



**M Urban Environmental Management
Wageningen University**

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Project code P2304

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Summary

Standard 1. Intended learning outcomes

The panel highly appreciates the master's programme's transdisciplinary profile, effectively integrating insights from both natural and social sciences to address the major global challenges of urbanization. The thesis-centred approach provides students with invaluable opportunities for tailored research endeavours through their thesis work. The programme's flexible approach allows students to specialize in environmental fields while also offering a diverse range of career paths to explore.

The programme's distinct emphasis on urban sustainable solutions within the expansive field of environmental sciences sets it apart in the Netherlands. The panel recommends clarifying the programme's understanding of the 'urban' concept and effectively communicating it to prospective students.

The programme's interdisciplinary focus is underscored by twelve intended learning outcomes (ILOs) that align with the Dublin descriptors for master's programmes and meet professional field expectations. Furthermore, the ILOs demonstrate a commitment to transdisciplinary learning outcomes, recognizing the inherent complexity of contemporary issues and the necessity for specialized attention and training. The panel suggests beginning the process of updating the MUE programme's ILOs promptly, employing a thorough approach similar to that used for the bachelor's programme.

Standard 2. Teaching-learning environment

The panel confirmed that the curriculum enables students to achieve the intended learning outcomes. It offers a comprehensive study of environmental and sustainability topics, balancing academic rigour with professional skill development to equip students with essential competencies. The diverse range of courses caters to students' varied needs, providing a tailored programme. While recognizing the advantages of student customization, the panel raises concerns about the practicality of sustaining eight tracks for this relatively small student body. Moreover, not all chair groups are sufficiently attentive to urban topics. Therefore, the panel recommends a more selective approach in offering thesis tracks, proposing that only chair groups with a substantial focus on urban environmental management should provide such tracks.

The teaching staff of the programmes are motivated and qualified and are experts in their fields. The programme effectively employs diverse teaching methods, fostering personalized learning and allowing for meaningful interactions between students and teachers. Students highly appreciate the group work as it allows them to develop a variety of applicable skills.

Although the programme provides considerable support to students in crafting their study program, they still face challenges. Some find it hard to make early decisions about their track, particularly those from outside WUR or international students. Therefore, the panel recommends delaying track decisions until later in the first year.

Another issue is internship availability, particularly for international students who encounter language barriers. The panel understands that this was particularly challenging during COVID and views it positively that students are allowed to undertake research internships as this will be essential for some international students to prevent undesired study delays. Students also notice disparities in chair group support during the internship search, attributed to the diverse chair groups involved, some with less emphasis on urban management topics. The autonomy granted to chair groups in their scientific development that is reflected in their teaching poses difficulties for programme management in fully overseeing the practices of all

teachers and keep them aligned with the priorities of the programme. Nonetheless, the panel advises making efforts to address perceived discrepancies and resulting feelings of inequality within the programme.

Standard 3. Student assessment

The panel established that the programme benefits from clear university-wide assessment policies, based on the principle of constructive alignment. The assessment methods are adequately diverse and aligned with the final qualifications they are intended to evaluate. Sufficient attention is paid to the validity, reliability and transparency of tests and examinations.

The Examining Board (EB) plays a crucial role in approving individual student study programmes and ensuring the quality of course assessments within the programme. The regular meetings with both chair groups and Programme Committees further enhance its oversight of assessment quality at the programme level. While the panel is confident in the effectiveness of the EB, it recommends closely monitoring the EB's workload and implementing necessary measures if needed.

The assessment forms and grading templates for the master's thesis provide clear assessment criteria but not always include adequate written feedback and transparent grade justification. While the panel acknowledges the value of the substantial oral feedback students receive on their final thesis, it emphasises the importance of ensuring that all students receive substantial written feedback. The panel views the mandatory inclusion of written feedback in Osiris as a positive step and recommends engaging all chair groups in further enhancing the integration of feedback into the digitized assessment process.

Standard 4. Achieved learning outcomes

The panel concludes that the master theses show that the intended learning outcomes of the programme are achieved. The programme prepares students for relevant positions in the professional field and graduates reflect positively on the programme.

Score table

The panel assesses the programme as follows:

Standard 1: Intended learning outcomes	meets the standard
Standard 2: Teaching-learning environment	meets the standard
Standard 3: Student assessment	meets the standard
Standard 4: Achieved learning outcomes	meets the standard
General conclusion	positive

Em. prof. dr. J.T.A. (Hans) Bressers, panel chair
Date: 13 June 2024

Drs. E. (Esther) Poort, panel secretary

Introduction

Procedure

Assessment

On 18 and 19 March 2024, the master's programme Urban Environmental Management of Wageningen University was assessed by an independent peer review panel as part of the cluster assessment Environmental Sciences. The assessment cluster consisted of 17 programmes, offered by the institutions Open University, University of Amsterdam, Wageningen University, Radboud University, Vrije Universiteit Amsterdam, University of Groningen, Maastricht University, Leiden University, Utrecht University and the Amsterdam Institute for Advanced Metropolitan Solutions (of Delft University of Technology and Wageningen University). The assessment followed the procedure and standards of the NVAO Assessment Framework for the Higher Education Accreditation System of the Netherlands (September 2018).

Quality assurance agency Academion coordinated the assessment upon request of the cluster Environmental Sciences. Peter Hilderling and Jessica van Rossum acted as coordinator and panel secretaries. Annemarie Venemans, Esther Poort, Anne-Lise Kamphuis, Linda te Marvelde and Carlijn Braam also acted as secretaries in the cluster assessment. They have been certified and registered by the NVAO. Esther Poort acted as panel secretary in the assessment of the programmes of Wageningen University.

Preparation

Academion composed the peer review panel in cooperation with the institutions and taking into account the expertise and independence of the members as well as consistency within the cluster. On 15 December 2023, the NVAO approved the composition of the panel. The coordinator instructed the panel chair on his role in the site visit on 19 December 2023 according to the Panel chair profile (NVAO 2016).

The programme composed a site visit schedule in consultation with the coordinator (see appendix 3). The programme selected representative partners for the various interviews. It also determined that the development dialogue would be made part of the site visit. A separate development report was made based on this dialogue.

The programme provided the secretary with a list of graduates over the period 2021-2023. In consultation with the secretary, the panel chair selected 15 theses per programme. They took the diversity of final grades and examiners into account, as well as the various tracks. Prior to the site visit, the programme provided the panel with the theses and the accompanying assessment forms. It also provided the panel with the self-evaluation report and additional materials (see appendix 4).

The panel members studied the information and sent their findings to the secretary. The secretary collected the panel's questions and remarks in a document and shared this with the panel members. In a preliminary meeting, the panel discussed the initial findings on the self-evaluation report and the theses, as well as the division of tasks during the site visit. The panel was also informed on the assessment framework, the working method and the planning of the site visits and reports.

Site visit

During the site visit, the panel interviewed various programme representatives (see appendix 3). The panel also offered students and staff members an opportunity for confidential discussion during a consultation

hour. No consultation was requested. The panel used the final part of the site visit to discuss its findings in an internal meeting. Afterwards, the panel chair publicly presented the preliminary findings.

Report

The secretary wrote a draft report based on the panel's findings and submitted it to the coordinator for peer assessment. Subsequently, the secretary sent the report to the panel for feedback. After processing this feedback, the secretary sent the draft report to the programme director in order to have it checked for factual irregularities. The secretary discussed the ensuing comments with the panel chair and changes were implemented accordingly. The panel then finalised the report, and the coordinator sent it to the programme director and Wageningen University.

Panel

The following panel members were involved in the cluster assessment Environmental Sciences:

- Em. prof. dr. J.T.A. (Hans) Bressers, emeritus professor in Policy Studies and Environmental Policy at the University of Twente (chair);
- Prof. dr. A.C. (Arthur) Petersen, professor in Science, Technology and Public Policy at the University College London (United Kingdom);
- Dr. A.R. (Ana) Vasques, senior lecturer at the Erasmus University College of Erasmus University Rotterdam;
- Dr. S.E. (Sarah) Cornell, associate professor at the Stockholm Resilience Centre of Stockholm University (Sweden);
- Em. prof. dr. M.C. E. (Rietje) van Dam-Mieras, emeritus professor in Sustainable Development and Innovation of Education at Leiden University, and member of the Top Consortium for Knowledge and Innovation (TKI) Biobased Circular (focus Human Capacity Agenda);
- Dr. ir. T. (Thijs) Bosker, associate professor in Environmental Sciences at Leiden University;
- Prof. dr. ir. S.E. (Siegfried) Vlaeminck, professor in Microbial Cleantech and Environmental Systems Analyses at the Universiteit of Antwerpen (Belgium);
- Prof. dr. M.P.J. (Maarten) Loopmans, professor in Human Geography and Political Ecology at the KU Leuven (Belgium);
- Dr. ir. S.G. (Gerd) Weitkamp, associate professor in Health Geography, Mobility, and Geospatial Technologies at the University of Groningen;
- Prof. dr. P. (Paquita) Perez Salgado, professor in Natural Sciences at the Open University;
- Prof. dr. E. (Esther) Turnhout, professor in Science, Technology and Society at the University of Twente;
- Em. prof. dr. ir. J.T. (Hans) Mommaas, emeritus professor in Regional Sustainability Governance at Tilburg University, and chair of the Ecological Authority;
- Dr. P. (Patricia) de Cocq, director Living Environment and Nature at HAS Green Academy;
- Prof. dr. ir. Z. (Zofia) Lukszo, professor in Smart Energy Systems at the Delft University of Technology;
- M. M. (Marisa) Beunk MSc., alumnus (March 2023) of the master's programme Environmental Sciences (Policy Track) of Wageningen University (student member);
- F.O. (Fenna) Oostrum, alumnus (September 2023) of the master's programme Environment and Society Studies of Radboud University (student member).

The panel assessing the master's programme Urban Environmental Management at Wageningen University consisted of the following members:

- Em. prof. dr. J.T.A. (Hans) Bressers, emeritus professor in Policy Studies and Environmental Policy at the University of Twente (chair);

- Dr. S.E. (Sarah) Cornell, associate professor at the Stockholm Resilience Centre of Stockholm University (Sweden);
- Dr. A.R. (Ana) Vasques, senior lecturer at the Erasmus University College of Erasmus University Rotterdam;
- Prof. dr. ir. S.E. (Siegfried) Vlaeminck, professor in Microbial Cleantech and Environmental Systems Analyses at the Universiteit of Antwerpen (Belgium);
- F.O. (Fenna) Oostrum, alumnus (September 2023) of the master's programme Environment and Society Studies of Radboud University (student member).

Information on the programme

Name of the institution:	Wageningen University
Status of the institution:	Publicly funded institution
Result institutional quality assurance assessment:	Positive
Programme name:	Urban Environmental Management
CROHO number:	60110
Level:	Master
Orientation:	Academic
Number of credits:	120 EC
Tracks:	Environmental Policy Environmental Systems Analysis Geo-Information Science Land Use Planning Business Management and Organisation Urban Environmental Economics Urban Systems Engineering Water Systems and Global Change
Location:	Wageningen
Mode(s) of study:	Fulltime
Language of instruction:	English
Submission date NVAO:	1 November 2024

Description of the assessment

Wageningen University & Research (WUR) is made up of Wageningen University (WU) and 9 research institutes of the Stichting Wageningen Research (WR). Wageningen University (WU) consists of one faculty of Agricultural and Environmental Sciences. Within WUR there are five science groups: Agrotechnology & Food Sciences, Animal Sciences, Environmental Sciences, Plant Sciences and Social Sciences. Within these science groups, one or more university departments and research institutes within the same research field are combined. Each university department contains between eleven and twenty chair groups, each managed by a professor, the so-called chair holder. The chair holder manages the members of the chair groups and distributes research and education activities among them in collaboration with other chair holders of other chair groups. Wageningen University has 20 bachelor's and 31 master's programmes.

The Rector Magnificus of WU is also the Dean of the Faculty and a member of the Executive Board of WUR. The rector appoints the Board of Education, which consists of four professors and four students. The Board of Education is the legal governing body of all degree programmes; it is responsible for their design, content, quality, and financing. The Master's Urban Environmental Management (MUE) collaborates with the Master's Environmental Sciences (MES) and the Bachelor's Environmental Sciences (BES) in a joint Programme Committee overseen by one Programme Director. This Programme Director implements the Board of Education's directions and is in close contact with the Chair Groups regarding the design, content and quality of the courses provided. The Programme Committee advises the Board of Education on the content and quality of the degree programmes. These three programmes have their own Curriculum Committee.

Recommendations previous accreditation panel

The self-evaluation report outlined the measures undertaken to address the recommendations provided by the previous accreditation panel in 2018. Also, several recommendations and their follow-up actions were discussed with the programme during the site visit. The panel concludes that the programme management demonstrates an impressive commitment to continuous improvement across all levels, effectively addressing previous external review recommendations. Overall, the panel expresses satisfaction with the implemented improvement strategies, acknowledging their significant contribution to elevating the quality of the programme. However, the panel underlines the ongoing importance of one of the previous panel's recommendations: offering more detailed written feedback on the theses. While acknowledging the progress already achieved, the panel believes there's still some room for enhancement in this area. This aspect is further explored under standard 3.

Standard 1. Intended learning outcomes

The intended learning outcomes tie in with the level and orientation of the programme; they are geared to the expectations of the professional field, the discipline, and international requirements.

Findings

The MSc Urban Environmental Management (MUE) aims to train academically trained professionals who can contribute to sustainable solutions for existing and future complex urban environmental issues all over the world, while embracing their social, personal and ethical responsibilities. Throughout the programme, students gain a comprehensive understanding of urban environmental issues from multidisciplinary, interdisciplinary, and transdisciplinary perspectives. The programme integrates four key viewpoints on the

urban environment: Urban Planning, Urban Governance, Urban Environmental Quality and Health, and Urban Engineering.

The programme equips students with the ability to design, execute, and analyse their academic research, contributing to urban solutions and mission-oriented decision-making. Essential (academic) skills for MUE graduates include (international) collaboration, systems thinking, reporting and presenting, and giving and receiving feedback. Students are trained to take the role of an urban environmental professional and can deal with the associated questions of complexity and uncertainty. Moreover, they are expected to apply their acquired knowledge and skills in practical settings, fostering a professional attitude alongside boundary-crossing competencies.

The programme provides a balanced curriculum of theoretical and practical knowledge, methodologies, and skills training. The programme offers the following thesis tracks:

- Environmental Policy,
- Environmental Systems Analysis,
- Geo-Information Science,
- Land Use Planning,
- Business Management and Organisation,
- Urban Environmental Economics,
- Urban Systems Engineering,
- Water Systems and Global Change.

Within these scientific disciplinary thesis tracks, students can opt for one of the career profiles: consultancy, entrepreneurship, and research.

MUE focuses on problem-solving and places a strong emphasis on urban sustainable solutions. Each student can specialize and delve into natural science-driven solutions, social science and cultural-driven approaches, or a combination of both within the field of urban environmental management. The panel highly appreciates the interdisciplinary nature of the programme, integrating and applying insights from both natural and social sciences to address the major global challenges of urbanization. Additionally, it values the programme's thesis-centred approach, offering students invaluable chances for customized research endeavours. Furthermore, the panel appreciates the programme's flexibility, as it not only allows students to tailor their curriculum to concentrate on a specific field and develop relevant research skills but also offers a diverse range of career paths to explore.

The panel values the distinctive focus on urban sustainable solutions within the broad domain of environmental sciences. During the visit, the panel noted the programme's unique interpretation of the 'urban' concept, influenced by Wageningen University's agricultural background. The panel also noted that not all students were fully aware of this broader interpretation that for example also focuses on the interaction between the agricultural and urban environment. The panel believes that this leads some students to think that the programme is less focused on urban topics than one would expect given the programme's title (see also standard 2). It recommends making the meaning of the concept of 'urban' more explicit and ensuring clear communication of it to prospective students.

The panel believes that the programme's orientation on urban issues from the perspective of rural-urban relationships can even with clear communication still nevertheless be felt as 'rurban'. With this in mind, the programme might consider whether a closer focus on urban research and teaching would be a logical line of development in the upcoming redevelopment process of MUE.

Intended learning outcomes

The programme has translated its aims into a set of twelve intended learning outcomes (ILOs). An overview of the ILOs can be found in Appendix 1. The programme has linked these ILOs to both the Dublin descriptors and the Domain-Specific Reference Framework for academic programmes in Environment and Sustainability in the Netherlands. The panel has reviewed these ILOs and determined that they accurately represent the master's level and academic orientation and align well with the Dutch Reference Framework. According to the panel, the programme's ILOs reflect the interdisciplinary focus of the programme and cover a wide range of competencies. In particular, the panel appreciates the excellent articulation of transdisciplinary learning outcomes, which are recognized as complex and needing specialist attention and training.

The previous assessment panel proposed to phrase the academic skills and self-development learning competencies more explicitly. As outlined in the self-evaluation report, this recommendation has not yet been addressed, as the revision of the learning outcomes is slated for completion after the restructuring of BES. As part of this restructuring, the Programme Committee is revising the ILOs of the bachelor's programme. The panel reviewed these updated ILOs and is very pleased with the intensified focus on the key skills that are crucial for students to effectively address environmental challenges, also referred to as resilient skills or sustainability competencies by the panel. The panel was pleased to learn that MUE will soon commence the process of updating its ILOs, leveraging the revised ILOs of the BES programme as a foundation. While the panel acknowledges the reasoning behind prioritizing the revision of the bachelor's ILOs, it encourages the Programme Committee to initiate this process promptly and to employ a similarly thorough procedure as was done for the bachelor's programme.

Professional field

The panel found the connection to the professional field to be commendable. The External Advisory Committee (EAC) plays a vital role, actively engaging not only in discussions about the curriculum but also contributing to the programme's development. As outlined in the self-evaluation report, the EAC confirms that the programme is up-to-date and linked to the needs of the professional practice.

Considerations

The panel highly appreciates the master's programme's transdisciplinary profile, effectively integrating insights from both natural and social sciences to address the major global challenges of urbanization. The thesis-centred approach provides students with invaluable opportunities for tailored research endeavours through their thesis work. The programme's flexible approach allows students to specialize in environmental fields while also offering a diverse range of career paths to explore. The programme's distinct emphasis on urban sustainable solutions within the expansive field of environmental sciences sets it apart in the Netherlands. The panel recommends clarifying the programme's understanding of the 'urban' concept and effectively communicating it to prospective students.

The programme's interdisciplinary focus is underscored by twelve intended learning outcomes (ILOs) that align with the Dublin descriptors for master's programmes and meet professional field expectations. Furthermore, the ILOs demonstrate a commitment to transdisciplinary learning outcomes, recognizing the inherent complexity of contemporary issues and the necessity for specialized attention and training. The panel suggests beginning the process of updating the MUE programme's ILOs promptly, employing a thorough approach similar to that used for the bachelor's programme.

Conclusion

The panel concludes that the master's programme Urban Environmental Management meets standard 1.

Standard 2. Teaching-learning environment

The curriculum, the teaching-learning environment and the quality of the teaching staff enable the incoming students to achieve the intended learning outcomes.

Findings

The curriculum comprises three primary components: the common part (18 -30 EC), specializations (72-78 EC), and free space (6-18 EC). The programme is thesis-oriented and tailor-made allowing students to develop an individual focus depending on their specific research interests, work experience and/or career planning. Appendix 2 provides a schematic overview of the programme.

The number of credits for these three components varies per student, depending on their prior education. The individual study programme of each student is submitted to the Examining Board for approval. The approved programme must comply with the intended learning outcomes of the programme as a whole. For instance, students who lack prior training in research methodology pertinent to designing and conceptualizing environmental research must take the course 'Research Methodology in Environmental Sciences' as part of the common curriculum.

The common part comprises various courses that focus on interdisciplinary management of urban complexity and sustainable solutions. This involves managing and analysing environmental challenges comprehensively, integrating knowledge of social- and natural scientific aspects and dealing with uncertainty in complex urban environmental decision-making. The common part also includes a cluster of (restricted) optional courses to advance in research methodologies and data sciences relevant to the individual thesis and internship.

Through the thesis track, students delve into a specialized urban discipline of their choice. There are eight distinct thesis tracks available. Each of the eight available thesis tracks offers a set of thesis preparatory courses. These courses deal with concepts, understanding, strategies and models and contribute to the development of research skills and preparation for students' individual thesis research projects. During the second year, they perform their research project during the thesis phase, as well as an academic internship. The thesis contributes to the development of a student's research skills, but also to several important learning outcomes, including communication, self- and group reflection, and project management. The internship allows students to participate in projects at external institutions and provides the opportunity to build up a profession-oriented network.

Within the programme's free space, students can deepen their specialization in their thesis topic or track, enhance additional research skills, or broaden their scope. The extent of this flexibility depends on the alignment between the student's background and the programme's objectives.

In both the student chapter and during the visit, students express satisfaction with the programme, particularly highlighting the realistic case studies in courses, collaboration with real clients, formulation of sustainable solutions for current issues, and the development of future designs and measures for actual cities. However, there is less satisfaction among students regarding the urban focus of the programme. According to them, Wageningen University programmes predominantly revolve around agricultural and environmental topics. Even in MUE, the urban component is noticeably lacking, with few courses offering a strong urban focus. Moreover, students point out that the urban aspect is not prioritized in some of the chair groups involved, making it challenging for them to find relevant urban thesis topics. They suggest that

introducing a specific thesis track that builds upon courses from MSc Urban Environmental Management courses would greatly improve the programme, but such an option is currently unavailable.

The programme management recognizes the importance of strengthening the focus on urban areas, and they have been actively working to achieve this goal. Between 2022 and 2024, significant enhancements have been made across various thesis tracks to better accommodate MUE students. For example, the relatively new 'Urban Economics' group collaborated with the Environmental Economics group in 2022-2023 to introduce a new course and offer a joint thesis track in Urban Environmental Economics. However, the programme management also acknowledges that not all participating groups equally prioritize urban environmental management. This inconsistency limits the options available for MUE students to pursue thesis topics with an urban focus within certain chair groups.

After reviewing the documents and engaging in discussions during the site visit, the panel concludes that the intended learning outcomes found a consistent and balanced translation into a rich, varied, and flexible curriculum. The self-evaluation report provides a clear explanation of how ILOs are accomplished in the programme and how the learning outcomes of individual courses contribute to the overall learning outcomes of the programme. The curriculum's design enables a comprehensive exploration of urban sustainable solutions from different perspectives. The well-balanced emphasis on both academic rigour and professional skill development ensures the acquisition of core competencies essential for academic professionals. The panel commends the exceptional variety of courses offered in the programme, resulting in a tailor-made programme that accommodates the diverse needs of the students enrolling in the programme. While recognizing the positive aspect of students customizing their programme, the panel notes that the number of available tracks may not align proportionately with the student population. Some tracks are selected by only a minimal number of students, prompting questions about the usefulness of offering numerous tracks.

This concern is further reinforced by students' comments indicating that not all involved chair groups pay explicit attention to urban topics. Therefore, the panel thinks that the programme should address this issue and advocates for a more selective approach in offering thesis tracks. It recommends that only chair groups with a substantial focus on urban environmental management should provide tracks to the programme.

Name and language of instruction

The name of the programme and the language of instruction are English. The programme management supports this choice by emphasizing the global nature of environmental sciences and the need to prepare students for a career in an international job market. Furthermore, the programme wants to attract international students because an international classroom enriches the students' perspective.

The panel recognizes the reasoning behind the decision to use English and is pleased to observe the programme's achievement in attracting international students. Over the period 2018-2023, between 30%-50% of the students were international, with the COVID years experiencing a lower proportion. The panel fully acknowledges the significance of an international classroom, as it prepares students to navigate diversity in nationalities, cultures, and perspectives.

In the eyes of the panel, sufficient attention is paid to the language proficiency of the teaching staff. All lecturers are asked to test and, if necessary, improve their level of English language proficiency. Additionally, during the recruitment and selection process for new lecturers, careful consideration is given to their language proficiency.

Teaching approach

The programme utilizes various teaching methods, including lectures (which may incorporate knowledge clips), tutorials, hands-on practical training (such as laboratory work or computer-based exercises), field excursions (including single or multi-day trips), group projects, individual paper assignments, and independent study. COVID greatly enhanced the rapid development of online teaching, of which the most successful tools have been kept, such as the utilization of knowledge clips and the implementation of online short 'help-desk' approaches for group work assistance.

Individual programmes and courses can vary widely in the teaching methods employed, tailored to facilitate education across the diverse fields within environmental sciences. In many courses, students are encouraged to shape their own learning experiences. For instance, they may choose the topic of a case study or individual paper to apply the course content, allowing them to pursue their interests. In some courses, like the 'European Workshop Environmental Science and Management', students establish their own specific learning objectives at the outset and reflect on their achievements at the end. Sometimes, lecturers partly adjust their course to students' interests and needs.

The students with whom the panel spoke indicated that the programme strikes a good balance, commencing with large-scale lectures and smaller tutorials and group discussions. Both the students interviewed by the panel and those who contributed to the student chapter expressed their appreciation of group work as it allows them to develop a variety of applicable skills.

Based on the documents and the conversations with the students and teaching staff, the panel concludes that the programme effectively utilizes well-suited teaching methods, enabling personalized learning through a balanced approach that integrates large-scale lectures and small-group tutorials. Through the varied teaching methods, students are encouraged to actively engage and develop their skills and knowledge to obtain the intended learning outcomes of the programme.

Study support and guidance

Considering the diversity among student backgrounds, the programme places significant emphasis on supporting students to design and plan their own study programme and their own learning processes. Study support and guidance are essential in ensuring that students maintain a high-quality and coherent programme structure.

Study advice begins before the academic year starts. Prospective students receive an email between June and August to confirm enrolment. If they proceed, they're given instructions to draft their preliminary programme and motivation statement. Following submission, candidates meet with a study adviser to discuss preferences and course requirements.

Early in the academic year, chair groups offering thesis opportunities inform students about available courses, thesis topics, internships, and career prospects. The setup of this meeting has been revised to align with the improved intake process. Chair groups present themselves at a 'market' event, facilitating early contact between students and their intended thesis chair groups. Students can then consult their study adviser to discuss insights and adjust plans if needed.

Throughout their studies, students maintain contact with their study adviser (via e-mail or in person) and shape their final programme gradually. Advisers assist in selecting elective courses within Examining Board guidelines and organize meetings on thesis, internship planning, and career readiness. They also serve as

central points of contact, connecting students with lecturers, the Examining Board, counsellors, and various support services.

Together with the study association 'Aktief Slip', the Programme Team offers a mentor programme to help new students adapt to their new environment and to develop a network of peers. Aktief Slip organizes a variety of activities including general meetings, dinners, parties, field trips, symposia, career days, and an annual Environmental Week.

Although the panel acknowledges the significant support provided by the programme, discussions with students and alumni have revealed that some students encounter challenges in structuring their own study programme. While students appreciate receiving timely information about the programme, they also highlight the drawbacks of having to make decisions at an early stage. This is particularly difficult for students who have completed their bachelor's degree outside of WU, especially international students, as they may not yet have a comprehensive understanding of the available options. The panel recommends adjusting the programme so that students can make decisions regarding their track at a later stage, for example, after the Christmas break.

Another concern relates to finding internships, which was especially mentioned by international students. It can be challenging due to language requirements, as many relevant internships, such as those at municipalities, require proficiency in Dutch. The panel noted that this sometimes leads to undesirable study delays. The programme management explained that the difficulty of students finding an internship was an issue during COVID-19 times, not only for international students. The Programme Committee decided that in some cases, the internship could be replaced by a research practice. This option has remained available since, also in light of the recommendation of the previous accreditation panel to further assist international students in finding research internships. The panel understands that this was particularly challenging during COVID and views it positively that students are afforded the opportunity to undertake research internships. It advises to clearly communicate this to international students, as it will be essential for some to prevent unwanted study delays.

Additionally, students have noticed different approaches in how chair groups provide support for navigating the internship search process. The panel attributes this to the programme being delivered by various chair groups, some of which are less involved with urban management topics. This inconsistency among chair groups was also observed by the previous panel. The previous panel recommended aligning study methods and teaching approaches across chair groups in instances of inconsistency. The current panel acknowledges that this is inherent to the organizational structure of WU, where the autonomy granted to chair groups in their scientific development that is reflected in their teaching poses difficulties for programme management in fully overseeing the practices of all teachers and keep them aligned with the priorities of the programme. However, the panel advises that the concerns raised by students be taken seriously and that efforts be made to address perceived inconsistencies and the resulting feelings of inequality within the programme.

Teaching staff

The courses are taught by a diverse group of educators including full professors, scientific personnel on tenure tracks, and other academics. This team is supported by technicians, research assistants, and PhD students. Teachers are experts in their field and are involved in research. Almost all teachers involved in MUE have obtained a PhD and most have earned a University Teaching Quality (UTQ) or are in the process of getting qualified. Some teachers take part in the recently developed Senior Teaching Qualification training (SUTQ).

The core teaching chair groups within the programme are actively engaged in the oversight of the programme's organization, structure, and quality. They are represented in the Programme Committee either as full members or as agenda participants. Moreover, they play integral roles within the Curriculum Committee for MUE, ensuring close involvement in all aspects of programme management and development.

The panel has engaged with highly qualified and dedicated teachers who are part of the core group of teachers within MUE. These individuals are experts in their fields, actively involved in research, yet remain approachable and concerned about 'their' students. The panel was impressed by the strong commitment of this core teaching group to MUE.

Students the panel met expressed positivity about the teaching staff. They value the active engagement of teaching staff and indicate that especially in the later courses of the programme, there is sufficient room for meaningful interaction.

Considerations

The panel confirmed that the curriculum enables students to achieve the intended learning outcomes. It offers a comprehensive study of environmental and sustainability topics, balancing academic rigour with professional skill development to equip students with essential competencies. The diverse range of courses caters to students' varied needs, providing a tailored programme. While recognizing the advantages of student customization, the panel raises concerns about the practicality of sustaining eight tracks for this relatively small student body. Moreover, not all chair groups are sufficiently attentive to urban topics. Therefore, the panel recommends a more selective approach in offering thesis tracks, proposing that only chair groups with a substantial focus on urban environmental management should provide such tracks.

The teaching staff of the programmes are motivated and qualified and are experts in their fields. The programme effectively employs diverse teaching methods, fostering personalized learning and allowing for meaningful interactions between students and teachers. Students highly appreciate the group work as it allows them to develop a variety of applicable skills.

Although the programme provides considerable support to students in crafting their study program, they still face challenges. Some find it hard to make early decisions about their track, particularly those from outside WU or international students. Therefore, the panel recommends delaying track decisions until later in the first year. Another issue is internship availability, particularly for international students who encounter language barriers. The panel understands that this was particularly challenging during COVID and views it positively that students are allowed to undertake research internships as this will be essential for some international students to prevent undesired study delays. Students also notice disparities in chair group support during the internship search, attributed to the diverse chair groups involved, some with less emphasis on urban management topics. The autonomy granted to chair groups in their scientific development that is reflected in their teaching poses difficulties for programme management in fully overseeing the practices of all teachers and keep them aligned with the priorities of the programme. Nonetheless, the panel advises making efforts to address perceived discrepancies and resulting feelings of inequality within the programme.

Conclusion

The panel concludes that the master's programme Urban Environmental Management meets standard 2.

Standard 3. Student assessment

The programme has an adequate system of student assessment in place.

Findings

To ensure the quality of assessment, WU has developed an institution-wide assessment policy. One key principle of this policy is the alignment of assessment with education, following the concept of constructive alignment.

The programme employs various assessment methods ensuring that each course includes an assessment of students' knowledge, understanding, and skills that are aligned with the course learning outcomes. The assessment methods include written exams, individual or group assignments, (computer)practical reports, papers/essays, presentations, and participation in course work. The assessment matrix, included in the self-evaluation report, offers a comprehensive overview of the assessment methods employed in each course of the program, while also indicating which specific ILOs are being assessed.

All courses have a course guide that includes a transparent assessment strategy. These guides are available for students at the start of their course. The Examining Board (EB) checks and approves the description of these assessment strategies. To enhance exam transparency, the EB ensures that the relative contribution and minimum grades for partial exams are explicitly specified, and the type of exam is specified in the study handbook. For written exams, courses typically provide example exams to students and/or discuss previous exam questions in class. In the case of papers, students are informed in advance about the assessment criteria, often through a rubric or grading form.

For internships, both an external (local) and an internal Wageningen University supervisor are assigned. Before the start, students and supervisors agree on the internship's learning outcomes. A mid-term evaluation involving the student, host supervisor, and university supervisor occurs halfway through the internship, with the evaluation report uploaded to Osiris. Towards the end, the student reports on the project work, orally presents the outcomes of the internship and writes a reflection report on the learning outcomes. The internship report and the reflection report are both assessed by the university supervisor, who considers the external supervisor's input on the student's work and performance, particularly regarding professional skills. The university supervisor then evaluates the internship using a standardized university assessment form and rubric.

The panel concludes that the assessment methods are adequately diverse and aligned with the final qualifications they are intended to evaluate. The assessment matrix ensures that course assessments encompass all knowledge and skills outlined in the programme's ILOs.

Examination Board

MUE falls under the Examining Board Environment and Landscape (EBEL), one of the four Examining Boards (EB) of WU. The EB formally appoints examiners who are nominated by chair holders. The EB also safeguards the transparency, validity and reliability of examinations or intermediate examinations in all programmes. It monitors compliance with the assessment policy and can give instructions to the examiners – in line with the assessment policy – relating to the examination.

The individual study programme of each student is submitted to the EBEL for approval through the student information system Osiris. The approved programme must align with the intended learning outcomes of the overall programme. The EBEL assesses the level and content of courses in the electives. Any individual

deviations from the described study programme (such as exemptions or substitutions) require approval from the Examining Board. The graduation process is initiated by Osiris when a student completes all compulsory and restricted optional courses and earns the required number of credits, including electives approved by the EBEL.

EBEL conducts regular and follow-up visits to each of the chair groups contributing to the MUE programme every three to five years. During a regular visit, EBEL reviews the assessment procedures of the group, focusing particularly on the validity, reliability, and transparency of the interim examinations. An important task of EB is reviewing theses, regarding the quality of the assessment as well as on the fit with the programme's learning outcomes. EBEL combined thesis reviews with chair group visits. Since the academic year 2021-2022, the EB has increased its interaction with programme committees and programme directors by attending one Programme Committee meeting per year. Evaluation of the programme's assessment strategies and alignment of learning outcomes at both course and programme levels are on the agenda of these meetings.

Based on the documentation and the interview during the site visit, the panel concludes that the EB functions effectively. The panel appreciates that the EB not only visits chair groups but also Programme Committees, which enhances their role in ensuring the quality of assessments at the programme level. However, the panel observed that this additional responsibility adds to the already high workload of the EB, particularly in approving each student's study programme. Therefore, the panel recommends closely monitoring the workload of the EB and taking necessary measures if needed.

Assessment of the master's thesis

The thesis project is finalised with a written report, a presentation ('colloquium'), and a final defence of the thesis with the student, supervisor(s) and examiner. Chair groups use the WU assessment form to evaluate the thesis on different aspects: the performance (40%), the research report (50%), the oral presentation (5%) and the oral defence (5%). A rubric has been developed for each component of the assessment form describing the relation between the level of performance and the grades. Thesis work is always assessed by at least two assessors: the supervisor and a second assessor/ examiner.

Students who began their thesis after November 2022 utilize Osiris as the administrative system. This system outlines necessary steps and responsible parties (e.g., planning progress evaluations), promoting consistency and transparency within the university. The thesis's end date is documented in the learning agreement, with the possibility for an additional two-month extension granted by the examiner if needed to achieve a passing level. If the thesis remains unsatisfactory after this extension, the student must initiate a new thesis. The panel appreciates the effective use of monitoring and guidance provided through the Osiris platform. Moreover, the early inclusion of progress evaluation in the master thesis process is regarded as a commendable practice.

The previous assessment panel considered the assessment processes to be up to standard, involving two examiners and being conducted using elaborate scoring forms. However, the previous panel advised to add more extensive written comments to the assessment forms to substantiate the grades. The current panel also found that the assessment forms and grading templates are transparent in their design, incorporating clear assessment criteria that ensure that consistent information is gathered and provided to the student. However, many of the assessment forms still demonstrated rather limited constructive written feedback or a qualitative grade justification. Through interviews with students and teachers, the panel learned that feedback and grade justification is usually given to students in the form of oral feedback in addition to these forms. Although the panel appreciates the extensive effort put into providing students with substantial

feedback, it recommends further enhancing the integration of feedback into the digitized assessment process. This will not only improve assessment transparency for external stakeholders such as the EB but also enhance students' learning trajectories. The programme might even consider exploring the possibility of recording the oral feedback (perhaps automatically transferred into written text) and providing it to students this way to prevent introducing an extra administrative task.

The panel discussed the absence of written feedback on some of the thesis assessment forms with the EB. The EB members noted that this issue has garnered significant attention since the previous visitation. Within the new student system Osiris, teachers must offer narrative feedback. They acknowledged that although there has been progress since six years ago, there is still room for improvement. They mentioned that they consistently bring up this issue during their visits to the chair groups. Additionally, they pointed out the cultural differences among chair groups regarding this issue, highlighting that some chair groups are more hesitant to document specific feedback in writing due to concerns about increased workload. The panel advises EB to continue prioritizing this matter in the upcoming period, especially emphasizing the importance of written feedback to chair groups that are less inclined to acknowledge it.

Considerations

The panel established that the programme benefits from clear university-wide assessment policies, based on the principle of constructive alignment. The assessment methods are adequately diverse and aligned with the final qualifications they are intended to evaluate. Sufficient attention is paid to the validity, reliability and transparency of tests and examinations.

The Examining Board (EB) plays a crucial role in approving individual student study programmes and ensuring the quality of course assessments within the programme. The regular meetings with both chair groups and Programme Committees further enhance its oversight of assessment quality at the programme level. While the panel is confident in the effectiveness of the EB, it recommends closely monitoring the EB's workload and implementing necessary measures if needed.

The assessment forms and grading templates for the master's thesis provide clear assessment criteria but lack adequate written feedback and transparent grade justification. While the panel acknowledges the value of the substantial oral feedback students receive on their final thesis, it emphasises the importance of ensuring that all students receive substantial written feedback. The panel views the mandatory inclusion of written feedback in Osiris as a positive step and recommends engaging all chair groups in further enhancing the integration of feedback into the digitized assessment process.

Conclusion

The panel concludes that the master's programme Urban Environmental Management meets standard 3.

Standard 4. Achieved learning outcomes

The programme demonstrates that the intended learning outcomes are achieved.

Findings

Master thesis

Before the site visit, the panel studied the theses of 15 master graduates, ensuring coverage across all eight tracks. Overall, the panel was satisfied with the quality of the theses and agreed with the assigned grades. The chosen subjects are both interesting and relevant and often show considerable originality and creativity

in discipline-bridging studies. Furthermore, students exhibit a significant degree of independence in their endeavours. The panel has just one minor suggestion for improvement: encouraging students to refine the conciseness of their writing. It appears that there's a prevalent misconception that academic texts require verbosity and unnecessary padding.

Overall, the theses convincingly showed that the intended learning outcomes for the programme is achieved by its graduates. The distribution of marks is fair and well-aligned with the substantive content of the work.

Alumni

During the interview, alumni unanimously expressed that they secured positions closely aligned with the domain and level of the programme. They were very satisfied with their education, noting that the programme's emphasis on cultivating a diverse skill set effectively prepared them for their future careers. Additionally, they regarded the wide diversity within the student cohort, coupled with the emphasis on group work, as a key asset of the programme. Therefore, the panel concludes that the programme effectively prepares students for relevant positions in the professional field.

The self-evaluation report highlights the commendation from the External Advisory Board for MSc Urban Environmental Management graduates. Notable strengths include their ability to deal with complex systems and integrate natural and social sciences, as well as their can-do attitude. Furthermore, graduates demonstrate ease in adapting to their roles, effectively identifying and engaging with stakeholders. They possess a clear understanding of how their expertise complements that of others and recognize the collaborative efforts required to address the often-wicked contemporary problems.

Considerations

The panel concludes that the master theses show that the intended learning outcomes of the programme are achieved. The programme prepares students for relevant positions in the professional field and graduates reflect positively on the programme.

Conclusion

The panel concludes that the master's programme Urban Environmental Management meets standard 4.

General conclusion

The panel's assessment of the master's programme Urban Environmental Management is positive.

Development points

1. Clarify the programme's understanding of the 'urban' concept and effectively communicate it to prospective students.
2. Restrict the number of thesis tracks by limiting this provision to chair groups with a substantial focus on urban environmental management.
3. Delay track decisions until after the Christmas break to accommodate students from outside WU who may not yet have a comprehensive understanding of their options.
4. Incorporate written feedback on the thesis into the digitized assessment process to enhance transparency and learning.

Appendix 1. Intended learning outcomes

	After successful completion of the programme graduates are expected to be able to:	Dublin descriptors *
1	demonstrate thorough knowledge and understanding of the urban environment and its infrastructure; the economic, social and political factors involved; the possibilities and limitations of technological means to curb emissions and limit resource depletion; relevant management and quality assurance systems;	1, 2, 3
2	apply theoretical and methodological concepts in urban environment assessments so as to identify environmental issues at various scales of time and space;	1, 2, 3
3	independently formulate and execute urban environment research in accordance with academic standards, thus contributing to the development of the body of knowledge in the field, or to the development of creative and innovative solutions to urban environmental issues;	1, 2, 3
4	develop realistic environmental goals for governmental organisations and commercial corporations and establish strategies to introduce changes to existing systems, which take into account environmental factors as well as financial, social and political factors;	2, 3
5	design strategies to include environmental aspects in and develop indicators of environmental performance and benchmarking for urban management systems;	2, 3
6	act as a consultant, advising governmental organisations and commercial corporations on how best to improve current and future activities with regard to the environment;	2, 3
7	engage different stakeholders and communicate with specialists from other disciplines.	2, 3, 4
8	demonstrate cross-disciplinary views on urban environment issues, taking into account various stakeholders and interests;	2, 4, 5
9	clearly present, both orally and in writing, research proposals and results, as well as plans for measures and interventions, taking into account the nature of the target group;	4
10	support working parties and committees, negotiate, and act as a mediator, effectively and appropriately dealing with cultural diversity;	3, 4
11	reflect on the ethical aspects of their research and plans for measures and interventions;	3, 5
12	design and plan their own learning processes by virtue of continuous reflection on personal knowledge, skills, attitudes and performance	2, 3, 5

Appendix 2. Programme curriculum

Year 1		Period 1	Period 2	Period 3	Period 4	Period 5	Period 6	
Morning	VRM20306 Research Methodology in Environmental Science	Free choice course	Thesis preparatory course	Free choice course	Urban course	one of the academic master cluster options		
Afternoon	ESA20806 Principles of Urban Environmental Management	Urban course			Thesis preparatory course			
Year 2		Period 1	Period 2	Period 3	Period 4	Period 5	Period 6	
Morning		Thesis					Internship	
Afternoon								

■ Common part
 ■ Specialisation
 ■ Free choice

Programme consists of:

1. Common part (30-36 EC)
2. Specialisation via a thesis track (72-84 EC)
3. Free space (0-18 EC)

Academic master cluster courses, of which all students need to select one that fits their interest and/or career orientation:

- 'European Workshop Environmental Sciences and Management' (period 6)
- 'Atelier Landscape Architecture and Planning' (period 6)
- 'Academic Consultancy Training' (period 3/4, 5 or 6)

Appendix 3. Programme of the site visit

BES Bachelor Environmental Sciences

MES Master Environmental Sciences

MUE Master Urban Environmental Management

Monday 18 March 2024

8.45-9.15	Arrival and preparation panel
9.15-10.30	Management BES/MES/MUE
10.45-11.30	BES students (specialisation, start year)
11.45-12.30	BES core lectures
12.30-13.30	Lunch
13.30-14.15	MES students
14.15-15.00	MES core Lecturers
15:00-15.30	Break
15.30-16.15	MUE students
16.30-17.15	MUE core lecturers
17.15-17.30	Wrap up panel

Tuesday 19 March 2024

8.45-9.15	Preparation panel
09.15-09.45	Alumni MES and MUE
10.00-10.30	Examining Board and Study Advisers
10.30-11.30	Internal deliberations panel
11.30-12.00	Final meeting management
12.00-12.45	Development meeting
12.45-14.45	Drafting Findings panel (including lunch)
14.45-15.30	Oral feedback/report of findings and closure

Appendix 4. Materials

Prior to the site visit, the panel studied 15 theses of the master's programme Urban Environmental Management. Information on the theses is available from Academion upon request.

The panel also studied other materials, which included:

- Report previous accreditation
- Learning outcomes
- Schematic. overview of the programme
- Assessment Matrix
- Assessment policy Wageningen University
- Overview teaching staff
- Dutch referential framework for academic programmes in Environment and Sustainability
- Selection of course material (five courses)
- Annual reports examining board (2019-2020; 2002-2021; 2022-2023)
- Annual programme committee (2019-2020; 2002-2021; 2022-2023)