
g. TV or radio appearances	57	51	49	46	50	25	54	49

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Appendix 3

Corporate Social Responsibility Report

The Wageningen University & Research (WUR) Corporate Social Responsibility Report contains information about the total staff at Wageningen University and Wageningen Research Foundation, such as the total number of employees, the relationship between permanent and temporary staff, the number of full-time and part-time workers, data on target groups, and information on sick leave.

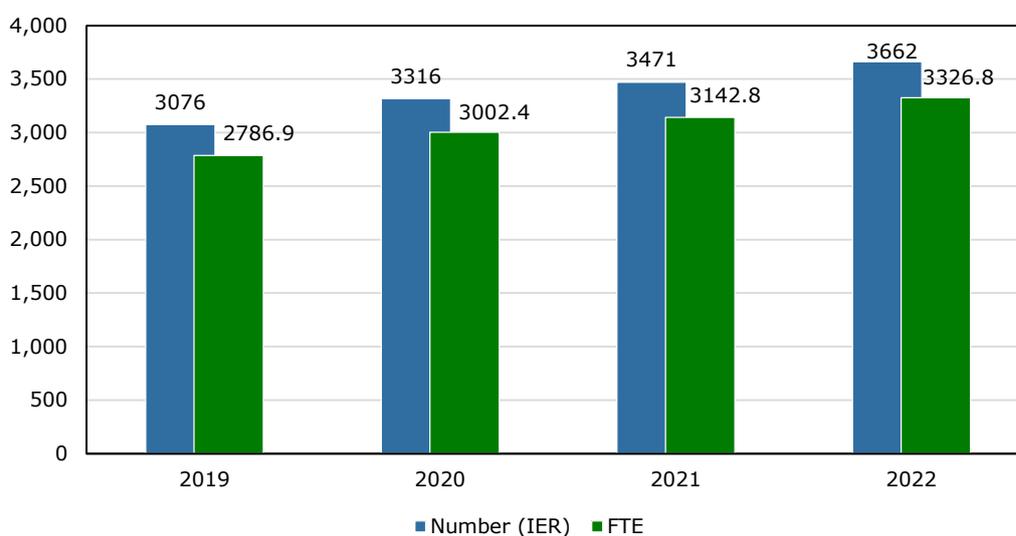


Figure B3.1 WR staff on 31-12-2022 in IER and FTE

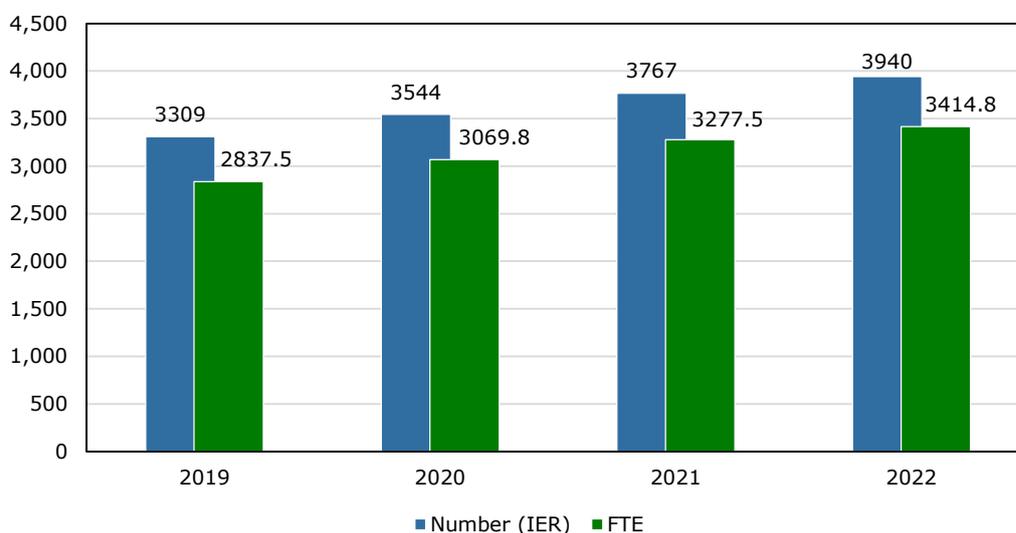


Figure B3.2 WU staff as on 31-12-2022 in IAR and FTE

There was again a strong increase in the number of FTE and IER (individual employment relations) which also influenced the ratio of temporary/permanent employees at Wageningen University and their years of employment at Wageningen University and Wageningen Research Foundation.

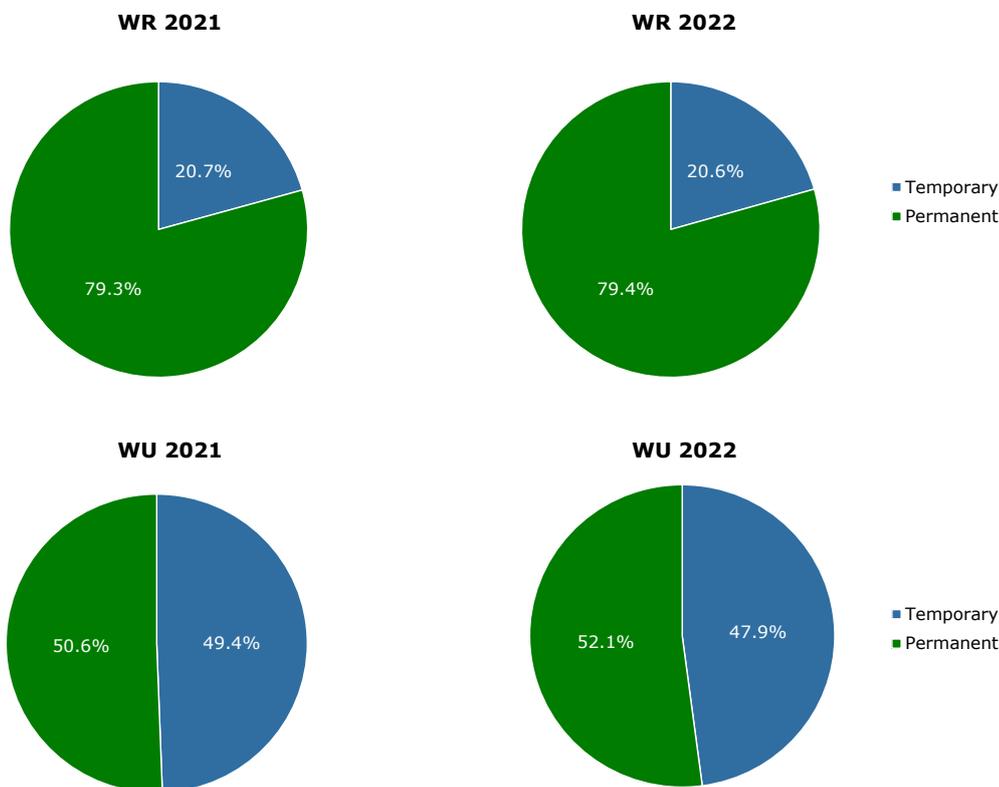


Figure B3.3 Proportion of temporary and permanent employees

The ratio of permanent and temporary employment contracts at Wageningen Research Foundation remained virtually unchanged (79.4% and 20.6% respectively). At Wageningen University, the percentage of temporary employment contracts decreased by 1.5 percentage points.

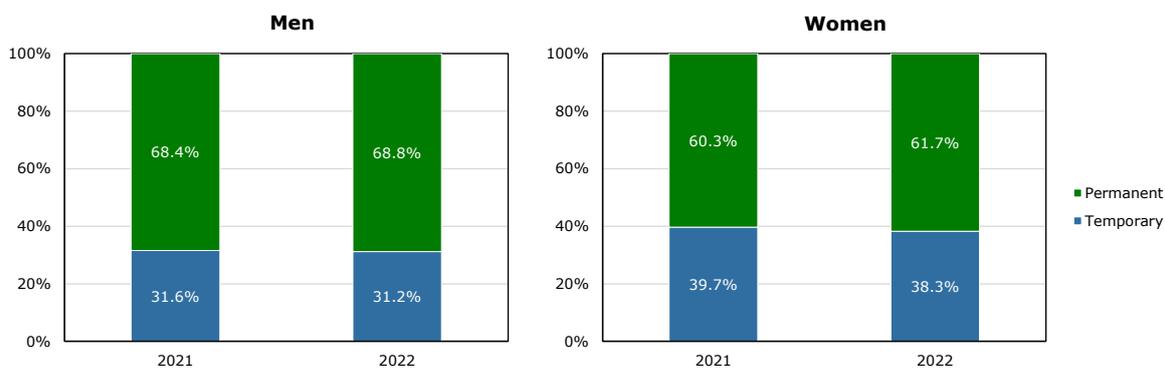


Figure B3.4 Permanent/temporary WUR men/women ratio

Overall, it shows that the number of women with temporary employment contracts is higher than that of men (38.3% versus 31.2%). However, it does show a 1.4 percentage point decrease in the percentage of women with temporary employment contracts.

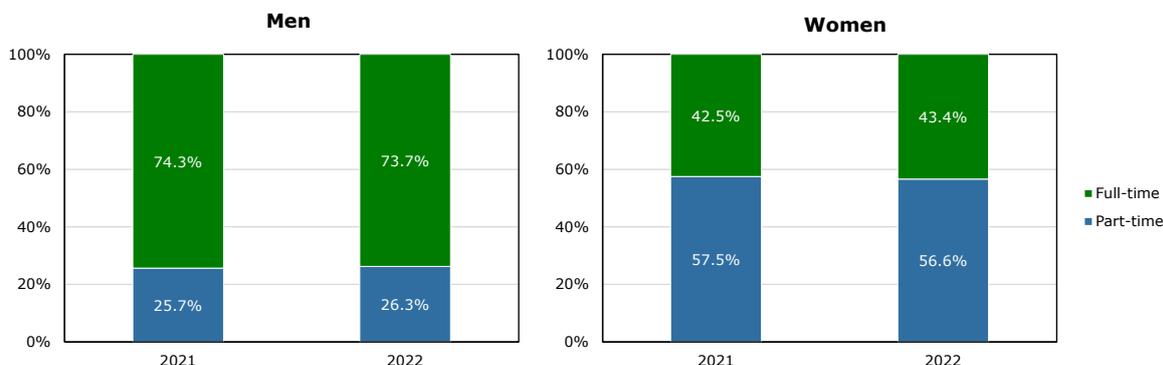


Figure B3.5 Full-time/part-time WUR men/women ratio

The percentage of full-time employees has increased by 0.9% points for women; there was a slight decrease of 0.6% points for men. However, the majority of men still work full-time, while the reverse is true for women.

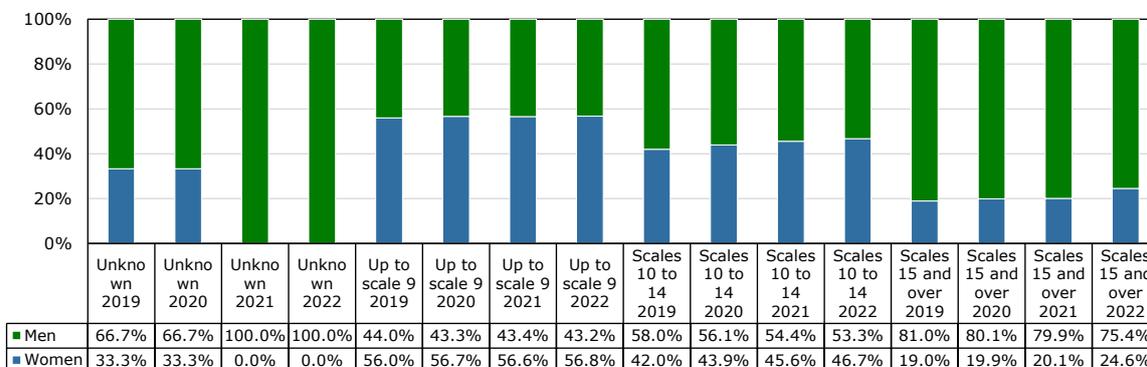


Figure B3.6 WU salary scale men/women

The man/woman ratio within the various job scales at Wageningen University has steadily increased over the past four years from a total of 4.7% to 46.7% in the scale 10 to 14 category. In the category scale 15 and higher we also see an increase in the percentage of women: from 19.0% in 2019 to 24.6% in 2022.

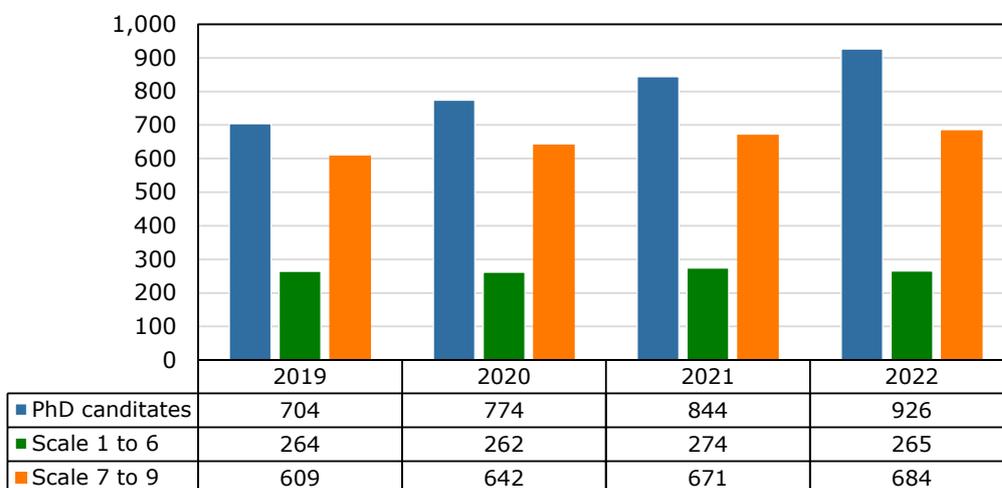


Figure B3.7 Pay scale for PhD candidates

The percentage of temporary employment contracts is partly determined by the number of PhD candidates. The number of PhD candidates increased by almost 10%.

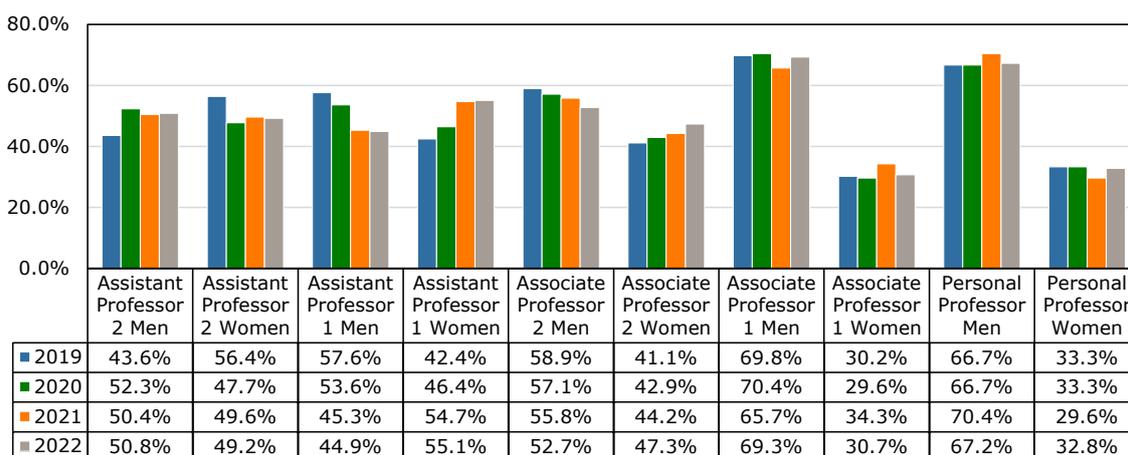


Figure B3.8 Man/woman ratio in WU tenure track per job category

In 2022, the percentage of men recruited into tenure track for the position of Assistant Professor 2 was almost equal to that of women; the same goes for the percentage of women in the Assistant Professor 1 position. The men/women ratio in the position of Associate Professor 2 increased in the percentage of women by 3.1% to 47.3%. The percentage of women in the position of Associate Professor 1 decreased by 3.6% points and is now 30.7% in this job category. In order to achieve a gender balance, the recruitment of female professors is actively promoted, among other things. In recent years, this has resulted in a steady growth of the percentage of women in this job category in recent years. The percentage of women in this job category also increased by 3.2% to 32.8% in 2022.

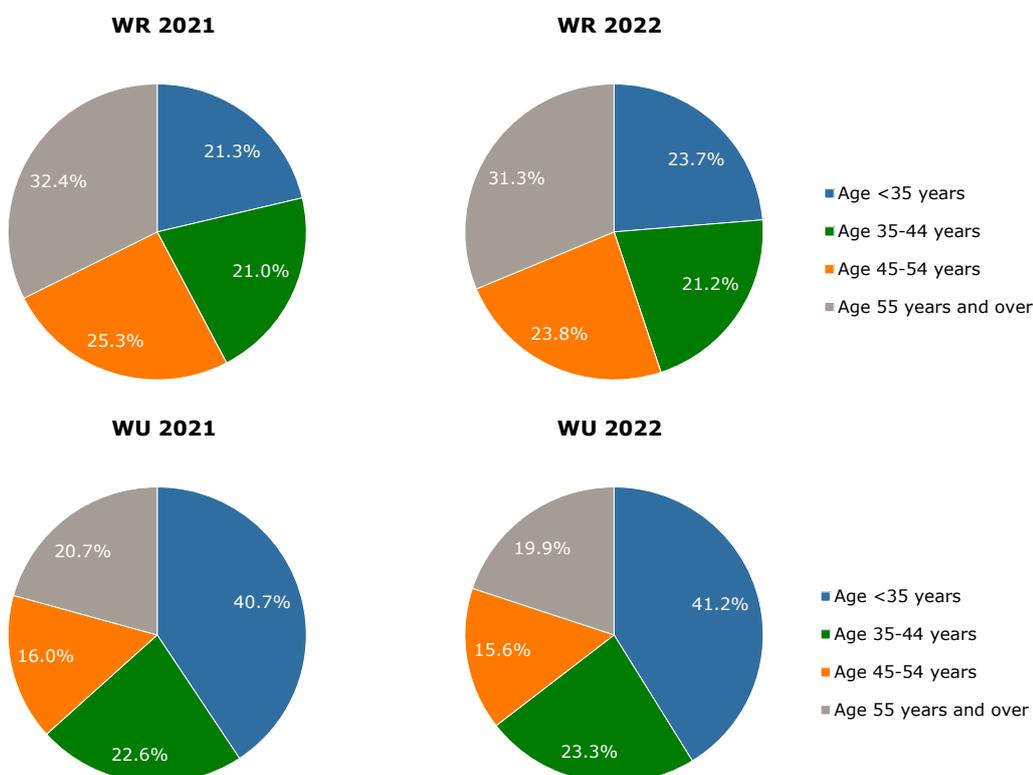


Figure B3.9 Age distribution WR and WU

Figure B3.9 shows that the increase in the number of employees at Wageningen Research is caused by the growth of the group of employees in the age category up to 35 years by 2.4%. There is a decrease in the group of employees in the age category 45 years or older.

The increase in the number of employees at Wageningen University concerned both the age categories of up to 35 years and 35 years to 45 years. More than 64% of Wageningen University's employees are under the age of 45. The majority of employees at Wageningen Research Foundation are older than 44 years: 55.1%. A decrease in the number of employees in this age category is visible in both organisational components.

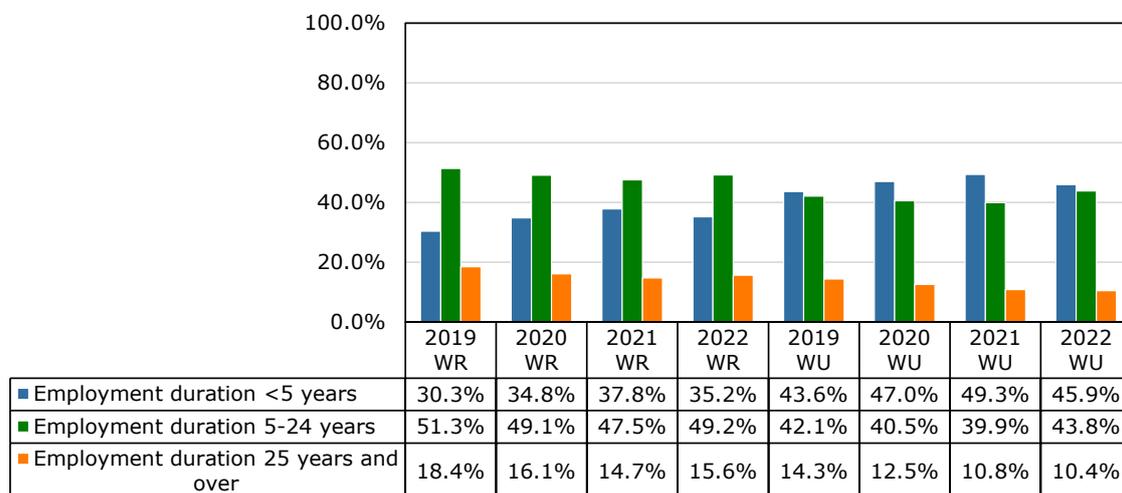


Figure B3.10 Years of employment at WR and WU

Figure B3.10 also clearly shows the influence of the large number of new employees. For example, a large number of Wageningen University employees have been with the university for less than five years. The percentage of employment contracts of 5 to 25 years increased by 3.9 percentage points. This is in contrast to previous years where this percentage actually decreased.

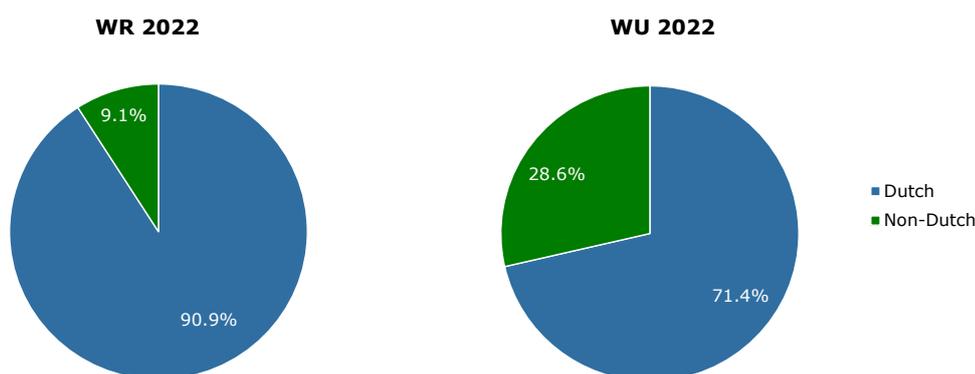


Figure B3.11 Dutch/International

The ratio of Dutch to international employees remained almost unchanged compared with last year.

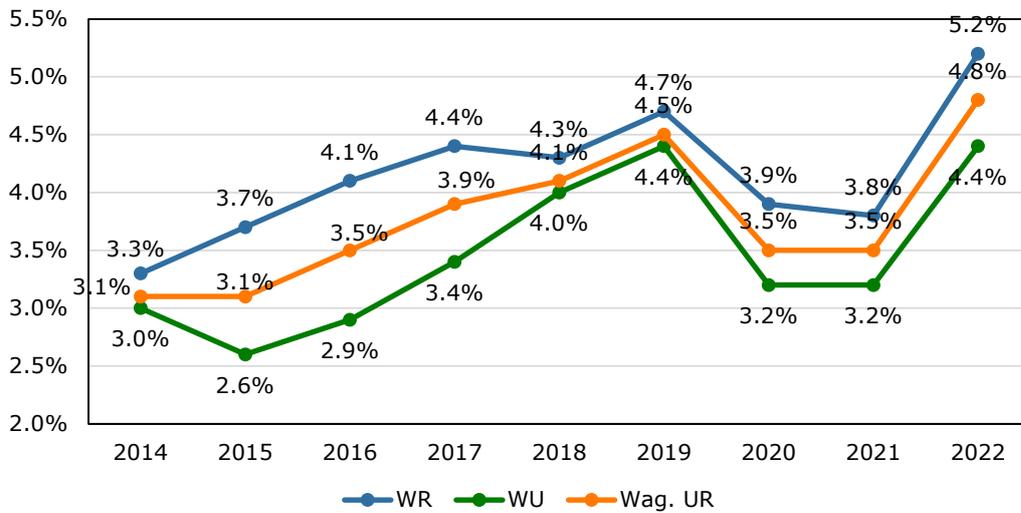
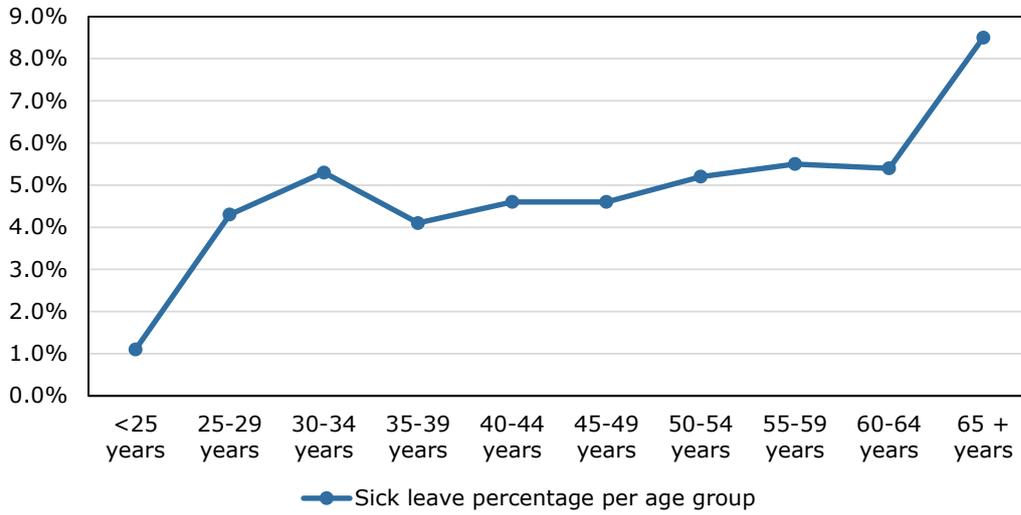


Figure B3.12 Sickness absence reporting, including sickness absence > 1 year, excluding pregnancy.

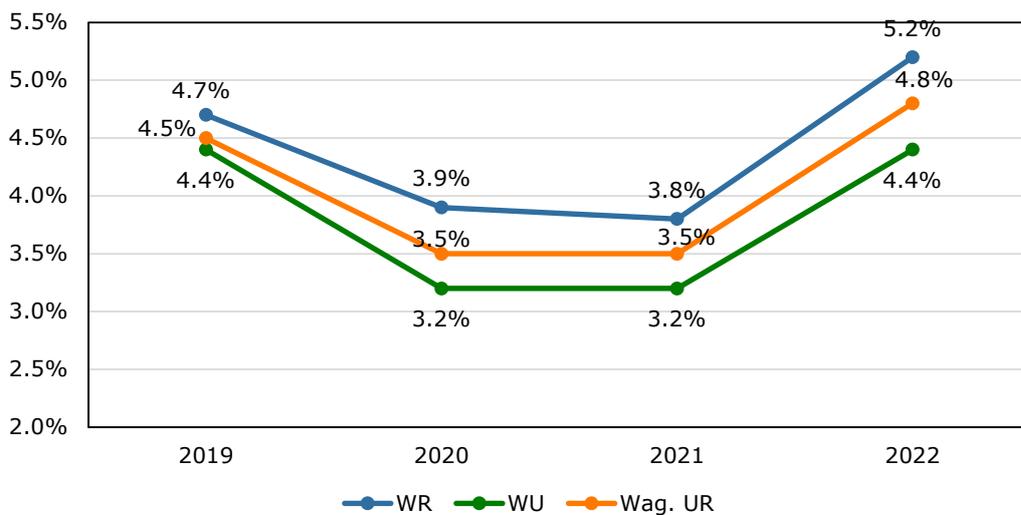


Figure B3.13 Sickness absence at WUR

Appendix 4

Glossary

Limitations	The scope of reporting, namely where the organisation has set the boundaries of the activities reported on. The boundary/scope/... determines which information is consolidated in the report. The scope also determines what accountability information is included regarding activities in the supply chain that could be of particular interest to users, but over which the company may have limited or no control.
Dialogue with stakeholders	The entirety of interactions between an organisation and its stakeholders. This is not limited to physical or virtual meetings specifically organised for that purpose.
Governance	The entirety of regulations for managing an organisation and the monitoring of their proper implementation. On the one hand, governance involves the relationships between shareholders, supervisors, management, and other stakeholders. On the other hand, governance also has an internal definition which includes management and control, internal control measures, and division of authority and responsibilities.
Social aspects of entrepreneurship	Social aspects of entrepreneurship which are identified when looking at businesses from a broader perspective than the traditional financial perspective. These include economic, environmental, and social aspects. It is used here as a synonym for Corporate Social Responsibility or sustainable business.
Societal information	All information related to the social aspects of business.
Societal results	The performance of an organisation with regard to the social aspects of business.
Societal reporting	External information on the organisation's policies and results with regard to the social aspects of business. Societal reporting is a generic term for typically non-financial information published in sustainability reports, CSR reports, or integrated in the annual report by the organisation in order to satisfy stakeholders' comprehensive information requirements.
Material topics	The topics most relevant to a specific organisation that, as such, are eligible for inclusion in societal reporting. A topic is more relevant, and therefore more material, when the organisation has a significant impact in that area. Topics that satisfy stakeholders' comprehensive information requirements and which could be decisive to stakeholders' decision making and considerations with regard to the organisation must also be considered material.
Performance indicator	A key figure used by the organisation with regard to a specific topic in order to monitor its development as well as to measure the organisation's progress and account for its results.
Scope	The range of reporting, namely the entirety of topics reported on. The scope of reporting concerns the organisation's choices regarding whether or not to report on specific topics.
Stakeholders	Internal or external individuals or parties who may reasonably expect the organisation to take their legitimate interests and expectations into account.
Value creation	Value creation means using the knowledge and infrastructure of WUR for the benefit of society. Our knowledge achieves economic and social impact through application.
Value chains	An organisation is active in a chain of activities leading to the production and delivery of products and/or services which are sold, used, and discarded by end users. For some organisations, activities in the value chain progress both "upstream", such as the activities of suppliers, and "downstream", such as the use of products and/or services. The hallmark of a value chain is the addition and detraction of value at various places and moments due to the activities of the various players in the chain.

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To explore
the potential
of nature to
improve the
quality of life



The mission of Wageningen University & Research is "To explore the potential of nature to improve the quality of life". Under the banner Wageningen University & Research, Wageningen University and the specialised research institutes of the Wageningen Research Foundation have joined forces in contributing to finding solutions to important questions in the domain of healthy food and living environment. With its roughly 30 branches, 7,600 employees (6,700 fte) and 13,100 students, Wageningen University & Research is one of the leading organisations in its domain. The unique Wageningen approach lies in its integrated approach to issues and the collaboration between different disciplines.
