

RESEARCH ASSESSMENT

Wageningen School of Social Sciences

2015-2020



WAGENINGEN
UNIVERSITY & RESEARCH

HUISJES&CO

Meer waarde uit wetenschap

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Preface

As chair of the evaluation committee, I would first of all like to thank the rector and board of WUR for the trust they put in our committee. I also wish to express my gratitude to all who have contributed to the success of the peer review. Due to the Covid 19-regulations, we had to organise the peer review in a blended format as not all members could travel to Wageningen.

Nevertheless, we are confident that the committee received all the information required to perform a well-informed evaluation of the WASS graduate school and the constituting research groups. This was due to the well elaborated reflection documents produced by the graduate school and the research units as well as the provision of all necessary background information.

The site visit was well prepared and happened in a friendly atmosphere. I want to express my special appreciation to the people of the WASS secretariat, who did a great job in preparing all documentation, the schedule for the interviews, the set-up of the blended meetings, and the excellent hotel and restaurant facilities for the three members who were physically present in Wageningen. It proves that WASS is in good hands and that the director of WASS is supported by a strong team.

On behalf of the evaluation committee, I also want to thank all staff members that we had the chance to talk to during the peer review for their openness and transparency in answering our questions. This is certainly a sign of the open mind and spirit in all groups to reflect on and to discuss their own functioning. We hope that our recommendations are an incentive to continue these reflections and to strive for incremental improvement at all levels: from university, to research units and chair groups.

Finally, I want to thank my colleagues in the evaluation committee. They all devoted plenty of time to reading the documentation, preparing the site visit, to discussing with the different interviewees and to writing down their findings. Their experience and profound knowledge in the different areas of expertise made the role of the chair easy. A final word of gratitude goes to Mariette Huisjes who as secretary made sure the committee's work was organised in a smooth way. Without her help, this report would have been less comprehensive and detailed!

Prof. Guido van Huylenbroeck

Chair

I. Executive summary and main recommendations

I.1. All research units

Summary

The Wageningen School of Social Sciences (WASS) has strong units, with research of high quality and impressive societal engagement across all units. The committee is impressed by their output, both in a quantitative and qualitative sense. It is clear that for social sciences applied to life sciences WASS is a top international institute, with a broad range of research topics and geographical areas covered, and responding to important policy and societal challenges. It is no wonder that WASS has the capacity to attract and retain top-level staff, students and researchers.

WASS has taken up the recommendations of the previous evaluation committee, resulting in good progress in integration of chair groups and inter- and transdisciplinary collaboration. However, chair groups are still financially independent from each other, which gives them much autonomy and little intrinsic need to join forces. It is the committee's view that the innovation process of the WASS research units could be optimised by further integrating the chair groups.

The introduction of the tenure track system has provided a clear and accessible career path for talented fellows. However, the self-evaluation reports and interviews with the staff members made it clear that the tenure track system still has some weaknesses that need to be resolved. WUR is striving for diversity and seems to be in a position to reach it, given that positions at chair or full professor level are filled in an open procedure. In spite of this potential however, the reality at WASS is that there is still limited diversity at the level of full professors.

Main recommendations

- Proceed with the integration of chair groups into research units. Think about formalizing, simplifying and streamlining administrative processes by institutionalizing the research units as budgetary and decision-making units.
- Unify the term for sections/clusters/units/centers.
- Further incentivise the collaborations between chair groups. Consider relocating groups so that groups that form a unit are spatially close together.
- Simplify the organisational structure: bring all social sciences units not only under WASS, but also under the Social Sciences Group.

- Strengthen the collaborative thinking about the needs at the level of research units (instead of individual chair groups) when vacancies open up.
- Move towards a collective research strategy that is embedded in the overall strategy of the university. Create more critical mass and bigger projects without compromising small innovative projects.
- When recruiting new professors, supplement open calls with search committees.
- Monitor wage levels, working conditions and support packages to ensure their international competitiveness.
- Actively follow-up the career paths of (international) alumni to demonstrate the added value of a temporary position at WASS.
- Reinforce rotating and sharing of responsibilities and evaluating leadership.
- Make the tenure track system less stringent and competitive, also to stimulate diversity. Make societal impact, leadership, external visibility, academic citizenship, etc. count. Strive for an assessment of academic staff according to the criteria that are standard in their own discipline. Benchmark the tenure track system itself with foreign examples.
- Benchmark diversity and hold the research units accountable. Consider conducting the tenure review with structural inequities in mind.
- Continue to provide the necessary (financial) support for authors to find the most suitable outlet for their findings.

1.2 Research unit Business Science

Summary

The research unit Business Science is a world-leading group, with some top publications, both mono- and interdisciplinary, and many funding successes. The unit has a clear and sensible strategy to move from mono- to inter- and transdisciplinary research and a well-articulated plan to ensure the scientific and societal relevance of its goals. The recent and ongoing integration between the chair groups will be a catalyst and an ideal platform to ensure that this transition will be fruitful. The unit may also pride itself on a good ecosystem, with strong industrial links in the agro-value chain. Most of the Business Science research is highly applied and relevant to policy makers and agri-food companies. The unit has definitely contributed to the transition to a sustainable biobased economy.

Main recommendations

- Stick to your current research plan by publishing high quality papers in both agri-food and business fields.
- Do not mimic general business schools, but stick to your specific niche, by continuing to research in and publish on the agri-food value chain.
- Train future agri-food managers and leaders who need good economic knowledge but also sufficient knowledge of the socio-natural-technical processes behind food transformation and selling.
- Continue to capitalise on current and emerging opportunities by focusing on digitalisation, sustainability and health.
- Connect more closely with key stakeholders, while further shaping your future research strategy.
- Revisit the strategy periodically to ensure that it is still topical, contemporary and relevant.
- Promote your successes more; show the world how good you are.

1.3. Research unit Communication, Philosophy and Technology

Summary

The committee is impressed by the unit's track record and high degree of international visibility in its chosen areas of research. The unit's clear strengths are its reflexive, action-oriented and policy-relevant orientation, including the wish to address societal challenges by bridging the gap between fundamental and applied research. The chair groups within the research unit have undergone substantial organisational change and started to integrate disciplines and perspectives, but the committee got the impression that the unit is still an emerging collaboration. It has made sound strategic choices, of becoming a collaborative space with three intersecting research lines. It just has to persevere and put energy into trying to follow up on these strategic choices. The committee sees some potential for more strategic focussing on research topics such as misinformation and science scepticism. The unit can benefit from the fruitful interplay of studying and practicing diversification.

Main recommendations

- Continue to strengthen the common governance of the unit and the sharing of resources between chair groups, so that they can be more aligned.

- Find more strategic focus, but make sure that the choice of topics is based on a genuinely shared interest.
- Encourage interdisciplinarity without compromising disciplinary contributions.
- Find new journals and other outlets for interdisciplinary research.
- Expand your research profile through the integration of other disciplines such as policy studies or science and technology studies, where this makes sense.
- Reflect on the conditions required to fulfil the different needs of scholarship.
- Increase efforts for more diversity.

1.4. Research unit Economics

Summary

The unit has defined a clear focus on the economics of sustainable and equitable development and is arguably world-leading in this niche. It has managed to coherently combine its strengths in agricultural economics, environmental economics, development economics, urban economics, and rural and environmental history. The unit excels in theory-driven empirical research with a commitment to rigorous analysis. It exports its research quality through the capacity building of its PhD candidates, who often come from other countries, frequently in the Global South. The unit is well placed to apply the economics of sustainability and equal distribution, working together with other social scientists and natural scientists, for the global public good. It has successfully piloted a version of Wageningen's tenure track system that incorporates discipline-specific assessment criteria as well as a qualitative assessment of research outputs. Where workload is a challenge over the full breadth of WASS, teaching responsibilities as an impediment to pursuing research quality seem extra prominent in the Economics unit.

Main recommendations

- Invest in your reputation as a world-leading centre of expertise in your niche by articulating a proactive communication and engagement strategy.
- Continue to equalize the teaching load between staff members.
- Consider to more frequently become a small but pivotal partner in large research consortia.

- Continue to apply and refine the unit's version of the WUR tenure track system.
- Allow people who excel in research to do less in other areas of assessment and vice versa.
- Continue to offer methodology courses at the master level for incoming international PhD candidates, but consider developing them as some sort of pre-PhD programme instead of making these course part of the PhD programme.
- Make an effort to transcend hierarchical structures; give more prominence to junior members of staff.

1.5. Centre for Space, Place and Society

Summary

The unit's pioneering research is overall very good, and often excellent. The shift to open-access publications is particularly impressive. The research is clearly socially anchored and the unit engages frequently with policy makers and other stakeholders. It has a consistent and attractive strategy that convincingly bridges four quite heterogeneous chair groups. The flexible nature of the eleven research clusters in combination with the transformative learning hub form an attractive model that seems to have contributed positively to collaborative and often innovative research across the research lines. While the unit scores very well in traditional metrics, it is also actively searching for complementary metrics to reflect scholarship more holistically. The committee found this to be a fascinating enterprise, but it is still rather difficult to pin down to something 'concrete'. The unit's culture of care and outstanding collegiality is an appropriate answer to the difficult conditions in the past period characterised by Covid 19 and growing pressures on higher education in general.

Main recommendations

- Continue to strengthen the common governance and the sharing of resources between the chair groups.
- Share your cross-chair group governance with other research units as a good practice.
- Further allocate resources to the clusters and related collaborative activities such as the transformative learning hub and writing retreats for PhD candidates.
- Continue the integration and development of other fields of knowledge that could further strengthen your research themes

- Continue transferring your transdisciplinary integration expertise to early career researchers through specialised teaching and training.
- Step up your efforts to create and demonstrate actual policy impact.
- Take the next step in your ambitious aim to operationalise and institutionalise non-standard criteria for research quality.

1.6. Wageningen Centre for Sustainability Governance

Summary

The unit has a very strong record of publications in excellent internationally recognised journals. Its research is impact-driven and carried out through both large, established projects and smaller incubator projects. Publications demonstrate a commendable interdisciplinary breadth and often incredible depth. The research addresses issues of high topicality and many research products are used by societal groups. Strategy-wise the unit shows a positive shift from a strategy based on existing chair group activities, with limited input from the Law group, to a far more collaborative programme with stronger normative direction. The unit has put considerable effort in creating a shared research culture. A small set of sensible institutional administrative initiatives has successfully enhanced collaboration. The unit distinguishes itself by doing well on diversity. It attracts a great variety of Dutch and international students and researchers both from the Global North and South. More exceptionally, even at the higher level of full professor there is an equal division of male and female scholars.

Main recommendations

- Collaborate rather than compete with other Dutch universities; develop synergies and complementarity.
- Sharpen your own niche and identity. Identify core societal challenges you want to focus on and avoid repetition or replication within WASS. linking the governance theme to broader Wageningen sustainability themes.
- Seek a broader connection to policy issues beyond the Sustainable Development Goals.
- Pay greater attention to some questions that are at the core of sustainability governance, such as structural inequality and power dynamics, inclusion and justice.
- Strengthen the participation and visibility of non-profit organisations, community, neighbourhood groups and other stakeholders.

- Give more attention to different types of publications; let a lower focus on metrics leave space for different outputs and publication venues.
- Strengthen and amplify the incubator programme and make sure that staff members from different chair groups and different levels of seniority participate in it.

1.7. WASS as a graduate school

Summary

The school is well-organised and on the whole functions well. This is to a significant extent due to a very dedicated director and supportive staff in the WASS office. However, the committee sees as a major weakness that due to the place of the graduate school in the WUR organigram many good initiatives at the end remain up to the voluntary take-up by the chair groups and research units.

PhD training, supervision and publications are taken seriously within WASS. There is clear attention to ongoing challenges with respect to authorship, wellbeing and continuing need for improvement. Support and guidance for PhD supervisors has much improved since the previous review. The committee finds this highly commendable. Members of the PhD council feel that they can adequately act as a voice of the PhD community and that they are listened to by the PhD programme manager, albeit informally.

As in many Dutch universities, the time span for PhDs between start and graduation is in most cases longer than planned. In spite of all WASS's efforts and although compared with other graduate schools WASS scores relatively well, the PhD survey results provided indicate that still a relatively high number of PhD candidates do not feel well-informed or are not satisfied with certain elements in their training and supervision. On top of the already existing quantitative monitoring system, focus groups may help to identify the causes of dissatisfaction and prolongation of the PhD trajectory.

Main recommendations

- Try to gain more formal influence on key procedures within WASS.
- Reactivate the formal meetings between the PhD council and the dean of research.
- Put in extra energy and means to firmly connect the PhD representatives with their community.
- Consider alternative or complementary funding for three-year EU-funded projects, to keep some balance between the number of PhDs and postdocs.

- Stimulate PhDs and postdocs to be assertive if the training and supervision agreement is not lived up to.
- Make the PhD supervision workshop obligatory for all supervisors.
- Provide the *ius promovendi* to as many professors as legally possible and perhaps even lobby for a change in the legislation to expand it to assistant professors as well.
- Make sure that the guidelines for co-authorship are properly applied.
- Balance the education and research obligations for PhDs between chair groups, or if this is not possible differentiate in their appointments if some PhDs for instance do more education activities than others.
- Dig deeper to root out the cause of delay in some PhD trajectories.
- Review the correlation between quantity of PhDs and quality of supervision.
- Arrange regular focus groups for PhD candidates who are encountering problems. Consider dedicated focus groups for external and sandwich PhDs.
- Look for financial incentives to organise more advanced training courses for PhDs.
- Consider opening up advanced courses for talented MSc students for starting PhDs as well.
- Invest in more transversal ('soft skills') training modules and organise more activities that prepare PhD candidates for the job market.
- Think about bringing together from the start PhD candidates within or across research units who start in the same project or in the same year, to create more cohesion.

2. Introduction

2.1. Context and aims of the assessment

The board of Wageningen University Research (WUR) asked a committee of peers to perform an assessment of the research and PhD supervision and training within the Wageningen School of Social Sciences (WASS) over the period of 2015-2020. The basis of the assessment is the Strategy Evaluation Protocol 2021-2027 as determined by the Dutch academic organisations VSNU, KNAW and NWO. According to this protocol, the main goal of a research assessment is to evaluate the research unit in light of its own aims and strategy, and to provide recommendations for what a unit could do to become more successful in gaining these aims.

The WUR asked the committee to assess the following research units:

- Business Science
- Communication, Philosophy and Technology.
- Economics
- Center for Space, Place and Society
- Center for Sustainability Governance

In addition, the committee was asked to assess WASS as a graduate school for the training of PhDs and postdoctoral researchers.

Following the Strategy Evaluation Protocol, the committee was requested to look both backward and forward. The main assessment criteria are:

- Research quality
- Societal relevance of the research
- Viability of the research unit

While evaluating these three main criteria, the committee was asked to incorporate four specific aspects relating to the organisation and performance of research. These aspects are:

- Open science
- PhD policy and training
- Academic culture
- Human resources policy

In addition to these criteria, the board asked the committee to take into account three specific questions, as brought forward by the board itself and two of the research units.

1. With regard to the research unit Business Science:

How does the committee view the future vision we have for business sciences – perspective from disciplinary to inter- and transdisciplinary research – in the context of the agri-food value chain and how do they see our perspective in the competitive world of business schools?

2. With regard to the research unit Communication, Philosophy and Technology:

What could we change in our self-description and ways of working to strengthen these as joint research lines without weakening our specific expertise as chair groups?

3. With regard to WASS as a graduate school:

Does the graduate school have a sufficiently proactive innovation process (e.g. exchange of best practice between graduate schools) to continuously improve the quality of its three main tasks?

The other research units asked no additional questions.

2.2. Composition of the evaluation committee

The evaluation committee consisted of:

- Professor Guido van Huylenbroeck, professor of agricultural economics and academic director of internationalisation at Ghent University (chair of the committee),
- Professor Isabelle Anguelovski, ICREA Research Professor at the Universitat Autònoma de Barcelona-Institute for Environmental Sciences and Technology (ICTA) and Director of the Barcelona Lab for Urban Environmental Justice and Sustainability,
- Professor Michael Bourlakis, professor of logistics, procurement and supply chain management and director of the Centre for Logistics, Procurement & Supply Chain Management at the Cranfield School of Management,
- Professor Neil Carter, professor of politics at the University of York,
- Dana Freshley MSc, PhD candidate at the Faculty of Bioscience Engineering at Ghent University,
- Dr Katharina Paul, senior postdoctoral fellow and lecturer in political sciences at the University of Vienna,
- Professor Marianne Penker, professor of rural sociology and rural development at the University of Natural Resources and Life Sciences in Vienna,

- Professor Arjan Verschoor, professor of economics at the University of East Anglia.

The committee was supported by Mariette Huisjes MA, who acted as secretary.

All members of the committee signed a statement of independence to guarantee an unbiased and independent assessment of the quality of the research performed by WASS. Personal or professional relationships between committee members and the research unit under review were reported and discussed before the site visit. The committee concluded that no specific risk in terms of bias or undue influence existed and that all members were sufficiently independent.

2.3. The assessment process

The committee first met online on 23 June 2021 to be introduced to the Strategic Evaluation Protocol and the context of Wageningen University Research.

Prior to the site visit, all committee members read the self-evaluation reports provided by the units and formulated preliminary findings and questions based on these reports and other documentation provided by WASS. These were discussed the afternoon before the interviews with WASS-staff members and WUR administrators took place, on September 7.

While the intention was to have an offline, physical site visit, due to the Covid situation most committee members eventually preferred to participate online. This led to a site visit with a hybrid character. Of the committee only the chair, the PhD member and the secretary were physically present at WASS. The other committee members connected to the interview room through an internet connection. Most of the interview partners were physically present, some took part online.

This assessment report is based on both the documentation provided by WASS and the information gathered during the interviews with management and representatives of the research units and the graduate school during the site visit. The site visit took place on 8 - 10 September 2021 (see the schedule in Appendix 2).

After the interviews, the committee members discussed their impressions and drew up preliminary conclusions, which were presented by the chair to the

WASS community. The committee members then each contributed to the writing of the assessment report. The first draft of the report was finalised by the secretary and all committee members offered feedback, which was processed before a new draft was sent to WASS.

The draft report by the committee and secretary was presented to WASS for factual corrections and comments. In close consultation with the chair, the comments were reviewed to create the final report. The final report was presented to the Board of Wageningen University & Research and to the management of WASS.

The committee used the criteria and categories of the Strategy Evaluation Protocol 2021-2027. For more information see Appendix 1.

2.4. Quality of the information

The committee received the following documents:

- The self-evaluation reports of the five units and WASS graduate school, including case studies
- Overviews and data on selected performance indicators
- The Terms of reference
- The Strategy Evaluation Protocol 2021-2027
- Information on policies of WASS and WUR
- Short introductory videos to each of the research units
- Posters presented by individual PhDs and postdocs on their research

(Faint background image of mathematical notes and formulas)

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Research assessment Wageningen School of Economics 2015 - 2020 18

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3. Structure, organisation and mission

3.1. Introduction

The Wageningen School of Social Sciences (WASS) is one of the six graduate schools at Wageningen University, the only university that specifically focusses on food, agriculture, health and living environment. The research within WASS is directed towards the societal and social dimensions of this overarching research theme.

The university is organised in a matrix structure. This means that the mandate for managerial, personnel or financial issues is organised vertically, within the sciences groups and chair groups. The graduate schools operate horizontally within this matrix structure.

As a graduate school, WASS has three main tasks:

- To coordinate, develop and facilitate doctoral education and training;
- To safeguard, monitor and stimulate the quality and progress of research by staff, postdocs and PhD candidates;
- To stimulate and coordinate the development of a coherent research programme.

Like the university, WASS is also organised in a matrix structure. The School currently hosts 21 chair groups of the Social Sciences Group and 4 chair groups of the Environmental Sciences Group, about 450 PhD candidates, 80 postdoctoral researchers and 220 fellows. The chair groups are the basic units for managerial, financial and personnel issues. Horizontally, WASS can be subdivided into five research units, each with their own research focus. These research units are:

- Business Science
- Communication, Philosophy and Technology
- Economics
- Center for Space, Place and Society
- Center for Sustainability Governance

3.2. Mission and strategy

The mission of WASS is ‘to explore societal processes to improve the quality of life’. This mission is directly connected to the mission of WUR: ‘to explore the potential of nature to improve the quality of life’. WASS aims to provide an enabling environment for internationally oriented scholars with different

backgrounds. It offers in-depth training to PhD candidates and postdoctoral researchers. The School works across disciplinary boundaries and multiple scales from a solid empirical basis. It analyses social challenges and contributes to the solving of real problems.

On the basis of the recommendations by the previous peer review in 2015, the board of WASS decided to strategically focus on four major points of attention. This decision has significantly changed the graduate school over the past years.

1. Improve collaboration and shared strategic direction

The board of WASS stimulated and advised on the clustering of chair groups, to form the current research units. This was a bottom-up process, on the basis of the research profiles. Currently, chair groups within the units have started to co-operate in various ways, among other things they choose a shared strategic direction.

2. Renew the PhD training programme

WASS developed a new education policy, a new format for the training and supervision plan and an extensive annual course programme with training on theories and methodologies, also including ‘interdisciplinary windows’, short courses where topics are discussed from a diversity of academic perspectives.

3. Improve the visibility of societal impact

An ad hoc WASS Committee has developed a model for reporting societal impact, which was later approved and adopted by all six graduate schools at WUR. WASS groups also started to write case stories, as the previous assessment committee suggested.

4. Enhance the quality of PhD supervision

WASS has introduced a monitoring system for the quality of PhD supervision via confidential online questionnaires. The WASS management annually visits the PhD candidates at research unit level to discuss the findings from the supervision monitor. WASS also investigated practices and visions on co-authorship and PhD supervision, and initiated a discussion among fellows and PhD candidates. Furthermore, WASS actively contributed to a WUR guide for supervisors, and to a joint policy of Wageningen Graduate Schools with regard to the quality of supervision.

3.3. Management of WASS

The rector of Wageningen University appoints the WASS board, the international advisory board and the scientific director, and assigns a budget to the graduate school. The budget is primarily meant for organising training and support to WASS members and to stimulate internationalisation; also, it comprises a contribution to research, annually about 2 PhD positions. By far the most voluminous budget however, is directly distributed to the chair groups on the basis of educational tasks on BSc and MSc level. On top of that, a flexible budget is assigned for PhD education, research and PhD positions, which is based on a model that includes the number of PhDs and PhD graduations. This budget as well is transferred directly to the chair groups.

The WASS board decides on the long-term strategies of the school. The scientific director is supported by the WASS office in formulating and executing the plans, policy and activities of the School. The scientific director represents the School in other institutions and platforms, inside and outside Wageningen University, and is a member of a range of WUR committees and councils, including the Departmental Council of the Social Sciences Group. The International Advisory Board advises the Board of WASS on strategic issues with regard to content, quality and management.

4. Findings and recommendations

4.1. Findings and recommendations for all research units

4.1.1. Organisational structure

The committee was pleased to see that the university has taken up the recommendations of the previous evaluation in grouping the individual chairs in units. This has resulted in some progress towards integration and inter- and transdisciplinary¹ collaboration, and the articulation of shared research programmes for each of the units within WASS. Some of these shared research programmes show deep reflections about common issues binding the different chair groups together.

Enhance innovative power

The board of the university asked the committee to comment on a specific question: ‘Does the graduate school have a sufficiently proactive innovation process to continuously improve the quality of its three main tasks?’ With regard to this question, the committee’s view is that the innovation process could be optimised by further integrating the chair groups. This development has already been started since the previous peer review, for some units decided to shift a bigger share of finances and decision-making responsibilities towards the research unit’s level. However, in principle chair groups are now still financially independent from each other, which gives them much autonomy and little intrinsic need to join forces. More cooperation between chair groups within a research unit would make it easier to exchange ideas and good practices, to innovate, to do interdisciplinary research and to work towards a long-term integrated strategy for societal impact. The committee therefore strongly recommends WASS to further incentivise collaboration between and integration of the chair groups in the research units.

Institutionalisation of research units

The committee recommends that the university board reflects on the possible institutionalisation of the research units as budgetary and decision-making units. This would - in the committee’s view – enhance the innovative power of the units. For the quality of research, it is of the utmost importance that staff members can find their intellectual fit without being hindered by too many structures. Another argument to give more governance power to the research

¹ In this report, ‘interdisciplinary’ means transgressing disciplinary boundaries, and ‘transdisciplinary’ means integrating scientific knowledge and stakeholder knowledge, i.e. going beyond academic boundaries by including for instance experiential knowledge, indigenous knowledge or insights from art.

units is that if individual chair groups or chair holders do not function as they should, the unit may either intervene directly or signal it, so that it may be corrected at the level of the science group.

For these reasons, the committee calls for a deep reflection on the present organisation, the added value of having independent chair groups and other issues and constraints that may hinder the further integration within research units. A first step in this direction would be to unify the terminology used for the research units, which are now variously called 'sections', 'clusters', 'units', 'centres' etc.

Transferring decision making power to the chair groups does not mean that opening of chair positions should be stopped. The committee is aware that the strength of the chair group structure is that it helps to attract high level researchers from outside. However, by placing chair holders in research units which are the administrative and financial structure, they will be forced to collaborate, to search for synergies and to reflect on the added value of new positions within the global unit.

Of course, in rethinking the organisation of the research units, the advantages need to be weighed against potential disadvantages of any other organisational structure. The committee thinks that having chair groups and chair holders does not necessarily prevent research units from being the main administrative units. This is the case in most universities that are organised in departments. The governance of departments is then ensured through collective processes, guaranteeing input from the different chair holders.

Simplification of organisational structure

The committee has some doubts about the mixed structure of WASS, with some chair groups within WASS still belonging to the Environmental Sciences Group. The committee recommends a simplification: to bring all social sciences units not only under WASS but also under the Social Sciences Group. This will make the strong social science tradition of WUR more transparent for outsiders and for PhD candidates. It does not prevent incentive structures being set up to encourage collaboration in interdisciplinary projects across science groups.

Possible ways to stimulate collaboration

Cooperation between chair groups could be further stimulated by physical proximity. The committee noted that the chair groups of some units are physically separated across campuses and that this acts as a barrier to closer collaboration. It therefore recommends WASS to consider relocating groups so that groups that form a unit are spatially close together.

WASS has been influential in developing rubrics for the assessment of interdisciplinary research. The committee finds this a good initiative. It should be taken as encouragement by all units to embark on interdisciplinary research projects. As a positive side effect, interdisciplinary training not only benefits the research, but also helps PhDs to be prepared for the wider labour market. After all, disciplinary training is more suited for academic positions whereas the general labour market demands more interdisciplinary trained PhDs.

4.1.2 Research quality and societal impact

In general, the committee was impressed by the excellent output of the research units within WASS in terms of both quantity and quality. The committee saw very strong research units, research of a high standard, and impressive societal engagement across all units. It is clear that concerning the application of social sciences to life sciences, WASS is a top institute in the world. The committee congratulates WASS on this excellent achievement. Of course, the fact that the evaluation took place at research unit level and figures were only provided at this level could mask potential differences in quality between chair groups. Although the committee has no evidence that this is the case, it wants to make this a *caveat*.

Towards greater critical mass

WASS covers both broad range of research topics and geographical areas. It responds to policy and societal challenges of increasing importance, such as climate change, conservation of natural resources, and inclusive food systems. The committee thinks that WASS could even become stronger if it continues developing a collective research strategy that is embedded within the overall strategy of the whole university. This requires mechanisms to create more critical mass and larger interdisciplinary projects (also with other graduate schools), naturally without compromising small innovative projects. Such incentives should bring a diversity of faculty members together and build on incubator/seed grant types of endeavours. By making the links between the WASS groups and the technical sciences groups stronger, the social sciences units within WUR can strengthen their unique selling positions in the overall landscape of social sciences. WASS groups are indeed producing high quality research *because* they operate on the intersection of social and natural sciences, which is a position that other social sciences groups in comprehensive universities typically cannot claim.

4.1.3 Open science

With respect to open science, the committee found that WASS has made great progress in the period under review. From the figures presented, it is clear that

there has been a huge increase in open access publications; from 20% of all publications in 2015 to 73% in 2020. The committee encourages the research units to proceed further on this road. It should hereby show respect for the standards in the disciplines, and remove any hurdles that stand in the way of open access publications or open data. Open access is important but sometimes leads to suboptimal publication strategies because of the increased publication fees. Given that the business model of journals is changing rapidly, the committee recommends that the WUR Library continues to provide the necessary (financial) support for authors to find the most suitable outlet for their findings.

4.1.4. Human resources policy

From the level of research at WASS, it is clear that its units have the capacity to attract and retain top-level staff, students and researchers. This capacity should be cherished and maintained; WASS can only remain a top institute if it succeeds in attracting the best possible researchers. Therefore, the committee recommends that university stimulates and supports WASS further in international recruitment, in particular at the level of professors. Here supplementing open calls with search committees is a good practice. Of course, wage levels, working conditions and support packages may be decisive elements. They should be constantly monitored to ensure their international competitiveness. For academic levels other than professor clear career prospects are an important element (see the point on tenure track system below). For potential PhDs and post-docs it should be clarified that obtaining a WASS degree can be the basis of a successful academic career. An active follow-up of the career paths of (international) alumni may help to demonstrate the added value of a temporary position at WASS.

Towards a new tenure track system

The tenure track system that was introduced in 2009 offers a clear and accessible career path for talented fellows, whose careers were blocked in the further past due to a more rigid system. The fact that it is now also possible to rise through the ranks and become a professor by personal appointment is certainly an incentive for young staff members. The tenure track policy in combination with the personal professor trajectory provides opportunities to have a good mix of internal and external recruited staff. The fact that there are more professors reaching the highest rank also enables a better distribution of managerial tasks.

However, the self-evaluation reports and interviews with the staff members made it clear that the tenure track system still has some weaknesses that need to be resolved. Many Dutch universities confront similar issues. The

assessment system for scientific staff is currently being reviewed in a national campaign (*Recognition and reward*²). Against this backdrop, the committee recommends WUR to look at its own tenure track criteria, in order to be sure that the different responsibilities are evaluated in a balanced and equal way. It is obvious that the criteria presently used are mainly based on the academic culture in the natural sciences and do not fit the social sciences. They fit even less to research that is part of the humanities, as is performed in the chair groups Philosophy in the CPT unit, History in the Economics unit, and Law in the Sustainability Governance unit. The committee recommends WASS and WUR to strive for an assessment of academic staff according to the benchmarks and criteria that are standard within their own discipline. It would be a great win, in the committee's view, if societal impact, leadership, mentoring and practices of care in academia, external visibility, academic citizenship, etc. would have more weight. Perhaps it is possible to create a system based on trust and stimulating individual and collective talents and competencies rather than one based on uniform criteria.

In any case, the tenure track system should move further away from a system that still leans heavily on counting publications and grants towards a predominantly quality-driven assessment and greater recognition of the diversity in possible outputs. Within certain limits, staff should be allowed to decide on their own priorities, rather than having to excel in all domains. There is a need to develop qualitative criteria, instead of doing the assessment purely based on numbers.

It may also be an idea to benchmark the tenure track system itself with foreign examples, e.g., in terms of number of steps, the timing between steps, criteria and so on. Particularly in international recruitment these factors are relevant. American universities present some forward-looking practices.

Particular attention should be paid to the structural inequities that female assistant professors are still facing, making it harder for them to move up the ladder to become associate and full professors. These structural inequities include a promotion and evaluation system that still favours more masculine practices of researching, advising, teaching, and publishing. It also includes the inequality in male versus female positions held at the senior level and thus the inequality of support and mentoring possibilities for females. The multiple tasks, responsibilities, and burdens faced by women in society which naturally also impact female faculty are another obstacle. A new tenure track system should recognise the specific vulnerabilities and unequal power relations up-and-coming female academic talent faces, and support female academics more

² See: https://www.vsnul.nl/en_GB/eerste-aanpassingen-erkennen-waarderen-in-functieprofielen-wetenschappers.html

in the development and consolidation of their careers than presently seems to be the case.

It pleased the committee that some initiatives have already been taken to reform the tenure track system, such as a pilot in the Economics unit. The committee recommends proceeding with these endeavours to make the tenure track system less crude and competitive, while at the same time stimulating quality and diversity.

Collaborative thinking

Another aspect of human resource policy is providing the right incentives to strengthen the collaborative thinking about the needs of research units, for example when vacancies open up. The committee noticed that the filling of vacancies for tenure trackers and other staff is still too much decided upon at chair group level. This results on the one hand in overlap: having full professors in similar profiles. On the other hand, it results in a lack of openings in interesting profiles, with a potential added value for the unit or the complete WASS graduate school. Therefore, the committee recommends that chair positions are based much more on an assessment of needs within the research units and WASS than on the continuation or needs of an individual chair group. In addition, international tendencies with respect to disciplines and research domains could be taken into account perhaps more than is presently the case.

Diversity

WUR is striving for diversity and seems to be in a position to reach it, given that positions at chair or full professor level are filled in an open procedure. For other (foreign) universities this may not be the case, since appointments in the higher ranks are only the result of the natural evolution in the career of tenure track professors. In spite of this potential, however, the reality at WASS is that there is still limited diversity at the level of full professors.

The active recruitment of female, minority, and foreign candidates should be stimulated with urgency, certainly in those units where there is still a clear underrepresentation. Therefore, the committee recommends to use a benchmark for diversity, to which the chair groups and the research units are held accountable. If a committee is formed to address diversity issues, the committee expects that the work done there is properly valued, particularly for those in tenure track positions. Work on such a committee should be noted as output when it comes to tenure evaluations.

Leadership

The committee recommends to stimulate and reinforce rotating and shared responsibilities, in particular with regard to management roles, and to regularly evaluate leadership. Such rotation could probably be reached more easily at the level of research units than at chair group level, yet another reason for giving more weight to the unit level in human resources policy (see above). In such a system, the heads of research units can be elected or appointed on a temporary basis, ensuring on the one hand co-decision making and on the other hand avoiding that those with less talent for administrative processes or management remain in office *ad infinitum*.

Handwritten mathematical notes and formulas, including:

- $R = \lim_{n \rightarrow \infty} (a^n / a^{n+1}) = \lim_{n \rightarrow \infty} \frac{a^n}{a^{n+1}} = \frac{1}{a}$
- $ax + b = y$
- $\frac{1}{15 \sin x}$
- $\frac{1}{2} \cos x + \frac{1}{2} \cos x + \sin x = \sin x$
- $\frac{1}{1+x^2}$ if $|x| < 1$; $-\frac{1}{x^2}$ if $|x| > 1$
- $\sin(ax+b) = m$; $\cos(ax+b) = m$; $(e^x)' = e^x$
- $\lim_{n \rightarrow \infty} (2^n) \cdot (x^n) / \sqrt{(2\pi - 1)}$
- $\frac{1}{\sqrt{1 - (\frac{2x}{1+x^3})^2}}$
- $r = M_0 \cdot M = \frac{r - r_0}{\cos \omega}$
- $\Delta \text{NOT } |a_{n+1}|$
- $(\ln x)' = \frac{1}{x} (x > 0)$; $(\ln |d|)' = \frac{1}{|d|} (x \neq 0)$

Tables of values:

x	5,8	8,7
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7	7,2	8,9	7,1	1,5	2,5
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4.2. Research unit Business Science

4.2.1. Organisation

Business Science is a relatively large unit consisting of 71.5 fte in research staff. It is well-placed at WUR because of the latter's research excellence in food and life sciences, which are complementary strengths for this unit.

The five chair groups participating in the research unit Business Science are:

- Business Economics
- Business Management & Organisation
- Information Technology
- Marketing & Consumer Behaviour
- Operations Research & Logistics

The five chair groups are bound together by their primary object of research: the agri-food value chain, which has a key role in many of the urgently required societal transitions. Each of the chair groups has its own theoretical and methodological approach as well as its own specific set of disciplinary scientific journals.

The unit is governed by a board consisting of the five chairs, supported by an executive secretary. One of the chairholders is appointed as the chair of the research unit Business Science and represents the unit in the departmental council of the science group Social Sciences within WUR, as *primus inter pares*. The ambition is to circulate the functions of the research units' chair and executive secretary every three years among the other chair holders in the unit.

4.2.2. Aims and strategy

The mission of the research unit Business Science is to scientifically contribute to sustainable as well as profitable business performance, together with stakeholders, in national and international agri-food value chains. This mission should be seen against the backdrop of urgent societal transitions that are required in the face of today's pressing societal, ecological and human development challenges. Some such challenges are climate change, overpopulation, malnutrition and overconsumption. These challenges require responses from agri-food companies and organisations, impacting their daily operations as well as their future strategic outlooks. The research unit Business Science at WUR aims to make cutting-edge contributions to the development of new scientific insights and methodologies addressing current and future challenges both in business science as a discipline and in the agri-food domain itself.

In the past six years, the unit has invested considerably in an integration process for the chair groups. It has, for instance, moved towards joint management of the unit and collaborative research projects, including joint investment in overarching, integrative and jointly supervised research programmes at postdoc and PhD level. The integrated research lines of the research unit Business Science are summarised along three WUR-supported life sciences themes: digitalisation, sustainability and health. These themes are studied through a focus on decision support and value creation across the value chain. The unit anticipates that this research approach will come to fruition in the coming years. Although the chair groups in the section already had strong interdisciplinary research connections with technical sciences, there was almost no tradition in interdisciplinary research among the business sciences. Hence, coming from a disciplinary focus on the business science sub-disciplines, it has extended its focus to inter- and transdisciplinary approaches towards the joint research object of agri-food value chains.

The committee found that overall, the mission, vision, strategy and aims of the unit are clear and sensible, and well-placed at the intersection of the five chair groups. The committee fully endorses the integration of the chair groups. This needs to continue and could also incorporate administrative and financial levels. Such integration will pave the way for further collegiate and more collaborative transdisciplinary research.

The committee recommends to continue to capitalise on current and emerging opportunities by focusing on digitalisation, sustainability and health. The strategy should be revisited periodically, however (ideally every 2-3 years), to ensure that it is still topical, contemporary and relevant.

Future funding opportunities

The committee found that the unit commands outstanding capabilities, reputation and expertise in the agri-food value chain, complemented by strong national and international academic and business networks. The recent rapprochement between chair groups has helped to overcome challenges in terms of the size of the individual groups. Inter-group collaboration is already happening and should continue in the future. The committee fully understands that this integration is not always easy to materialise. Luckily, the unit can capitalise on future funding opportunities related to inter- and transdisciplinary collaboration by working within the WUR ecosystem. The unit is in a prime position to achieve this, as future funding will rely more on addressing societal challenges via interdisciplinary research and many calls will require larger scientific teams.

Connection with stakeholders

The committee recommends that the unit connect more closely with its key stakeholders (businesses, NGOs etc.) while further shaping its future research strategy. In this way, it should be possible to maximise their input in the unit's research journey and create further impact on business and society. Closer collaborations with its stakeholders will be paramount for the unit to achieve its key objectives. Taking into account the unit's already good access to various stakeholders, it should be possible to strengthen these links.

4.2.3. Research quality

The Business Sciences Unit has made a strong contribution to the body of scientific knowledge in the field of food, sustainability and agribusiness, for instance with papers in influential journals such as the Journal of Cleaner Production and Agricultural Systems. It is an outstanding research unit with some top publications and major impact. Ample evidence of this is given in the self-evaluation report. For example, the leading, high-quality publications across various chair groups (22% of the publications between 2014 and 2019 belong to the top 10% of most cited publications (2014-2019)). Some of these papers are published in disciplinary journals whilst others are published in interdisciplinary journals. This strategy is very appropriate and sensible considering the mission of the Business Science unit. The unit has been very successful in acquiring funding, like numerous research projects from national (NWO) and international bodies such as from the EU.

4.2.4. Societal relevance

Most of the Business Science research is highly applied and relevant to policy makers and agri-food companies. This is a key strength of the unit, as its research work has been contributing to various government and advisory committees as well as to EU policies on food waste (REFRESH) and on resilient farming systems (SURE-Farm).

The unit has generated strong societal impact for various stakeholders including agri-food companies, policymakers (such as the European Commission, and government departments in the Netherlands), researchers from technical disciplines, the European Food Safety Authority, etc. This impact has definitely contributed to the transition to a sustainable biobased economy.

The unit's public engagement is also impressive. Evidence of this is found in numerous formats: policy reports and papers, books for the public audience, videos and knowledge clips, blogs, websites etc. It is clear that the unit is

making a systematic effort to reach its key stakeholders and beneficiaries and this effort should continue.

The committee's key recommendation, as stated above, is to continue being connected with the key stakeholders, led by the unit's strategy. These stakeholders are invaluable for the unit and represent a key asset. The committee recommends that the unit continues to reach out to all actors up- and downstream the food value chain, as a more integrated chain approach is needed to overcome the main challenges for the agri-food sector.

4.2.5. Viability

The Business Sciences unit has developed a robust and well-articulated plan to ensure the scientific and societal relevance of its goals. The aims, strategy and foresight of leadership are conducive to achieving these goals. The unit's strong internal networks, its external reputation, its strong linkages with life science groups at WUR, its financially strong position and its great contacts with stakeholders (helping among other things in facilitating access to research funding) are additional reasons to think that achieving these goals is realistic. There seems to be sufficient resources to implement the unit's plans for the future; it is expected to accommodate future developments in the agri-food value chain.

Future outlook

The unit asked a specific question: 'How does the committee view the future vision we have for business sciences – perspective from disciplinary to inter- and transdisciplinary research – in the context of the agri-food value chain and how do they see our perspective in the competitive world of business schools?'

In reaction to this, the committee states that the vision to move from disciplinary to inter- and transdisciplinary research seems logical and viable, considering the research strengths of the unit and of the rest of WUR. This transition will be challenging, but the unit is in a strong position. The recent and ongoing integration between the chair groups will be a catalyst and an ideal platform to ensure that the transition will be fruitful. The unit's perspective is very clear and unique when compared to other business schools. Its focus on the agri-food value chain defines its identity and unique selling proposition, which it needs to protect. The committee recommends that the unit sticks to its specific niche, by continuing to research in and publish on the agri-food value chain. In this sense it should not try to mimic general business schools but indeed nourish its unique niche, which is the agri-food sector. The comparative advantage is its combination of knowledge of business economics

with good knowledge of the structure and technologies of the agri-food chain. This chain is different from most other sectors due to its dependence on ecological processes and the much higher number of actors. It makes forging alliances within the chain more complex and difficult. Therefore, future agri-food managers and leaders need to have not only good economic knowledge but also sufficient knowledge of the socio-natural-technical processes behind food transformation and selling. The Business Science unit at WUR is in an exceptionally good position to train such future leaders.

A strong recommendation for the Business Science unit is that it should promote its successes more and become less 'shy'. It has achieved some considerable successes over the past few years concerning funding, publications etc. The unit should show to the rest of the world how good it is.

Academic culture

The committee got the impression that the Business Science unit has created a dynamic and positive research environment, with PhD candidates who are appropriately supported and coached by the faculty. The unit is also very collegiate and cohesive and there is a strong team spirit in the well-integrated business disciplines. This is evidenced by the joint development of PhDs and postdocs by different chair groups. Furthermore, it seems that each member of the unit is taken care of, including younger colleagues who are well-mentored. Such a climate is highly conducive to a further integration of research groups and the journey towards more inter- and transdisciplinarity.

4.3. Research unit Communication, Philosophy and Technology

4.3.1. Organisation

The research unit Communication, Philosophy and Technology (CPT) consists of 28,3 fte in academic staff. It was established in 2014 out of long-established collaboration between its constituent chair groups. These chair groups are:

- Strategic Communication
- Knowledge, Technology and Innovation
- Philosophy

The unit remains loosely governed through bi-monthly meetings, involving chair holders and representatives from each of the chair groups.

4.3.2. Aims and strategy

The unit's collective mission is to integrate approaches and frameworks from communication, philosophy (including ethics), science, technology and innovation studies, with the aim of developing critical and policy-relevant understandings of these dynamics and to contribute to the clarification of problems, the reconfiguring of solutions and the acceleration of transitions.

CPT has its own research ethos, which is both reflexive and action-oriented. It studies the emergence and institutionalisation of societal challenges and change processes and intervenes in these processes, often with public and private sector stakeholders. Its practice is driven by a broad and reflexive account of open science and an understanding of its societal value: developing science that not only makes research results as widely available as possible for society, but that also critically and reflexively engages with societal actors in the design, conduct and dissemination of research.

CPT is directed towards three intersecting research lines, each shaped by dialogue, equity, inclusion, reflexivity, responsibility. These research lines are:

- **communication and change**, focussing on challenges stemming from societal pluralities and the power of communication to address them;
- **innovation and transformation**, developing reflexive and inclusive approaches to understand, evaluate and transform innovation processes, mostly in the Global South;
- **ethical values in practice**, critically reflecting on concepts, values and epistemic and ontological assumptions often taken for granted in research, policy and practice in WUR domains.

CPT's aims are to embed its research vigorously in society, to improve wellbeing and quality of life, and to sustain an inclusive academic culture in which people and ideas can flourish.

The committee is impressed by the material presented and would like to compliment the unit on the comprehensiveness and the reflexive tone of its self-evaluation report. In this sense, the report speaks to the ethical and analytical orientation of the three chair groups. The groups have undergone substantial organisational change and started to become a research unit. The committee got the impression that the unit is still an emerging collaboration, while the chair groups it brings together appear well-established both in terms of their disciplinary orientation and their institutional standing at Wageningen University.

It is the committee's impression that the approach and profile, aims, and strategy of the collaborative space that CPT wants to be are sound and well-founded. The ways in which the chair groups have sought to integrate and link cross-cutting lines of research and teaching, including PhD supervision, are commendable. The committee particularly appreciates that the unit provides space for different epistemologies and critical approaches, and seeks to do justice to the need for basic as well as applied research.

Strengthening the unit

The unit asked the committee to reflect on a specific question: 'What could we change in our self-description and ways of working to strengthen these as joint research lines without weakening our specific expertise as chair groups?'

The committee remarks that in many respects, the unit has already chosen the right direction. It just has to persevere and put energy into trying to follow up on these strategic choices. More specifically, the committee offers the following recommendations.

First, continue to strengthen the common governance of the unit and the sharing of resources between chair groups, so that they can be more aligned, collective strategies can be deepened, and the unit can better benefit from critical mass for joint projects and activities across the research lines. Other units that have travelled further on this road, such as the Centre for Space, Place and Society, could be a source of inspiration in this respect.

Second, the committee recommends that the unit expands its research profile through the integration of other disciplines such as policy studies or science and technology studies – but only where this makes sense and where it enhances opportunities for collaborations. This might help bring together

research themes and questions asked by the unit, particularly on pressing topical questions around e.g., the role of digital spaces for the emergence of controversies and misinformation.

Finally, the committee strongly recommends that the unit continues striving for equity and diversity in its staff composition: in terms of gender there is particular inequity at the senior level. Similarly, a greater focus on diversity of cultural backgrounds across teams would help bring about new ideas and inspire new organisational practices that help integrate the chair groups. The recent retirement wave offers a window of opportunity to pause and reflect on what the unit should look like ten years from now, and how recruitment strategies can help strengthen the unit in its ability to respond to societal problems, of which equity and diversity of representation are paradigmatic issues. Particularly the underrepresentation of women at the senior level is an urgent matter that must be addressed at the level of (i) chair groups (ii) the CPT unit and (iii) WASS.

Strategic focus

In addition, the committee still sees some potential for more strategic focussing on research topics, such as misinformation and science scepticism regarding the climate crisis or vaccination (or both, as there may be parallels). These topics lend themselves well to help further integration among the chair groups. Having said this, it is important that decisions on the choice of such topics are made based on a genuinely shared interest, rather than on strategic deliberations. For instance, focussing on fake news and digital practices could offer joint research platforms, but the unit needs a specific 'WUR-CPT approach'. Such a unique selling point is necessary in a context where a growing number of scholars across disciplines are chasing the same target. Moreover, interdisciplinarity should not be a goal in and of itself but something to strive for to improve the quality of research. The unit may start off this strategic process in informal, low-threshold settings such as brown bag lunches. It is important to have a bottom-up approach, whereby junior researchers are active in shaping the future of the unit. On the other hand, they should not be overloaded with strategic work while on tenure track or other temporary contracts.

Finding the balance between mono-disciplinary and interdisciplinary activities will need long-term attention, for this unit as well as for all interdisciplinary organisations. There is no panacea. Joint PhD programmes or courses, joint supervisors across chair groups, criteria for evaluating interdisciplinary theses, seed funding for small pilot projects with the aim of bidding for larger cross-group research grants, and publications in interdisciplinary journals might be

some options to encourage interdisciplinarity without compromising disciplinary contributions.

4.3.3. Research quality

The committee is impressed by the track record the unit presents, particularly considering the recent retirement and departure of senior staff. The unit has achieved a high degree of international visibility in its chosen areas of research, such as public health ethics and sustainability. On the one hand, this is reflected in classical indicators such as publications in highly ranked journals and prestigious grants. On a supplementary level, the unit's work is clearly pertinent and has had impact on policy debates on, for instance, vaccination.

As far as the unit's coherence is concerned, the committee found a sound integration of disciplines and perspectives. This must have been a challenge given the composition of the unit and the necessity to bridge the gap between fundamental and applied research, as well as conceptual work. The committee found a good basis for a shared epistemology and approach, and a joint vision of what it means to do research in a rapidly changing world with urgent challenges such as the climate crisis and the ongoing pandemic.

The committee expects that the need to expand the research profile of the unit – while also doing justice to societal impact needs – will create substantial pressures and is likely to affect future career paths in the three chair groups. It therefore very much encourages further reflection on the conditions required to fulfil the different needs of scholarship, as also explicated in paragraph 4.1.4. In order to improve the unit's visibility and widen its audience, new journals as outlets for interdisciplinary research should be explored.

4.3.4 Societal relevance

The committee found that CPT's clear strengths are its reflexive, action oriented and policy-relevant orientation, including the wish to address societal challenges by combining chair groups' competences. The Covid-19 crisis highlights the relevant and timely nature of the unit's research, given the multiple ethical questions the pandemic poses and how these are interrelated with technologies. The unit impressively reports broad societal impact and visibility. The committee hopes that university metrics and PhD and tenure track procedures will better acknowledge these successes in the near future. It encourages CPT to take an active role in reflecting and improving these metrics and procedures at different levels. This would much reduce the tensions and burden for individual scholars.

4.3.5 Viability

CPT's ethos of a fruitful interplay between studying and doing promises exciting new scientific insights and robust knowledge contributing to solutions of societal challenges.

Academic culture

CPT seems to put much effort in stimulating openness, social safety and inclusivity of the research environment. These efforts must surely have been put to an exceptional test during the Covid-19 crisis. For the future, the committee sees a lot of potential in more diversification. CPT has the ethos to reflect on gender and diversity; in an organisational learning process, it can benefit from the fruitful interplay of studying and practicing diversification.

The bottom half of the page contains extensive handwritten mathematical work. It includes various formulas such as $R \cdot \lim |a_n/a_{n+1}| = \lim_{n \rightarrow \infty} \frac{a_n}{a_{n+1}}$, $\frac{d \cos x}{dx} = -\sin x$, $\frac{d \sin x}{dx} = \cos x$, and $\frac{d e^x}{dx} = e^x$. There are also trigonometric identities like $\sin^2 x + \cos^2 x = 1$ and $\frac{d}{dx} \arcsin \frac{x}{a} = \frac{1}{\sqrt{1 - \frac{x^2}{a^2}}}$. Several tables are present, including one with values 5.8 and 8.7, and another with values 7, 7.2, 8.9, 7.1, 1.5, 2.5. The text is dense and covers a wide range of mathematical topics, including limits, derivatives, and trigonometry.

4.4. Research unit Economics

4.4.1. Organisation

The research unit Economics employs 49.9 fte in scientific staff and comprises five chair groups:

- Agricultural Economics and Rural Policy
- Development Economics
- Environmental Economics and Natural Resources
- Rural and Environmental History
- Urban Economics

The chair groups in the research unit have been on a steady trajectory of institutional reform from a collection of separate chair groups to a more closely-knit unit. This has resulted in joint research, joint PhD supervision and the joint writing of grant proposals. Other examples of the ongoing integration are three postdocs that have recently been hired, all of whom work at the intersection of two chair groups on food and sustainability and a position for a ‘special professor’ who will be placed with each of the chair groups for a consecutive academic year. This will further integrate his research in behavioural economics with research conducted in the different chair groups. The transition helps to exploit synergies and brings together complementary expertise.

4.4.2. Aims and strategy

The mission of the research unit Economics is to provide a better understanding of the economics of sustainable and equitable development. The unit aims to contribute to solutions for the world’s challenges and possibly to an acceleration of urgent transitions. The challenges that the unit in particular is committed to include (a) poverty reduction through a more equitable distribution (in which poverty is not only defined as lack of income but also a low educational and health status as well as barriers in access to public facilities) and (b) sustainable and circular systems of production and consumption.

The unit’s strategy is to value quality over quantity. High quality is achieved by applying a logically consistent innovative methodology that is transparent, resulting in replicable results. The innovative part can be at the theoretical or empirical level, or a combination of both. Acquisition has been refocused to projects that are strategically relevant to the unit’s mission and research themes.

The unit's research is organised around three overlapping research domains:

- **markets and policies**, inspired by new research methods from behavioural, experimental, and institutional economics;
- **spatial structures**, concerning the role of space in colonial trade relations and contemporary North-South relations, nature conservation and the economics of land use planning;
- **institutions, cooperation and technology**, pioneering behavioural field experiments to uncover motivational drivers of trust and cooperation and the formal and informal social rules that structure technology adoption and diffusion and actively contributing to research on the relationship between institutions, globalization and long-term inequality.

The committee has evaluated the unit's achievements in strategic terms. Firstly, the unit has defined a clear focus on the economics of sustainable and equitable development. Towards this end, it has managed to coherently combine its strengths in agricultural economics, environmental economics, development economics, urban economics, and rural and environmental history. It has successfully achieved this by grouping its research in three overlapping domains. The unified presentation of the unit's focus is attractive. Given the complementary strengths in the WUR's research environment and its long tradition of impactful research, the focus of the unit Economics corresponds with a niche in which it is arguably world leading. Moreover, the economics of sustainable and equitable development is likely to become ever more important. The unit Economics is well placed to capitalise on this in the near future. This leads to the following recommendations.

First, it is important that the unit Economics invests in its reputation as a world-leading centre of expertise in the niche it occupies. For this, a more proactive communications and engagement strategy could be articulated.

Secondly, there is a serious risk that, because of the high teaching load and limited administrative support, the unit will not have the capacity to capitalise on its strengths. In reaction, it could consider to more frequently become a small but pivotal partner in large research consortia, in which it makes its expertise available to others who carry out the bulk of the work.

4.4.3. Research quality

A bibliometric analysis of the output of the research unit Economics shows that its academic impact is well above the average for the field. The self-evaluation report also contains numerous examples of distinct academic contributions, which are all evidence for the claim made that the research unit

pursues theory-driven empirical research with a commitment to rigorous analysis. Very strong collaborations are formulated with prominent national and international universities, resulting in leading publications and research project awards. Top field and general interest journals are prioritised, which clearly pays off. The unit has a well-deserved reputation for publishing in prestigious outlets (e.g., top field and general interest journals) and punches well above its weight with 20% of its research outputs belonging to the 10% most cited. It exports its research quality through the capacity building of its PhD candidates, who often come from other countries, frequently in the Global South. The unit applies strict hiring criteria, targets major scientific grants with prestigious funders, and increasingly focuses on high risk/high return research projects. This means the top journals are more often within reach.

The unit recognises that even more can be done. It has successfully piloted a version of Wageningen's tenure track system that incorporates discipline-specific assessment criteria as well as a qualitative assessment of research outputs. So, it is deviating from an assessment that is based purely on citation-based metrics of journal quality. However, the sheer number of areas of assessment in the tenure track system – teaching, administration, societal impact, funding, research quality – gives rise to what one member of the unit during the evaluation identified as 'the sheep with 5 legs' problem, i.e. excelling in all these areas would require an impossible creature. It should be mentioned that where workload is a challenge over the full breadth of WASS, teaching responsibilities as an impediment to pursuing research quality seem to be perceived as extra prominent and unevenly distributed in the Economics unit.

The committee's recommendations are twofold. First, is to continue to apply and refine the unit's version of the WUR tenure track system. This recommendation fits in well with changes in thinking and practice about how academic performance should be assessed both at the university and Dutch national level. Second, is to allow people who excel in research (as compared to others) to do less (than others) in other areas of assessment and vice versa.

4.4.4. Societal relevance

The unit has been successfully involved with societal impact and public engagement as evidenced by specific research project activities. Staff from this unit have also been involved with policy work at national and international level. This is made possible through an extensive network of non-academic stakeholders, including governments, NGOs and the private sector. The unit's focus on the economics of sustainable and equitable development is becoming

increasingly important, given today's global challenges. This clearly shows in the impressive impacts it achieves outside academia. It has had considerable influence on policy making, on NGOs and on societal debates in recent years.

Some examples of how the unit plays to its strengths when it comes to societal relevance are its work on fair food pricing, on tools to monitor the bioeconomy, and on the global challenge of feeding 10 billion people by 2050. The last mentioned provides a good example of where the unit may increase its societal relevance in future: 80 scientists were brought together from across Wageningen University to reflect on the global food security challenge. The unit is well placed to apply the economics of sustainability and distribution, working together with other social scientists and natural scientists, for the global public good.

4.4.5. Viability

Given a well-defined focus on topics of increasing global importance, excellent connections with stakeholders, complementary strengths in its research environment, and its top researchers, the future is bright for the Economics unit.

The committee learned that incoming international PhD candidates sometimes lack the knowledge level that is required to enter the Economics PhD programme successfully. In order to make up for this, they then start out on their PhD trajectory by taking some courses (micro- and macro-economics) from the graduate programme for talented MSc students. The committee thinks that this is an excellent way to attract fresh talent and enable it to rise to the required level. However, the danger is that for these international students the actual WASS PhD programme is hollowed out, because part of it is spent on courses at the master level. To solve this issue, the committee suggests that WASS explores the possibility of developing some sort of pre-PhD programme for the Economics PhDs. The required courses would then be taken not during the PhD programme, but before the start of it. Should this not be possible for practical or financial reasons, the committee then favours the shorter PhD programme for those international students that have some deficiencies over not allowing them in at all. It is convinced that attracting talented young people is of great value for the Economics unit, as it is of course for these people themselves and their future employers.

Academic culture

The unit shows every sign of having a vibrant, inclusive and open research culture. It is committed to data management and integrity. Admirable progress has been made in the number of open access peer-reviewed journal

publications, which has risen from 13% in 2015 to 63% in 2020. Increasing transparency has been achieved through closer cooperation and coordination between chair groups, as well as through a variety of other means that include a lively seminar series. Sufficient measures are mentioned in the document which ensure the openness, social safety and inclusivity of the research environment.

When it comes to social safety, good progress is being made to ensure the social protection and wellbeing of staff, including in the area of stress reduction. The unit strives for greater inclusivity and a more balanced workforce, but recognises that much more needs to be done. Perhaps this is not obvious to the unit itself, but in how it presented itself during the evaluation, it came across as somewhat hierarchical, both in the video and during the meeting. Senior members confidently presented the unit and did most of the talking, while junior members seemed relatively timid and stayed in the background. The committee's impressions were of course just snapshots in time and may not reflect the day-to-day functioning of the unit. On the other hand, it is always good to be conscious of appearances, for they matter. For instance, when recruiting new members of staff, a more egalitarian first impression would be preferable.

4.5. Centre for Space, Place and Society

4.5.1. Organisation

The Centre for Space, Place and Society (CSPS) employs 36,7 fte in scientific staff and consists of four chair groups:

- Cultural Geography
- Health and Society
- Rural Sociology
- Sociology of Development and Change

The unit was founded in 2016, mainly out of content affinity. All four chair groups are rooted in theoretical and empirical analyses on changing forms of socio-spatial development and how these relate to rural, environmental and socio-political dynamics. In addition, the chair groups share an affinity for critical-constructive research and epistemologies. They realised there was much to gain from closer collaboration. From the start, the unit set out to build a dynamic and diverse academic hub that facilitates collaboration towards high-quality scientific discussions, outputs and impact.

Clusters

The scientific and social heart of the unit are the CSPS clusters. These are flexible, temporary thematic structures where staff from different chair groups (also from outside the CSPS if relevant) come together to develop content activities like seminars, workshops, joint publications, grant applications, etc. PhDs and postdocs take a leading role in these clusters. To give direction across the flexible cluster structure, the CSPS scientific committee brings together the director and cluster coordinators. To ensure effective support of the clusters, the CSPS director and engagement coordinator facilitate and guide bottom-up processes and activities focused on academic content and societal engagement. Finally, the administrative governance is in the hands of the CSPS board.

4.5.2. Aims and strategy

The CSPS is a social science centre dedicated to investigating urgent global challenges related to health, poverty, food and environmental degradation. It advances critical-constructive scholarship across geography, anthropology, sociology and population health to understand how these challenges manifest across everyday living contexts of people and the political-economic structures that influence these. From this basis, it develops and supports imaginative possibilities and practical action for a more just, sustainable and equitable

world. Building on its objectives as well as the activities of the thematic clusters, the unit focuses on four central research lines:

- **global one health**, focussing on the complex ways in which health and wellbeing emerge in different spaces, societies and ecologies;
- **development and transformation**, exploring how communities and ecologies change over time and affect one another in the process;
- **agriculture, food, ruralities and nature**, studying the spatialities of agricultural production, food provisioning and the multiple interconnections between food and socio-spatial justice, biodiversity, health and well-being;
- **migration, mobility and tourism**, focussing on the politics, governance and design of space and place and how these are traversed by humans and animals.

CSPS's core strategy is to develop an enabling environment and stimulating academic culture for staff and PhD candidates to organise, exchange and grow.

In its first years as a unit that had been founded in 2016, CSPS focussed on an active PhD policy for collective training and mutual support, bottom-up content collaboration (which led to the cluster model described above) and establishing a shared reputation, both within WUR and for the wider world. The latter ambition inspired the unit to organise a large, international kick-off conference in June 2017. From 2018 the unit consolidated its unity, established a collective mission and strategy and broadened its societal engagements. More recently, the unit has further operationalised its academic culture in the so-called 'transformative learning hub'. This is a horizontal community of researchers, educators and students across disciplines, who are committed to engaging with transformative learning and change. The hub seeks to blur the boundaries between research, teaching and activism, and to actively embed the CSPS and its culture of care into WUR more broadly.

Another initiative has been to transcend prevailing academic cultures of competition and precarious funding. To this end the four chair groups increased the core-funding of the unit to an amount that could support multi-year planning, salary costs of the engagement coordinator, annual events, PhD training and support, and cluster activities.

Cross-chair group governance

The committee found that CSPS has a consistent strategy that convincingly bridges four quite heterogeneous chair groups. The mission statement and strategy are attractive and match with the competences and strengths of the

internationally acclaimed research unit. The well-written self-evaluation report documents the broad organisational changes since the previous peer review. Its critical-constructive nature mirrors the unit's research philosophy.

The committee sees some tensions between on the one hand high individual work pressure (caused by growing administrative bureaucracy and demands on staff, tenure track requirements, increasing competition for research funding) and on the other hand the expectations to collaborate with society and across chair groups. CSPS has managed to master these tensions and threats despite the Covid-19 crisis, which is a huge achievement. The committee associates this success with the unit's strong collaborative spirit and culture of care, and with the successful experimentation with different models of cross-chair group governance. Therefore, it encourages CSPA to further strengthen the common governance and the sharing of resources, e.g., via the bottom-up cluster financing model, joint PhD training and support, and the transformative learning hub. The committee sees much potential in sharing and comparing the unit's cross-chair group governance with other research units to encourage exchange of best practice.

4.5.3. Research quality

The committee finds the overall quality of CSPA research to be very good, and often excellent. There has been a steady increase in the number of articles published in refereed journals, while keeping broadly constant the proportion located in the top 10% cited journals. The shift to open-access publications is particularly impressive. CSPA also does well in securing prestigious grants. It is highly visible in terms of European projects, conferences, journal editorial roles and comparatively high citation scores. The flexible nature of the eleven research clusters, with all staff engaged actively in at least one cluster, is an attractive model that seems to have contributed positively to collaborative and often innovative research across the research lines. The committee recommends further allocation of resources to the clusters and related collaborative activities, including the transformative learning hub and writing retreats for PhD candidates.

While CSPA scores very well in traditional metrics, it is also actively searching for complementary metrics to reflect scholarship more holistically. The committee found this to be a fascinating enterprise, but it is still rather difficult to pin down to something 'concrete'. It encourages CSPA to take the next step in its ambitious aim to operationalise and institutionalise non-standard criteria for research quality, such as those around wonder, beauty, meaning and value creation. This could for instance be done in PhD and tenure track procedures, or in future internal or external reviews of CSPA activities.

Knowledge integration

Due to the unit's outstanding research quality, the committee sees potential for the acquisition of an ERC grant. The unit shows well-documented efforts and successes in pioneering transdisciplinary research that is socially anchored and responds to policy issues and community demands. The committee particularly appreciates the unit's experience and expertise in stakeholder engagement and the integration of scientific knowledge with other ways of knowing, such as social learning, experiential knowledge from societal actors, or art. It strongly recommends continuing the integration and development of other fields of knowledge and ways of knowing, beyond academic epistemologies. They could further strengthen CSPS's research. Taking a second-order science perspective, this integration expertise could be better reflected on a meta level, and shared with other experts on transdisciplinary knowledge integration, e.g., via the new Global Alliance for Inter- and Transdisciplinarity³, or the International Platform for Integration and Implementation Sciences⁴. The committee also hopes that the unit will continue transferring its transdisciplinary integration expertise to early career researchers in specialised teaching and training formats.

4.5.4. Societal relevance

CSPS bridges the science-society gap via the transformative learning hub and its well-established collaborations with specific communities and farmer groups that expand far beyond single projects. With transdisciplinary methods, action research and transformative learning tools, CSPA contributes practical solutions to pressing societal challenges as well as new scientific insights. The committee found several exciting and innovative examples of societal impact, ranging from impact on the exhibition *The future of the Countryside* in the New York Guggenheim Museum to helping to develop a family health app for use in community consultations in the Solomon Islands and Papua New Guinea.

There is a clear crossover between the aim to broaden the performance criteria for research quality as described above and the societal impact of unit activities. The 'Political Agency at the Grassroots' cluster has for instance produced an energy transition booklet that is rightly presented as an example of value creation due to its use by grassroots groups in local municipalities. In a future ideal world, this should definitely count as a sign of high academic performance.

³ See: <https://itd-alliance.org/>

⁴ See: <https://i2s.anu.edu.au/>

The unit is clearly engaging frequently with policy makers and providing ample input to policy processes. The self-evaluation report gives evidence of actual policy influence, such as the inclusion of ‘convivial conservation’ in contemporary biodiversity policy discourses. The committee recommends that these various efforts to be stepped up, with the aim of further increasing policy impact.

4.5.5 Viability

CSPS has the necessary intellectual, organisational, strategic, and socio-cultural requirements to meet its goals. The committee is looking forward to the exciting scientific contributions and real-world solutions provided by future CSPS activities.

Academic culture

The committee found that CSPS’s outstanding collegiality was underlined by the spontaneity and warmth that the staff demonstrated in their interaction during the meeting with the committee. The unit’s culture of care is an appropriate answer to the difficult conditions in the past period characterised by Covid 19 and growing pressures on higher education in general.

The background features a collage of mathematical formulas and a logo for HUISJES&CO. The logo is located in the bottom left corner and includes the text 'Meer waarde uit wetenschap'. The formulas include various trigonometric identities, limits, and algebraic expressions, such as $\lim_{n \rightarrow \infty} \left(\frac{a^n}{a^{n+1}} \right) = \lim_{n \rightarrow \infty} \frac{a^n}{a^{n+1}}$, $\sin(ax+b) = m$, $\cos(ax+b) = m$, $\lim_{n \rightarrow \infty} \left(\frac{2^n \cdot (x^n)}{\sqrt{(2\pi-1)}} \right)$, and $\lim_{n \rightarrow \infty} \left(\frac{2^n \cdot (x^n)}{\sqrt{(2\pi-1)}} \right)$. There are also several boxed numbers: 5, 8, 8, 7, 7, 7.2, 8.9, 7.1, 1.5, 2.5.

4.6. Centre for Sustainability Governance

4.6.1. Organisation

The Wageningen Centre for Sustainability Governance (WCSG) brings together 118 researchers (45 FTE in research capacity). It was created in 2017, as a collaboration between four chair groups:

- Environmental Policy
- Public Administration and Policy
- Forest and Nature Conservation
- Law

The chairs jointly lead the unit. Strategic decisions are taken with the wider WCSG board, consisting of a research coordinator, education coordinator, and rotating PhD representative and a WCSG coordinator. The unit plans to appoint a dedicated academic director, who is responsible for developing and managing the collaborative research programme.

4.6.2. Aims and strategy

The WCSG's mission is to deliver social scientific knowledge that enables innovative ways of governing towards the resolution of global challenges faced in the delivery of sustainable food and environments. The unit identified three themes:

- **governing 'wicked sustainability problems'**: ill-defined, transnational and multilevel problems characterised by complexity, value conflicts, political and legal ambiguity, and scientific uncertainty;
- **governing sustainability of transnational networks and flows**, focussing on the interunit of global and local networks connected through flows of information, commodities, services and people;
- **governing sustainability practices**, shaped by policy, knowledge and reciprocal action, as a basis for transformative sustainability governance.

WCSG embraces problem-driven research topics, theories and methods and has the ambition to build long-term relationships and networks with policy makers, NGOs, private firms and citizens. From 2017 onwards, the unit has self-funded an 'incubator programme' to stimulate innovative, collaborative, scientific research and cooperation between staff across the four chair groups. The seed money from this programme finances projects that enable conceptual, methodological or thematic innovation.

The unit's self-evaluation report outlines the changing mission statement and evolving research strategy that reflects openly on the challenges that the unit has faced in trying to develop collaborative research across four well-established chair groups. There is a positive shift from a strategy based on existing chair group activities, with limited input from the Law group, to a far more collaborative programme with stronger normative direction. The committee considers this to be a very commendable development. It is convinced that further gradual integration of the chair groups will contribute to the quality of research. It therefore recommends proceeding with the integration step by step. The committee recognises that the incubator programme is a very effective strategy towards such further integration, with participation of staff members from different chair groups and different levels of seniority. It therefore recommends further strengthening and amplifying the incubator programme, as a tool for fostering interdisciplinarity.

Competition

The unit's SWOT analysis identifies a growing threat within the unit's core research areas from other Dutch universities. Discussions with the committee during the site visit mentioned Utrecht University and its highly-reputable work on similar topics to those developed by the WCSG. Perhaps this challenge is best seen as a reflection of the success of WCSG members in leading the way in these research areas. So rather than compete, it may be better to collaborate. Dutch academia as a whole has a strong reputation in sustainability governance, and there are areas for developing both synergies and complementarity. In general, WCSG should be clear in identifying the core societal challenges that it wants to focus on over the next five to ten years and, as far as possible, to avoid repetition and replication within and outside WASS.

The way forward would be, in the committee's view, to further strengthen the already existing collaborations with other similar Dutch universities and centres while at the same time sharpening the unit's niche and identity (providing knowledge and solutions to problems related to food, environment and health) in order to strengthen funding capacity and visibility. Hereby the link with technical sciences groups should be used as a strength.

Consumption and Healthy Lifestyles

The committee discussed the new chair group Consumption and Healthy Lifestyles with both the chair of the Consumption and Healthy Lifestyles group and the staff of WCSG. Both seem very interested in accommodating the new chair group into WCSG. The committee therefore recommends proceeding to see how this can be incorporated, taking the other recommendations on integration and developing a collective research strategy

into account while ensuring that the new chair is able to keep its own individual identity.

4.6.3. Research quality

The WCSG has a very strong record of publications in excellent internationally recognised journals, a quarter belonging to the top 10 % most cited publications. These publications demonstrate a commendable interdisciplinary breadth. There has been a notable growth in refereed articles and a major shift to open access publication. A significant contribution is made by co-authored papers from across the chair groups, which the committee applauds. The annotation of the selected key articles in the report brings out the breadth and variety of contributions made by the WCSG. According to the committee, many of the WCSG's projects are characterised by incredible depth.

The unit also has a strong record of securing prestigious grants from a wide range of funding bodies, including several collaborative bids from across chair groups. Members attend many international conferences and are active on journal editorial boards. Overall, the WCSG has high international visibility and recognition.

In addition to the breadth and diversity of themes developed in the WCSG, there might be opportunities to pay greater attention to some questions that are also at the very core of sustainability governance, and which could also give WCSG a competitive advantage: structural inequality and power dynamics, inclusion and justice, intersectional vulnerabilities, deep questions of participation, inclusivity, and governance as well as possibly decolonial or postcolonial practices and other social markers of sustainability. The unit may also consider including other, related, disciplines aside from governance, such as planning or geography. Furthermore, the unit might make its projects for sustainability governance in the Global North more visible, especially those in Europe, as this will help to respond to the challenge from other Dutch universities. In the committee's view, such a shift is well placed to address contemporary issues such as the European Green New Deal and the Farm to Fork strategy.

The combination of focus, an interdisciplinary approach and linking governance issues to certain sustainability themes will carve a powerful research niche for the unit. However, noting that the self-evaluation report acknowledges the limited investment in collaborative research activities to date, the committee recommends that the WCSG seeks to shift more

resources from chair groups to collective research activities, to enable further integration.

4.6.4. Societal relevance

The WCSG shows strong societal and scientific ambition and addresses issues of high topicality. The committee sees evidence of research products being used by societal groups, such as reports oriented towards professional audiences and in trade journals in the local language, and key positions in important advisory bodies. Perhaps of importance for the future would be to give more attention to different types of publications in the performance evaluation of individuals and groups, so that a lower focus on metrics would leave space for different outputs and publication venues, including new journals or journals outside the impact factor world, academic books, reports, collaborative writing with non-profits and community groups, and other forms of output.

A further recommendation is to strengthen the participation and visibility of non-profit organisations, community, neighbourhood groups and other stakeholders in the strategic planning of WCSG research. They play a key role in sustainable governance, yet are often engaged with lightly or in a tokenistic way by policy-makers and planners. Although the committee recognises the involvement of stakeholders in projects, it was not entirely clear to what extent societal actors are involved in the strategic planning of the unit, and how long-term stakeholder relationships are managed, beyond the restricted time periods of single projects, activities or events. The committee recommends paying attention to these aspects, for they could increase societal impact in the long run.

4.6.5. Viability

The WCSG conducts excellent, impact-driven, and ample research through both large, established projects and smaller incubator projects. A small set of sensible institutional administrative initiatives (such as the incubator programme and the shared PhD programme) have enhanced collaboration within the unit. The chairs have set a strong, dynamic, and relevant policy-driven research agenda. These are very promising developments. As described above, the committee sees that the research agenda could be slightly revisited and expanded. There is also some space to more clearly present and amplify the different scales and regions within which the unit is working, including a possible greater focus on the Global North. The already high international and national visibility should be maintained. Under these conditions, the

committee is convinced that the unit is in an eminent position to meet the demand for innovation in governance related to sustainability issues.

Future outlook

The unit's research strategy for the future seems to represent a clear and sensible approach that builds on existing strengths and activities while developing into new areas. The committee recommends linking the governance theme to broader Wageningen sustainability themes – such as climate change, biodiversity and feeding the world – and keeping a strong focus on them. The committee also suggests that the unit could further strengthen the broader connection to policy issues beyond the Sustainable Development Goals. They should include global agendas such as the New Urban Agenda, international climate agreements, and WHO standards and visions. The unit could also build on the plans to link to EU social and environmental policies and objectives, such as the European Green Deal or EU climate targets.

Academic culture

It pleased the committee to see that the unit has put considerable effort into developing a common research culture. It contributed to both WASS and WIMEK PhD training programmes, initiated an incubator programme, developed a cross-chair-group programme of PhD trips, writing retreats, and a common MSc thesis support programme. These are all good initiatives and the committee strongly recommends the WCSG continues on this road.

On diversity, the WCSG is doing well. It attracts a large diversity of Dutch and international students and researchers both from the Global North and South. More exceptionally, even at the higher level of full professor, there is an equal division of male and female scholars.

The WCSG has engaged trainers to help with unconscious bias in order to foster diversity within the staff, with respect to gender, nationality and professional background. The committee finds this highly commendable.

4.7. WASS as a graduate school

4.7.1. Management and organisation

The committee found that the PhD programme of WASS is on the whole well-organised, especially since the graduate school developed a new education policy in reaction to the recommendations from the previous peer review committee. Since the previous research assessment, the role of the Education Committee has been reinforced, a new format for the training and supervision plan has been developed and an annual course programme has been introduced. The good organisation and functioning of the WASS graduate school are to a significant extent due to a very dedicated director and supportive staff in the WASS office, which is a strong asset. Particularly the confidentiality advisors for PhD candidates are responsive and much appreciated, according to the PhD candidates interviewed.

The WASS self-evaluation report clearly indicates that WASS graduate school has taken up the recommendations made by the previous review committee. The renewal of the PhD training programme and the enhanced quality of PhD supervisions are two positive developments since the previous review. A lot of initiatives have been taken to smooth processes and to guarantee equal treatment of PhD candidates and other staff for which WASS is responsible.

However, in spite of this general positive impression, the committee sees a major weakness due to the place of the graduate school in the WUR organigram: the initiatives, although good, at the end remain up to the voluntary take-up by the chair groups and research units. This means that positive principles like interdisciplinarity, fair selection of PhD candidates, collaboration among chair groups, common research lines, etc. remain at the discretion of the real decision makers, who are still the chair holders. This weakens the power of the graduate school to enforce these principles. The predominant factor here is of course the financing system: as long as finances stay scattered among the chair holders and PhD projects, and students are funded under different grant and funding schemes, implementation of a common strategy and shared research lines will remain difficult. The committee therefore recommends to give the board of the graduate school more formal influence in core procedures, for instance the recruitment of new PhDs.

Functioning of the PhD council

Members of the PhD council told the committee that they can adequately act as a voice of the PhD community and that they are listened to by the PhD programme manager, who is always eager to take action on issues brought up

by the PhD council. However, while the original intention was for the PhD council to have monthly meetings with the director of WASS, in practice these meetings take place infrequently. Most concerns from the PhD Council are discussed informally with the PhD programme manager or other people in their networks. The only formal way that the PhD council gets heard is by participating in the WASS board and the education committee. The committee recommends reactivating the formal meetings between the PhD council and the WASS director. They do not necessarily have to be held every month, but twice a year seems a minimum to safeguard the mutual flow of information. It was also brought to the committee's attention that some PhD candidates were not fully aware of the role of the PhD council. The committee recommends putting in extra energy to firmly connecting the PhD representatives with their community, e.g., by providing them with the means to collect information from the PhDs and postdocs. Perhaps an onboarding package for new researchers to help them find key persons and forums would be useful.

4.7.2. Recruitment of PhDs and postdocs

Its huge diversity in topics, good reputation and focus on society- and policy-driven research makes WASS an attractive place to work for young researchers.

The committee observes a current trend within WASS towards the recruitment of more postdocs while keeping the number of PhDs at the same level. This trend is partly due to financing schemes that are now often only for three years, e.g., research programmes financed by the European Commission. This makes it easier to secure postdoc positions. Besides, postdocs are also helpful to assist with teaching and to relieve teaching load. WASS does a good job in its support of postdocs; many postdocs have a career plan and receive help in their career development. Given this trend of three-year scholarship schemes, the committee recommends to consider alternative or complementary funding options for a fourth (or sometimes fifth year) of PhD training, so that the number of PhD candidates can be maintained or even increased. If the trend of hiring more postdocs and fewer PhDs perseveres, this would mean that eventually the influx of young researchers would dry up and there would be a lack of candidates for postdoc positions.

4.7.3. PhD supervision and training

The common PhD programme for the whole graduate school and the common training and supervision plan have been well-developed. The committee appreciates that recently the training and supervision plan has been extended to external PhDs, instead of only internal PhDs. The supervision

plan and the go/no go decision after 1.5 years are examples of a good policy and exemplary for other universities abroad.

Although in general the follow-up system functions well, the committee heard from some of the interviewees that in the course of the PhD trajectory, the training and supervision plan is not always taken seriously by all promotors. Consideration of the supervision agreements, the PhD candidate's ambition to present at international meetings, or the career orientation may slack over the years. The committee recommends to see how this can be remediated by further lowering the (already low) barriers for complaints, so that the number of cases in which there are serious problems can be further decreased.

Support and guidance for PhD supervisors has much improved since the previous review, according to the committee. For instance, PhD supervisors now have the opportunity to attend PhD supervision workshops. This is a very good development, since it will improve the quality of supervision for PhD candidates and make work more rewarding and efficient for the supervisors. The committee recommends to make these workshops obligatory for all supervisors.

Supervisors' workload

As of now, the *ius promovendi* (the right to award a PhD degree) is still attributed to a relatively small group of professors and associate professors. This limits the support that PhD candidates receive from their official promotors. In many cases, official promotors have too many PhD candidates to provide in-depth guidance to all of them, and rely on guidance by co-promotors or supervisors.

It struck the committee that in spite of the dedication to a shared PhD programme, there still remains some differences in the guidance of PhDs according to the chair group. The model in which there is a daily supervisor who has regular meetings (e.g., once a week) with the PhD candidate and a formal remote promotor who discusses the progress of the PhD every 3 to 6 months (eventually together with an external supervisor to increase interdisciplinarity) is as such not wrong, on condition that the formal promotor has enough time to take this task seriously. The committee doubts that this is the case when an official promotor has to supervise 10 to 30 candidates. It therefore recommends providing the *ius promovendi* to as many professors as legally possible and perhaps even lobby for a change in the legislation. As a side-effect, this will incentivise associate and assistant professors, as it will increase their international visibility. The committee also recommends to involve the post-docs in the daily supervision of PhDs. The problem of promotors having too many PhD candidates to evaluate can then

be resolved and it will be easier to agree on a universal standard for PhD guidance if the supervision roles are distributed over different staff members. The committee is of the opinion that not only are more junior professors perfectly capable of supervising PhD candidates, particularly in a team of supervisors, but also that recognition and credit should be given where they are due.

In any case the number of PhDs per promotor should be limited. More than thirty PhDs for one promotor is too many, in the committee's view. In addition, the instalment of a supervision team of 3-4 researchers (including the promotor) that meets several times a year to discuss progress and strategy should be made obligatory.

With respect to training of PhDs the committee suggests providing the opportunity for PhDs to take up some educational tasks, such as practical training of BSc and MSc students, and compensating them for these tasks by lengthening their PhD period. This may be a good way to broaden the skills set of PhDs and to provide financing for the extra period needed to finish their PhD.

Co-authorship

Regarding co-authorship of PhD candidates or postdocs and their supervisors, WASS has agreed on clear guidelines. The committee finds this an excellent achievement. WASS now needs to make sure that all academic staff are applying these guidelines properly. It should not be left solely up to the PhD candidates to address co-authorship issues, but they should be able to find support if they need it. In addition, it will help young researchers in their career development if they are made aware of the specific conventions in their field about single or joint authorship.

Duration of PhD trajectory

The time span for PhDs between start and graduation is in most cases longer than planned. Overall, only 35 per cent of all PhD candidates get their degree within four years. Even though a prolonged PhD trajectory is common in the Netherlands, the committee considers it wise to try to shorten it. It agrees with WASS that perhaps the dominant ethos of output quantity should be revised. Quality should be considered more important than quantity, and it should be taken into account that the outputs from scientific research are many and varied, as described in San Francisco Declaration on Research Assessment.

In addition, WASS could dig deeper to root out the causes of the delay, in the committee's view. It struck the committee that the duration of PhD trajectories differs greatly between chair groups. In some chair groups, some

PhD candidates have many teaching duties whereas others do not. The committee recommends a more even balance between education and research obligations for all PhD candidates or a differentiation in appointment period if this is not possible. This is the case in many foreign universities where education assistants receive one or two extra years for their PhD trajectory. There should be a more cohesive policy for this for all chair groups. The committee also suggest not only looking at average finishing rates, but looking closely at the group that does not finish in four years in order to find causes for the delay. This can be done quantitatively, by searching for correlations between duration of PhD trajectory and factors such as number of PhDs per supervisor or teaching duties, but also through focus groups.

Training programme

The PhD training programme has a variety of courses to help PhD candidates in their research and career development. It is a flexible and varied programme, including advanced knowledge courses, summer schools, interdisciplinary windows, masterclasses and workshops. The committee heard that although PhD candidates are highly interested in more advanced training courses, it is now financially not attractive for research units to organise such courses. The committee therefore recommends the WASS board to look for financial incentives, who apparently are now perceived to be too small. The initiative to run shared courses and tutorials for advanced MSc students as well as PhD candidates is laudable in this respect, since it creates a win-win situation while the costs are shared between WASS and the central university. Also, teaching a course for PhDs could be made an obligatory element of tenure tracks.

PhD satisfaction

In spite of all WASS's efforts and although compared with other graduate schools WASS scores relatively well, the PhD survey results provided indicate that still a relatively high number of PhD candidates do not feel well-informed or are not satisfied with certain elements in their training and supervision. On top of the already existing monitoring system there should be regular, smaller focus groups with PhD candidates who are encountering problems. Such groups would serve the aim to identify the causes of dissatisfaction and to develop remediation trajectories. Focus groups should preserve confidentiality of discussions and they should be facilitated by an independent leader, who is not involved in the research as a supervisor. The groups may both help the PhD candidates and be a source of information for WASS on causes of delay.

The average score for preparation for a future career (5.5 in the PhD experience survey) is one of the lowest. This means that a high number of PhD candidates is not sure whether their PhD prepares them for the later job

market. Although this is a general problem for many universities, it may be an incentive for WASS to invest more in transferable (“soft skills”) training modules and to organise more activities preparing PhD candidates for the job market. Also opening up entrepreneurship and leadership courses may help. It may be also a good idea to collect and provide information on the employment of PhD alumni, so that PhD candidates have a better idea as to what kind of jobs a WASS PhD prepares them for.

External and sandwich PhDs

Many external PhDs within WASS have another job and do their PhD research part-time and on the side. In the past, there were no clear guidelines on how they should combine both activities. WASS has done a lot to improve this, for example with the implementation of the mandatory training and supervision plan. WASS is aware that external and sandwich PhDs may receive less guidance and support than fully employed PhDs. There is a difference in salary and external and sandwich PhDs have fewer opportunities to take part in courses or other day to day activities of WASS. One example of this discrepancy manifested itself during the Covid-19 pandemic: employed PhDs could more easily apply for an extension of their contract due to Covid-19, whereas for external PhDs this was harder. Possibly, some of the focus groups as described above could be specifically dedicated to external and sandwich PhDs, so that they can discuss shared challenges and potential solutions.

Cohesion among PhDs

A general comment of the research units referred to the lack of PhD cohorts. In the present system, PhDs can start at any time. This makes it difficult to provide more systematically introductory or advanced methodological courses, or to develop a collective group feeling among PhD candidates of the same year. It may therefore be a good idea for WASS to think about how PhD candidates within or across research units who start in the same project or in the same year could be brought together from the start, to create more cohesion. They could share a basic course plan, in particular in terms of epistemologies and research methodologies. The PhD writing retreats are a great way to form cohorts. They could be an option for PhDs in all research units.

5. Annexes

5.1. The Strategic Evaluation Protocol 2021-2027: Criteria and categories

The committee was requested to assess the quality of research conducted by the UHS as well as to offer recommendations in order to improve the quality of research and the strategy of the UHS. The committee was requested to carry out the assessment according to the guidelines specified in the Strategy Evaluation Protocol. The evaluation included a backward-looking and a forward-looking component. Specifically, the committee was asked to judge the performance of the unit on the main assessment criteria and offer its written conclusions as well as recommendations based on considerations and arguments. The main assessment criteria are:

1 Research Quality: the quality of the unit's research over the past six-year period is assessed in its international, national or – where appropriate – regional context. The assessment committee does so by assessing a research unit in light of its own aims and strategy. Central in this assessment are the contributions to the body of scientific knowledge. The assessment committee reflects on the quality and scientific relevance of the research. Moreover, the academic reputation and leadership within the field is assessed. The committee's assessment is grounded in a narrative argument and supported by evidence of the scientific achievements of the unit in the context of the national or international research field, as appropriate to the specific claims made in the narrative.

2 Societal Relevance: the societal relevance of the unit's research in terms of impact, public engagement and uptake of the unit's research is assessed in economic, social, cultural, educational or any other terms that may be relevant. Societal impact may often take longer to become apparent. Societal impact that became evident in the past six years may therefore well be due to research done by the unit long before. The assessment committee reflects on societal relevance by assessing a research unit's accomplishments in light of its own aims and strategy. The assessment committee also reflects, where applicable, on the teaching-research nexus. The assessment is grounded in a narrative argument that describes the key research findings and their implications, while it also includes evidence for the societal relevance in terms of impact and engagement of the research unit.

3 Viability of the Unit: the extent to which the research unit's goals for the coming six-year period remain scientifically and societally relevant is

assessed. It is also assessed whether its aims and strategy as well as the foresight of its leadership and its overall management are optimal to attain these goals. Finally, it is assessed whether the plans and resources are adequate to implement this strategy. The assessment committee also reflects on the viability of the research unit in relation to the expected developments in the field and societal developments as well as on the wider institutional context of the research unit

During the evaluation of these criteria, the assessment committee was asked to incorporate four specific aspects. These aspects were included, as they are becoming increasingly important in the current scientific context and help to shape the past as well as future quality of the research unit. These four aspects relate to how the unit organises and actually performs its research, how it is composed in terms of leadership and personnel, and how the unit is being run on a daily basis. These aspects are as follows:

- 4 **Open Science:** availability of research output, reuse of data, involvement of societal stakeholders;
- 5 **PhD Policy and Training:** supervision and instruction of PhD candidates;
- 6 **Academic Culture:** openness, (social) safety and inclusivity; and research integrity;
- 7 **Human Resources Policy:** diversity and talent management.

5.2. Programme WASS Peer Review 7-10 September 2021

Tuesday 7 September 2021 (CET)	# min	Event
17.00 - 18.30 hrs	90	Meeting committee, final preparations
Wednesday 8 September 2021 (CET)		
08.45 – 09.15 hrs	30	Introduction by the Rector of Wageningen University
09.15 – 09.20 hrs	5	Break
09.20 – 10.20 hrs	60	Research Unit 1: Communication, Philosophy and Technology
10.20 – 10.30 hrs	10	Break
10.30 – 11.00 hrs	30	General director Social Sciences
11.00 - 11.45 hrs	45	Meeting committee, reflections, break
11.45 – 12.30 hrs	45	Board Wageningen School of Social Sciences
12.30 – 12.45 hrs	15	Meeting committee
12.45 - 13.45 hrs	60	Lunch break
13.45 – 14.45 hrs	60	Research Unit 2: Centre for Space, Place and Society
14.45 – 15.30 hrs	45	Meeting committee, reflections break
15.30 – 16.15 hrs	45	WASS PhD council (online)
16.15 – 16.45 hrs	30	General director Environmental Sciences
16.45 – 17.00 hrs	15	Q&A with chair holder CHL
17.00 - 17.45 hrs	45	Meeting committee, reflections
Thursday 9 September 2021 (CET)	# minutes	Event
09.00 – 9.30 hrs	30	Meeting committee, final preparations Thursday

09.30 – 10.30 hrs	60	Research Unit 3: Wageningen Centre for Sustainability Governance
10.30 – 11.15 hrs	45	Meeting committee, reflections, break
11.15– 12.15 hrs	60	Research Unit 4: Economics
12.15 – 13.00 hrs	45	Meeting committee, reflections, break
13.00 - 13.45 hrs	45	Lunch break
13.45 – 14.45 hrs	60	Research Unit 5: Business Science
14.45 – 15.15 hrs	30	Meeting committee, reflections
15.15 – 15.35 hrs	20	Meeting with PhD's Business Science: Michael Bourlakis Arjan Verschoor
		Meeting with PhD's CPT: Katharina Paul Marianne Penker
		Meeting with PhD's WCSG: Neil Carter Isabelle Anguelovski
		Meeting with PhD's Economics: Guido van Huylenbroeck Dana Freshley
15.35 – 15.55 hrs	20	Meeting with PhD's Business/Economics: Michael Bourlakis Arjan Verschoor
		Meeting with PhD's CPT: Katharina Paul Marianne Penker
		Meeting with PhD's WCSG: Neil Carter Isabelle Anguelovski
		Meeting with PhD's CSPS: Guido van Huylenbroeck Dana Freshley
15.55 – 16.05 hrs	10	Break
16.05 – 16.25 hrs	20	Meeting with PhD's CSPS: Guido van Huylenbroeck Dana Freshley
16.25 – 16.40 hrs	15	Break
16.40 – 17.30 hrs	30	Meeting committee

5.3. Quantitative data

Table I: Composition of WASS 2015-220

(#fte is the research time)

	2015		2016		2017		2018		2019		2020	
Scientific	#	FTE										
Professor ¹	49	13.7	55	16.7	53	15.4	49	14.5	48	15.1	49	15.2
Associate	60	18.2	58	18.5	63	19.5	67	20.6	70	20.3	66	20.7
Assistant	102	30.5	96	29.3	96	30.8	92	30.7	102	31.0	104	33.1
Post-docs ²	31	19.5	35	20.5	47	23.0	53	29.1	68	33.8	88	45.7
PhD	266	156.9	254	155.7	228	132.5	225	133.9	229	132.8	237	133.8
# Externe	91		98		106		113		121		125	
Total	606	238.7	606	240.6	604	221.1	608	228.8	650	233.0	678	248.6

Table 2: Funding streams and research of academic staff, PhD candidates and postdoctoral researchers

	2015		2016		2017		2018		2019		2020		Average	
<i>Funding:</i>	FTE/%													
Direct	99	42	102.4	43	92.7	42	96.1	42	102.7	44	115.0	46	101.4	43
Research grants (2)	31.0	13	34.1	14	38.1	17	44.0	19	43.1	18	40.0	16	38.4	16
Contract research	108.0	45	104.2	43	90.3	41	88.7	39	87.2	37	93.6	38	95.4	41
Total funding	238.7	100	240.6	100	221.1	100	228.8	100	233.0	100	248.6	100	235.1	100

Table 3: Success rate PhD programme at WASS

Enrolment			Success rates (number/percentage)									
Start year	Enrolment (male / female)		Tot al	Grad. ≤year 4	Grad. ≤year 5	Grad. ≤year 6	Grad. ≤year 7	Grad. ≤year 8	Not yet finished	Discon- tinued <18 month	Discon- tinued 18 - 48 month	Discon- tinued > 48 month
	M	F										
2012	29	33	62	2/3%	23/37 %	36/58 %	41/66 %	46/74 %	10 /16%	-	1/2%	5/8%
2013	20	26	46	1/2%	21/46 %	26/57 %	31/67 %	34/74 %	8/17%	-	1/2%	3/7%
2014	25	27	52	3/6%	21/40 %	27/52 %	31/60 %	-	12/23 %	3/6%	5/10%	1/2%
2015	27	29	56	5/9%	19/34 %	22/39 %	-	-	19/34 %	6/11%	7/13%	2/4%

2016	17	38	55	1/2%	10/18	-	-	-	39/71	3/5%	2/4%	1/2%
					%				%			
Total	11	15	271	12					88/32	16/6	12/4	

Table 4 PhD duration at WASS

Start year	Average of graduation time (in years)
2012	5,31
2013	5,21
2014	4,75
2015	4,33
2016	4,43
Total	4,95

Table 5: WASS research output (30-03-2021)

	2015	2016	2017	2018	2019	2020	Total
a. Refereed articles	550	537	545	546	559	638	3375
b. Non-refereed articles	62	30	18	42	32	38	222
c. Books	15	13	3	9	6	6	52
d.1. Refereed book chapters	129	134	162	116	96	47	684
d.2. Non-refereed book chapters	21	17	21	14	8	30	111
e. PhD Theses (cum laude)	23	55	70	57	51	47	303
f. Conference papers	107	114	75	73	58	38	465

