



B International Land and Water Management
M International Land and Water Management
Wageningen University

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info@academion.nl

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Contents

- Summary 4
 - Score table 6
- Introduction..... 7
 - Procedure..... 7
 - Panel 8
 - Information on the programmes..... 9
- Description of the assessment..... 10
 - Organization 10
 - Recommendations previous accreditation panel 10
 - Standard 1. Intended learning outcomes 10
 - Standard 2. Teaching-learning environment..... 14
 - Standard 3. Student assessment 20
 - Standard 4. Achieved learning outcomes 23
 - General conclusion 24
 - Recommendations 24
- Appendix 1. Intended learning outcomes 25
- Appendix 2. Programme curriculum..... 28
- Appendix 3. Programme of the site visit..... 31
- Appendix 4. Materials..... 32

Summary

Standard 1. Intended learning outcomes

The bachelor's and master's programmes International Land and Water Management are interdisciplinary programmes that aim to educate students in relevant disciplines from both the social and natural sciences. The programmes have a unique profile, combining knowledge and skills from different disciplines to train professionals who are equipped to deal with complicated and transdisciplinary real-world problems. The panel was impressed by the unique way the programmes approach land and water management from an interdisciplinary perspective. It commends the programme for this unique profile, which it sees as a selling point, and advises both programmes to articulate these interdisciplinary and problem-facing aspects even better.

The *bachelor's* programme focuses on the interdisciplinary area that exists at the intersection of social sciences, natural science and technology. Students are taught how to integrate skills and knowledge from each discipline in the context of real-world problems such as food security and climate change mitigation. The panel found the profile of the bachelor's programme clearly defined and distinctive within its field, and especially appreciated the interdisciplinary aspect of the profile.

The *master's* programme focuses on scientific analysis combined with critical reflection. It aims to teach students the skills necessary to become reflective professionals who can cross disciplinary boundaries and collaborate in interdisciplinary environments. The panel found the profile of the master's programme and its' four tracks to be clearly formulated. It appreciated the programme's aims to educate professionals who are capable of interdisciplinary collaboration and critical reflection. The panel found the intended learning outcomes of both the BIL and the MIL programme to be of the right level, and appreciated the involvement of external stakeholders in their conception.

Standard 2. Teaching-learning environment

Both the BSc and MSc International Land and Water Management degrees have translated their ILOs into a well-designed and well-structured curriculum. The panel found that the *BSc* curriculum clearly builds up from introductory to more advanced bachelor's level. It appreciates that the focus shifts logically throughout the curriculum from getting acquainted with the international land and water management domain and acquiring relevant skills, to performing research and gaining practical experience. The panel values that the *MSc* provides ample opportunity for students to specialize in relevant areas of international land and water management, tailoring the curriculum to their own preferences and professional interests. The panel appreciates the varied teaching methods in the bachelor's and master's programme. The panel notes that the history of land and water management and its historical and current relation to colonialism could receive more attention. It advises to address this throughout the curriculum and to build upon the good examples that already exist within several courses.

The panel is positive on the supportive learning environment of both programmes and commends the programmes student-centred approach, with ample flexibility for students to design their own learning path in combination with adequate support for students in designing their individual curricula. The panel highly appreciates the guidance provided by the study advisors, including appropriate guidance for students with functional impairments. The panel concludes information provision in the programmes is up to standard, although information provision for the thesis could be improved. The panel advises the programme management and thesis supervisors of both programmes to improve the instruction about length and content of theses and communicate expectations about these matters clearly to students.

The BSc and the MSc programme have appropriate admission requirements, and the programmes are feasible within their allotted time. The panel advises the programme management to keep monitoring the feasibility and if necessary further optimize the curriculum for this purpose. The panel requests the programme management and teaching staff to avoid giving students the impression that they have to complete more courses than necessary within the curriculum. The panel considers the English name and language of instruction of the programmes an appropriate choice given the international focus of the field and the global labour market. The panel is positive about the quality of the teaching staff, praising their approachability for students and high commitment.

Standard 3. Student assessment

The panel studied the assessment practices and policy of the International Land and Water Management. It found the system of assessment to be thorough and extensive, and was impressed by the new assessment policy. The intended learning outcomes are assessed through various methods, which are aligned with the programme ILOs through constructive alignment. The transition to the Osiris system was positively received by the panel, as was the use of rubrics for the theses and internship. Transparency and reliability are achieved in several ways, such as the assessment strategies and the assessment matrices. The panel is positive about the way in which the theses of both the BIL and the MIL programmes are assessed. It found that the rubrics contribute to the reliability of the assessment. It advises the programme to review the BSc rubric and improve the balance between several subcategories of the grading. The panel concludes that the Examination Board Environment and Landscape (EBEL) can do its job well, and that all checks and balances are in place to safeguard the assessment procedures of the programme. The regular meetings with both the Programme Committee and the chair groups, as well as the samples of the theses that the EB studies, all add to this safeguarding. The panel encourages EBEL to be more assertive in its advice to the programme teachers and managers, and to ensure the advice is acted upon.

Standard 4. Achieved learning outcomes

The panel concludes that the bachelor's and master's theses show that students achieve the intended learning outcomes. The panel was pleased with the thesis quality of theses, although some more attention could be paid to theory analysis and theory building. Theses are clearly of the level and quality that may be expected from a bachelor's and master programme respectively. The bachelor's programme prepares graduates sufficiently for follow-up master's programme and the master's programme prepares graduates sufficiently for the professional field. Alumni feel the programme prepared them well for their careers. They find employment in relevant jobs, both inside and outside academia.

Score table

The panel assesses the programmes as follows:

Bachelor's programme International Land and Water Management

| | |
|---|--------------------|
| 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 |

Master's programme International Land and Water Management

| | |
|---|--------------------|
| 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

Prof. dr. Jacqueline van Muijlwijk, panel chair
Date: 20 January 2025

Drs. Jessica van Rossum, panel secretary

Introduction

Procedure

Assessment

On 10 and 11 October 2024, the bachelor's and master's programmes International Land and Water Management of Wageningen University were assessed by an independent peer review panel as part of the cluster assessment WO Life Sciences and Natural Resources 3. The assessment cluster consisted of ten programmes, offered by the Wageningen University. The assessment followed the procedure and standards of the NVAO Assessment Framework for the Higher Education Accreditation System of the Netherlands (September 2024).

Quality assurance agency Academion coordinated the assessment upon request of Wageningen University. Jessica van Rossum acted as coordinator and panel secretary. Anne-Lise Kamphuis, Rik Ligthart and Sarah Boer also acted as panel secretaries in the cluster assessment. They have been certified and registered by the NVAO. Jessica van Rossum acted as panel secretary for the site visit in which bachelor's and master's programmes International Land and Water Management were assessed.

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 27 August 2024, the NVAO approved the composition of the panel. The coordinator instructed the panel chair on her role in the site visit 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 programmes provided the secretary with a list of graduates over the academic years 2021-2022, 2022-2023 and 2023-2024. In consultation with the secretary, the panel chair selected 15 theses of the bachelor's programme and 15 theses of the master's programme. They took the diversity of final grades into account, as well as the specializations in the master's programme. From the specialization Sustainable Land Management 4 theses were selected, from the specialization Water, Society and Technology 4 theses were selected, from the specialization Adaptive Water Management 6 theses were selected and from the specialization Flexible Configurations for Innovative Minds 1 thesis was selected. Prior to the site visit, the programmes provided the panel with the theses and the accompanying assessment forms. They also provided the panel with the self-evaluation reports 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 visit and report.

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 an Academion colleague 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 Wageningen University 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 finalized the report, and the coordinator sent it to the Wageningen University.

Panel

The following panel members were involved in the cluster assessment:

- Prof. dr. J.E. (Jacqueline) van Muijlwijk-Koezen, professor in Innovations in Human Health and Life Sciences at the Vrije Universiteit Amsterdam (chair);
- Ir. M.L. (Margot) Kok, Director of Education at the Faculty of Science at Utrecht University;
- Dr. A.A.J. (Annik) Van Keer, policy officer for Education at Utrecht University;
- Dr. Ir. L.G.J. (Luc) Boerboom, associate professor at the Faculty of Geo-Information Science and Earth Observation at the Universiteit Twente;
- Dr. G.M. (Garrett) Broad PhD, associate professor in Communication Studies at Rowan University (United States of America);
- Prof. V.B. (Vilis) Brukas, professor in Forest Planning at the Swedish University of Agricultural Sciences (Sweden);
- Prof. dr. M. (Marleen) De Troch, associate professor in Marine Ecology at Ghent University (Belgium);
- Prof. dr. M.P. (Michael) Gilek, professor in Environmental Science at Södertörn University (Sweden);
- Prof. dr. Ing. B.J.J.M. (Bart) van der Hurk, Scientific Director at Deltares and professor in Climate Interactions with the Socio-Ecological System at the Vrije Universiteit Amsterdam;
- Prof. dr. P.L. (Pierre) Ibsich, professor in Socio-ecology of Forest Ecosystems at the Hochschule für nachhaltige Entwicklung Eberswalde (Germany);
- Dr. T.K. (Torsten) Krause, associate professor at the Lund University Centre for Sustainability Studies of Lund University (Sweden);
- Em. prof. dr. B.A. (Bruce) Lankford, professor emeritus in Water and Irrigation Policy at the University of East Anglia (United Kingdom);
- Prof. dr. T. (Tatiana) Loboda, professor at the Department of Geographical Sciences of the University of Maryland (United States of America);
- Prof. dr. ing. S. (Steffen) Nijhuis, professor in Landscape-based Urbanism at the Technical University Delft (referee panel member);
- Dr. M.A.F. (Mirjam) Ros-Tonen, researcher and former associate professor at the Faculty of Social and Behavioural Sciences of the University of Amsterdam;
- Prof. dr. S.T. (Sabine) Timpf, professor in Geoinformatics at the University of Augsburg (Germany);
- Prof. dr. V.B. (Veerle) Van Eetvelde, professor in Landscape research at Ghent University (Belgium);
- Prof. C.W. (Christian) Werthmann, professor in Landscape Architecture and Design at Leibniz University Hannover (Germany);

- J.A. (Job) Tuinder BSc , master's student Earth Sciences at the University of Amsterdam (student member);
- F. (Finn) van der Straaten BSc, master's student International Development Studies at the University of Amsterdam (student member).

The panel assessing the bachelor's and master's programme International Land and Water Management at Wageningen University consisted of the following members:

- Prof. dr. J.E. (Jacqueline) van Muijlwijk-Koezen, professor in Innovations in Human Health and Life Sciences at the Vrije Universiteit Amsterdam (chair);
- Ir. M.L. (Margot) Kok, Director of Education at the Faculty of Science at Utrecht University;
- Dr. Ir. L.G.J. (Luc) Boerboom, associate professor at the Faculty of Geo-Information Science and Earth Observation at the Universiteit Twente;
- Em. prof. dr. B.A. (Bruce) Lankford, professor emeritus in Water and Irrigation Policy at the University of East Anglia (United Kingdom);
- J.A. (Job) Tuinder BSc , master's student Earth Sciences at the University of Amsterdam (student member).

Information on the programmes

| | |
|--|--|
| Name of the institution: | Wageningen University |
| Status of the institution: | Publicly funded institution |
| Result institutional quality assurance assessment: | Positive |
| Programme name: | B International Land and Water Management |
| CROHO number: | 50100 |
| Level: | Bachelor |
| Orientation: | Academic |
| Number of credits: | 180 EC |
| Specializations or tracks: | Not applicable |
| Location: | Wageningen |
| Mode(s) of study: | Fulltime |
| Language of instruction: | English |
| Submission date NVAO: | 1 May 2025 |
| Programme name: | M International Land and Water Management |
| CROHO number: | 60104 |
| Level: | Master |
| Orientation: | Academic |
| Number of credits: | 120 EC |
| Specializations or tracks: | - Sustainable Land Management; - Water, Society and Technology; - Adaptive Water Management; - Flexible Configurations for Innovative Minds |
| Location: | Wageningen |
| Mode(s) of study: | Fulltime |
| Language of instruction: | English |
| Submission date NVAO: | 1 May 2025 |

Description of the assessment

Organization

Wageningen University comprises of one faculty with five science groups, also known as departments. These science groups are Agrotechnology and Food Sciences, Animal Sciences, Environmental Sciences, Plant Sciences and Social Sciences. The science groups deliver education through chair groups. A chair group is the organizational component within Wageningen University to give shape to academic teaching and research and create societal value in a specific field. Chair groups are usually clustered according to similarities under the broad field of a particular science group. The science groups are responsible for the management of the activities of the chair groups and the research institutes of Wageningen Research (WR). There are about ninety chair groups, each of them led by a professor to conduct research in the specific domain. Despite the exclusiveness of every chair group, they all work under the thematic area of healthy food and living environment. A chair group can be involved in the education of more than one programme. The involvement of chair groups in a programme is evident in the courses and the specialization. Regarding a programme, the Board of Education oversees that the programme director and the programme committee, consisting of students and teachers, develop and update bachelor's and master's curricula and align with the chair group(s) on whether new courses and specializations are needed or existing courses or thesis specializations have to be enhanced.

Recommendations previous accreditation panel

The previous accreditation of the bachelor's programme International Land and Water Management (BIL) and the master's programme International Land and Water Management (MIL) of Wageningen University took place in 2019. In the self-evaluation reports of the current assessment, the programmes described the actions taken in response to the recommendations. Additionally, several improvements were discussed during the site visit. The panel concludes that the programme management has taken the recommendations seriously. The panel is satisfied with the improvement measures taken. Among others, for both the bachelor's and master's programme this includes reviewing and renewing the programme, and further improvement of the assessment system. For the bachelor's programme, this also includes increased attention to skills development and further enhancing the student's ability to connect theory to practice. For some recommendations, it became clear that the programme was still in the process of addressing them. These issues are discussed later in this report.

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

Both programmes

Both the bachelor's and the master's programme International Land and Water management have an interdisciplinary profile, and aim to equip students with the skills and knowledge regarding agriculture, irrigation, poverty alleviation, conservation of natural resources and biodiversity. The effective and sustainable management of land and water is at the basis of agriculture and other land uses. Land and water, the people managing these resources, and the use of associated technologies and organizational structures are crucial for the 2030 Sustainable Development Goals of United Nations, such as the ending of poverty, hunger and malnutrition. Both programmes aim to address some of the world's most pressing

challenges, including poverty reduction, food security, climate change mitigation and adaptation, as well as the prevention or mitigation of conflicts and disasters related to land and water resources.

Both programmes have formulated their intended learning outcomes (ILOs) in consultation with external stakeholders from the professional field: members of the External Advisory Committee. In this way, the programmes aim to ensure the alignment between the intended learning outcomes and the requirements of the professional field.

The panel studied the profiles of the BIL and the MIL programmes, and found them to be clearly delineated. The panel was enthusiastic about the interdisciplinary approach to complex issues such as food security and poverty alleviation as it was described in the SER and explained by the programme management and teaching staff. The panel commended the aim of both programmes to educate Land and Water professionals who can combine both natural and social sciences to solve problems, which it considered a valuable asset of the programmes. The panel noted that the programmes were able to convey their unique selling propositions in the conversations during the site visit. According to the panel, the interdisciplinary profiles of the BIL and the MIL programme are strong assets and unique in their field. The panel found that both programmes could take more pride in this, and refine the way they articulate this profile in their internal and external communication.

During the interviews with the students from both programmes, some students mentioned that they were not entirely aware of their own skillset when they entered the labour market. Alumni of the programme told the panel that, once they were working, they became aware of all the skills they had learnt during their studies. The panel concluded that this was not due to a lack of skills but rather that the skills taught by the programmes were not always recognized by the students and it was not clear to the students how this made them employable. The panel therefore advises the programmes to pay particular attention to whether and how they communicate to the students what skills they learn during the programme. In addition, teachers, employers and future students will benefit from a clear overview.

Profile and ILOs bachelor programme

The BSc International Land and Water Management is an interdisciplinary programme that encompasses three main areas: Land and Water, Technology and People. At the core of the programme is the interrelation and interaction between these three areas. It focuses on the natural resources of land and water as well as their multiple uses and users. The programme pursues interdisciplinarity by taking a generalist approach, providing students with a broad perspective. Students acquire and combine knowledge in engineering, environmental and social sciences, study the roles of various stakeholders, and design land and water management enhancement plans. To achieve this, students need comprehensive knowledge and understanding of the biophysical, agro-ecological, spatial and technical conditions. Students who wish to gain more in-depth knowledge in a particular area may opt for a minor, internship and/or a thesis in that direction. This allows them to prepare for and meet the entry requirements of a master's programme in that particular field.

The programme aims to educate T-shaped professionals who have broad range of transboundary competences related to teamwork, communication, critical thinking, global understanding and project management. T-shaped professionals have both depth and breadth in their skills; they are deep problem solvers in their home discipline but also capable of interacting with and understanding specialists from a wide range of disciplines. Students learn to integrate their in-depth knowledge and skills focused on their area of expertise (land and water management) with other disciplines through their competences in the above mentioned areas.

The BIL programme has translated its goals into 14 ILOs, incorporating input from discussions with the Programme Committee, students, lecturers and the External Advisory Committee. The ILOs align with the Dublin descriptors for bachelor's programmes (see Appendix 1), being focused on teaching basic academic competences regarding research and design within the domain of land and water management. Each ILO is formulated to correspond with a specific Dublin descriptor, and the ILOs are divided into three subgroups:

- General skills at bachelor's level (1 to 4)
- Specific learning outcomes for the domain of Land and Water management (5 to 9)
- Learning outcomes on reflective learning and personal development (10 to 14)

The BIL programme maintains regular contact with employers from the professional field, both through its External Advisory Committee and the organizations that host internships for their students.

During the October visit interviews, the programme management used a Venn diagram to explain their vision on interdisciplinarity, showing the three disciplinary areas (Technology, People and Land and Water) as overlapping circles with the middle area as a fourth area of expertise. The programme views interdisciplinarity within their programme as not only having basic knowledge of these three disciplines but also how to bring all the disciplines together in this fourth middle area. The panel appreciated this vision on interdisciplinarity and the visual clarification of the Venn diagram to illustrate this vision. It considered this interdisciplinary aspect of the programme and the programme's vision on interdisciplinarity to be very valuable and aligned with the aim to educate T-shaped professionals. It noted that this aspect is distinctive to the programme's profile, and sets the programme apart from other Land and Water programmes.

Furthermore, the ILOs are clearly formulated on an academic bachelor's level, as demonstrated in their alignment with the Dublin Descriptors. The panel found the involvement of the External Advisory Committee to be a good way to ensure that the ILO's are aligned with the requirements of the professional field. The panel observed that most students continue with a master's programme after graduation, but asks the programme management to also pay attention to the bachelor's job profile to assure students awareness of job possibilities after graduating the bachelor's programme.

Profile and ILO's master programme

The master's programme International Land and Water management focuses on the scientific analysis of issues such as food security, climate change mitigation and adaptation and poverty alleviation. It aims to develop coherent approaches to understand and address land and water management problems by integrating insights and concepts from natural and social sciences, while considering diverse types of knowledge, cultural perspectives and paradigms. Like the BIL programme, the MIL programme studies how people and technology affect land and water. It aims to contribute to a better management and more sustainable use of these natural resources in complex settings worldwide. Historically, the programme focused on land and water in an agricultural context, especially in tropical areas of the Global South. The theme of agricultural land and water management remains central to the programme. At the same time, it has expanded to other regions beyond the Global South, and has added other relevant topics such as coastal resources management and urban wastewater reuse. Like the BIL programme, the MIL programme takes an interdisciplinary approach to these topics, using perspectives and knowledge from different disciplines. Students learn how to integrate these disciplines by combining knowledge and methods, and bridging differences in using concepts and theories. In this way, the programme's aim shifts from interdisciplinarity to transdisciplinarity. To this end, students also learn necessary critical and reflective skills and attitudes. The programme attracts both national and international students from outside Europe.

The MIL programme has four specializations that prepare students for research, consultancy, policy, education and design-related jobs. The specializations are ‘Sustainable Land Management’, ‘Water, Society and Technology’, ‘Adaptive Water Management’ and ‘Flexible Configurations for Innovative Minds’.

- The first, *Sustainable Land Management*, focuses on the processes, drivers and consequences of land degradation. This specialization teaches students to design, test and evaluate innovative practices and strategies for sustainable land management, including nature-based solutions and regenerative farming.
- The specialization *Water, Society and Technology* focuses on water use in agriculture, mainly irrigation techniques. The politics and practices of water modelling and river co-management have been added to the specialization in recent years.
- *Adaptive Water Management* focuses on the careful management of water systems and teaches students to analyse future-oriented issues in water management. Students learn how to propose and critically assess management strategies, policies and innovations for climate-adaptive water management.
- The specialization *Flexible Configurations for Innovative Minds* teaches students to connect knowledge and skills developed in between and beyond the other specializations. This specialization was developed to give students for more flexibility in developing their study programme. Students are encouraged to venture into new topics and make connections with other disciplines or within the programme itself.

The ILOs of the MIL programme are divided into the same three subcategories as the BIL ILOs (see above) but on an MSc level (see Appendix 1). In addition to these three subcategories, each specialization has two or three separate ILOs that focus on the subject matter. All ILOs are formulated to correspond with Dublin descriptors at the MSc level.

The panel studied the profile and the ILOs of the MIL programme and concluded that the profile is clear and distinctive. The deepening of the knowledge of the specific disciplines with which the students work and the focus on the scientific analysis of real-world problems, distinguishes the profile of the MIL from the BIL programme. The panel appreciated the attention to critical reflection on interdisciplinarity that the students are taught. It commends the programme for its solid profile and the clear aim of educating reflective professionals with the skills and knowledge to collaborate in interdisciplinary environments.

Considerations

The bachelor’s and master’s programmes International Land and Water Management are interdisciplinary programmes that aim to educate students in relevant disciplines from both the social and natural sciences. The programmes have a unique profile, combining knowledge and skills from different disciplines to produce professionals who are equipped to deal with complicated and transdisciplinary real-world problems. The panel was impressed by the unique way the programmes approach land and water management from an interdisciplinary perspective. It commends the programme for this unique profile, which it sees as a selling point, and advises both programmes to articulate these interdisciplinary and problem-facing aspects even better.

The *bachelor’s* programme focuses on the interdisciplinary area that exists at the intersection of social sciences, natural science and technology. Students are taught how to integrate skills and knowledge from each discipline in the context of real-world problems such as food security and climate change mitigation. The panel found the profile of the bachelor’s programme clearly defined and distinctive within its field, and especially appreciated the interdisciplinary aspect of the profile.

The *master's* programme focuses on scientific analysis combined with critical reflection. It aims to teach students the skills necessary to become reflective professionals who can cross disciplinary boundaries and collaborate in interdisciplinary environments. The panel found the profile of the master's programme and its' four tracks to be clearly formulated. It appreciated the programme's aims to educate professionals who are capable of interdisciplinary collaboration and critical reflection. The panel found the intended learning outcomes of both the BIL and the MIL programme to be of the right level, and appreciated the involvement of external stakeholders in their conception.

Conclusion

The panel concludes that the bachelor's and master's programme International Land and Water Management meet 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

Curriculum

The curricula of both the bachelor's and the master's programme International Land and Water Management are based on a WU-wide fixed set of blocks throughout the year. Each year is divided into six periods, of which periods 1, 2, 5 and 6 have a duration of eight weeks and consist of 12 EC. Periods 3 and 4 have a duration of four weeks and consist of 6 EC. Courses within these periods are divided into 3 and 6 EC courses.

Curriculum: BSc International Land and Water Management

The bachelor programme consists of 180 EC and is offered as a three-year full-time programme. The first year courses get students acquainted with the domain of international land and water management, its (multi)disciplinary building blocks, final competencies, and professional field. Year two focuses on designing interventions and practicing managerial skills, and offers advanced (multi)disciplinary courses. To build these skills and knowledge, the curriculum in the first and second year includes courses in statistics and mathematics (12 EC), natural science (51 EC), social science (24 EC) and integration (33 EC). The third year focuses on research and practical experience. This includes an elective space (30 EC), in which students can opt for a minor of their choice, or free elective courses. Finally, students complete a mandatory, international internship (18 EC) and write a bachelor thesis (12 EC).

Teaching methods in the bachelor's programme consist of lectures, tutorials, practicals, field work/research and excursions. The curriculum ensures continuous exposure to real-world cases and complex issues in land and water management. This is done through lectures, in group work, and in the field. Students participate in design assignments, excursions, and field practicals. During the courses, students are confronted with real-world land and water management issues, and are invited to perform a problem- and stakeholder analysis. Subsequently, students address and solve the challenges in these cases using scientific approaches and proposing alternatives for the socio-technical design of interventions. The didactics are based on concentric action learning; a method that focuses on repetition and increasing in-depth learning. This means that students are given regular opportunities for integration, by mobilizing, repeating, and applying what they have learned. Throughout the three-year curriculum, this builds up to an increasingly more abstract and complex level.

In the third year, students conduct an external international internship as well as a research project within a relevant organization. This enables them to experience the international, interdisciplinary and intercultural nature of the ILWM domain. Students have the possibility to make a link between the internship and the thesis: they can write their thesis on a topic that they worked on during their internship, or use data that they collected or utilized during their internship. For the thesis, additional scientific literature needs to be sought, read and used. Students can do their internship at governmental or non-governmental organisations, farmers' or users' organizations, private businesses, consultancy firms, or research institutes. Part of the internship and research project are reflection assignments where students reflect on their experiences and learning, and formulate consequences for the next steps in their studies and/or career. Students do an internship under supervision of a WUR supervisor and a host supervisor from the internship organization. During the internship, students conduct the research for their bachelor thesis, which is the final product of the programme. Students can write their thesis on a topic that they have worked on during their internship, combining their knowledge of social- and natural science. Students are guided on writing their BSc thesis during BIL thesis writing sessions. These sessions include two assignments that help students improve their writing skills by giving and receiving feedback from other students, and to help students to finish their thesis on time.

Based on the documentation and interviews during the site visit, the panel concludes that the BSc curriculum is well structured and coherent. The panel is of the opinion that the curriculum clearly builds up from introductory to more advanced bachelor's level. It appreciates that the focus shifts logically throughout the curriculum from getting acquainted with the ILWM domain and acquiring relevant skills, to conducting research and gaining practical experience. The panel values the varied teaching methods in the bachelor's programme, exposing students to real-world cases and complex challenges in land and water management.

Curriculum: MSc International Land and Water management

The master programme consists of 120 EC and is offered as a two-year full-time programme. The curriculum consists of three compulsory domain courses (21 EC), two skills training courses (3 EC), two compulsory courses and a restricted optional course per specialization (18 EC), three elective courses (18 EC), an internship or a research practice (24 EC) and a major thesis (36 EC). Teaching methods in the master's programme consist among others of lectures, tutorials, practicals, cases and excursions.

In the first year of the programme, students learn to conduct interdisciplinary and transdisciplinary research, and develop themselves into T-shaped professionals in three compulsory domain courses. In these courses, students learn among other things to conceptualize land and water management issues, design a conceptual framework to address international land and water management challenges, present their own opinions on relevant theoretical frameworks and research paradigms, and get acquainted with externally commissioned cases.

During the first and the second year, students take part in two Modular Skills Training courses, which they choose according to the skills they want to develop. Early in the programme, students consult the study advisor to assess what skills they already possess and what skills they need to develop. Based on this assessment, students select two appropriate skill development modules. The skill development modules fall into three categories: (1) refreshing skills such as information literacy and presentation, (2) reflection and writing skills, and (3) academic and professional career skills.

The starter course 'Issues and Concepts in International Land and Water Management' acquaints students with the specialization options. During this course, students formulate their study plans in relation to their envisaged professional practice and choose a specialization, supported by staff and study advisers. Each specialization includes one social science-oriented and one natural science-oriented compulsory course, or two courses that combine natural and social sciences. In addition, students have to select one restricted-choice elective relevant to the specialization. These three courses, together with the related major thesis, form the backbone of a specialization. Moreover, students choose three elective courses, which gives students the opportunity to personalize their programmes. In the second year, students conduct an individual research project and write their thesis under supervision of a Wageningen University supervisor. Thesis research typically involves fieldwork and data collection in an international (overseas) setting. Students are permitted to do fieldwork in the Netherlands, as long as the research combines social and natural sciences, preferably with a link to international issues. A large number of students conduct their thesis work in international environments with which the supervisors have research collaborations. In addition, in the second year students complete an internship or a research practice (24 EC), for which the choice depends on the student's background, work experience, and interests. This is determined in consultation with the study adviser. Students are guided in their choice for an internship and thesis topic, for example at the annual thesis and internship fair where staff members showcase possibilities for internship places and thesis topics and match students with potential supervisors.

The panel studied the curriculum and discussed it during the site visit, and concludes that the master's programme curriculum is well thought-out and appropriate for the master's level of the programme. The panel values the varied teaching methods in the master's programme. The programme provides ample opportunity for students to specialize in relevant areas of international land and water management and to further tailor the curriculum to their own preferences and professional interests.

The panel values that both the *bachelor's* and the *master's* programme engage in real-world challenges, by incorporating cases and fieldwork into the curricula and addressing challenges from professional practice. At the same time, the panel notes that the curricula could focus more on the history of land and water management and the related colonialism. The panel believes that contemporary colonialism should be explicitly addressed in the curriculum, as geopolitical perspectives are crucial for students to consider and integrate into their future professional attitude and awareness. The panel emphasizes the need for graduates to be aware of their position in this context, and learn to value the expertise of people from other cultures and traditions, the importance of knowledge of water and land as a basic necessity for all people, and the historical and contemporary perspectives on this. The panel concludes that more attention should be paid to this, and advises addressing the history of land and water management throughout the curriculum, especially when it comes to its historical and contemporary relation to colonialism. The panel has seen some good examples of this attention in different courses, for instance farmers from the Global South sharing their perspective and challenging students' skills by asking for a solution to a problem. It advises building on such examples to integrate this perspective further in the curriculum.

Learning environment

For both the bachelor's and the master's programme International Land and Water management, students actively participate in the design of their own learning process. Staff and study advisers support this by stimulating students to continuously monitor and reflect on their development. They help students choose the learning path and specialization that best suits their interests and goals, determining the elective courses, thesis topics and internship positions that best fit their aims. The study advisors actively engage with students throughout the programme by regularly sharing information with the student population,

advising individual students on their study choices, providing support or referring to specialized support in case of issues.

Guidelines are available for students to enhance their access to information and help them make curriculum choices. The guidelines are posted on the International Land and Water Management Brightspace, which is a software portal, where students can find all programme-relevant information. Students can find course information such as content, learning outcomes, learning activities and examination in the online study handbook.

In line with the university's broad policy, the programme aims to cater to a diverse population of students. To enhance accessibility and feasibility of the learning environment, students with functional impairments can appeal to the student deans, psychologists and study advisors for guidance in neutralizing or limiting possible obstacles as much as possible. Student deans offer information regarding regulations, can request study modifications and give advice about choosing a suitable study path. Study advisors provide guidance on how to modify study plans and help arrange extra facilities, for instance aimed at allowing students with an impairment to participate in field trips. The Board of Education has to approve these facilities, which is formalized in Osiris. Student psychologists offer short term conversational and behavioral therapies, performance anxiety training and interest tests. During the site visit, the programme management mentioned to the panel that there is an increasing numbers of students with impairments, such as decision anxiety, ADHD, autism, high sensitivity or dyslexia. In the case of dyslexia, students get 25% extra time for their exams. The panel learned that students with functional impairments increasingly reach out to study advisors, and the panel is positive about the proactive attitude of study advisors in trying to be visible and approachable for students to contact them.

The panel encountered a learning environment that entails a great deal of flexibility for students, and encourages them to take responsibility of their own learning process. The panel noted from the interviews during the site visit that this flexibility goes hand in hand with solid and proactive guidance from teaching staff and study advisors. The panel commends the programmes' student-centred approach, with ample flexibility for students to design their own learning path, combined with appropriate support for students in designing their individual curriculum. The panel highly appreciates the commitment of thesis and internship supervisors and the support provided by the study advisors, including the guidance for students with functional impairments. In the opinion of the panel, the study advisors play a crucial role for students and advises the programme management to keep monitoring the capacity of study advisors and make sure study advisers capacity stays up to par. Overall, the panel is positive on the supportive learning environment of both programmes.

During the site visit, the panel learned that students find information provision about the programmes up to par, although they would welcome better information provision on the thesis. Students mentioned that it is not always clear what length or what content theses should have, and that guidelines for this depend on the supervisor. The panel agrees that there should be guidelines for students on what is expected regarding the content and the length of the theses. It therefore advises the programme management and thesis supervisors of both programmes to develop such guidelines, which should at least describe the required length and content of theses, and to communicate this clearly to students.

Admission and feasibility

The BSc International Land and Water Management admits students with a Dutch VWO diploma, or its international equivalent. Applicants with any of the Dutch VWO profiles are admitted, provided that they have graduated with Mathematics A or B and Physics. The MSc International Land and Water Management

directly admits students with a bachelor's degree International Land and Water Management or equivalent. The norm for this equivalence is an assessment of the student's expertise in at least two topics in biophysical sciences (earth sciences, soil sciences and agricultural development) and at least one topic in social sciences (natural resources management, rural development or political sciences/development). Not all topics mentioned need to be mastered at the same level, and are weighed by the Admission Commission per individual application. If an applicant doesn't fully meet these requirements, a tailor-made pre-master programme of 30 EC may be required prior to admission. The panel concludes that both programmes have appropriate admission requirements.

The Education Monitor 2024 shows that the average nominal completion rate for the 2016-2021 cohorts of the BSc is on 27%. After four years the percentage increases to 70% on average. For the MSc, the average nominal completion for the 2016-2022 cohorts is 16% and increases to 64% on average after three years. Based on these percentages, the panel discussed the feasibility of the programmes with the programme management and students of both programmes. From the interviews with the programme management and students, the panel learned that many students deliberately choose to take longer so they can follow more courses, do extracurricular activities, or take more time for the thesis or internship. The programme management appreciates that students invest in personal development and does not actively discourage this. However, the panel also noted that some students mentioned that they couldn't take time off in the summer to make sure they could graduate on time. Based on discussions with staff and students, the panel concludes that the programmes are in principle feasible within three and two years respectively, and emphasizes that it is possible to complete the curriculum nominally. A side note is that scheduling the programme could be done differently to prevent thesis writing delay after the internship. The panel suggests switching the internship and thesis to make the curriculum more logically built up and easier to graduate in time. During internships, students often go abroad with additional challenges such as arranging for placement abroad, learning the language, and getting used to be back again in the Netherlands afterwards. The panel understands the student's desire to engage in more activities during their studies and appreciates that there is a culture of encouraging personal development, and sees no problems with the feasibility of the curricula themselves. The panel advises the programme management to keep monitoring completion feasibility and if necessary further optimize the curriculum for this purpose. Moreover, the panel advises the programme management and teaching staff to avoid giving students the impression that they have to complete more courses than necessary within the curriculum, because a culture could arise of students feeling obliged to choose more courses than needed. The panel advises to pay attention to keeping the programmes inclusive for all students to be able to timely graduate.

Language and internationalization

The language of instruction in the BSc and MSc programme is English, as defined in the Code of Conduct of the Wageningen University. During the site visit, the panel discussed the use of English as the language of instruction and the international programme names with the programme management. The programme management explained that the programmes have an international orientation. Land and water management are global issues, meaning that students need to be prepared for an international working field. Furthermore, professional literature and study materials are only available in English. English language proficiency is a requirement for students as well as staff members. If necessary, the university offers courses to improve the language skills of all staff and students. The panel considers the choice of an English name and language of instruction to be appropriate given the international focus of the field and the global labour market.

The panel discussed the language of instruction with students, and learned that, although students mentioned that the English proficiency of teaching staff is generally up to standard, some of the bachelor's

students saw room for improvement in the implementation of the first year: in some lectures, presentation slides were presented in Dutch. The panel advises the teaching staff to ensure that all study materials are available in English.

After studying BSc and MSc theses and studying the lists of theses, the panel wondered why around half of the theses focused on topics in a Dutch context, even though the programmes have an international focus. Interviews with programme management, teaching staff and students revealed that this was mainly due to temporary anti-covid measures that reduced opportunities for international projects, which have skewed the ratio. The panel appreciates that international topics are addressed in the theses, and/or an international approach is integrated in theses, given the international profile of the programmes. Additionally, the panel appreciates the efforts of the programme management and teaching staff to continue teaching as much as possible during the years of anti-covid measures. It appreciates the adjustments the programmes have made in order to facilitate this, such as changing the international setting of fieldwork to the Netherlands and consequently guiding students with specific thesis topics based on this fieldwork.

Teaching staff

The BSc and MSc programmes are taught by 36 and 35 teaching staff members respectively, who serve as lecturers, thesis supervisors and/or internship supervisors. The lecturers involved in the programmes are experts in their field. Most of them have a PhD, are member of one of the Wageningen Graduate Schools, and actively participate in international research programmes. Furthermore, most of MSc staff conducts fieldwork in international land and water management and development settings. As a result, they are able to integrate case studies and consultancy experiences into their courses and link students to organizations all over the world. Almost all teaching staff have obtained their University Teaching Qualification (UTQ) or are in the process of obtaining this. It is also a requirement for the tenure track and education career path of new staff members. Students mentioned in the interviews that they value their lecturers and appreciate that staff can be easily approached.

Based on the documents and interviews during the site visit, the panel is positive about the quality of the teaching staff and was pleased to meet very committed teaching staff. The panel noted that the favorable student-staff ratio of 12:1 for both the BSc and the MSc programme is a helpful element in this.

The MSc student chapter mentioned a low diversity among teaching staff. During the interviews the panel learned from students that they would like a more diverse teaching staff to be able to learn from their diverse backgrounds. The panel agrees with this observation, and advises the programme to investigate options to increase the diversity of the staff. While the panel understands the difficulty of arranging this at short notice, it sees possibilities in the use of guest lecturers, following the positive examples that students mentioned with a visiting professor. According to the panel, it would be beneficial for the master's programme and its students to diversify the voices students are exposed to, possibly through video and (online) participation of guest lecturers in courses.

Considerations

Both the BSc and MSc International Land and Water Management degrees have translated their ILOs into a well-designed and well-structured curriculum. The panel found that the BSc curriculum clearly builds up from introductory to more advanced bachelor's level. It appreciates that the focus shifts logically throughout the curriculum from getting acquainted with the international land and water management domain and acquiring relevant skills, to performing research and gaining practical experience. The panel values that the MSc provides ample opportunity for students to specialize in relevant areas of international land and water management, tailoring the curriculum to their own preferences and professional interests. The panel

appreciates the varied teaching methods in the bachelor's and master's programme. The panel notes that the history of land and water management and its historical and current relation to colonialism could receive more attention. It advises to address this throughout the curriculum and to build upon the good examples that already exist within several courses.

The panel is positive on the supportive learning environment of both programmes and commends the programmes student-centred approach, with ample flexibility for students to design their own learning path in combination with adequate support for students in designing their individual curricula. The panel highly appreciates the guidance provided by the study advisors, including appropriate guidance for students with functional impairments. The panel concludes information provision in the programmes is up to standard, although information provision for the thesis could be improved. The panel advises the programme management and thesis supervisors of both programmes to improve the instruction about length and content of theses and communicate expectations about these matters clearly to students.

The BSc and the MSc programme have appropriate admission requirements, and the programmes are feasible within their allotted time. The panel advises the programme management to keep monitoring the feasibility and if necessary further optimize the curriculum for this purpose. The panel requests the programme management and teaching staff to avoid giving students the impression that they have to complete more courses than necessary within the curriculum. The panel considers the English name and language of instruction of the programmes an appropriate choice given the international focus of the field and the global labour market. The panel is positive about the quality of the teaching staff, praising their approachability for students and high commitment.

Conclusion

The panel concludes that the bachelor's and master's programme International Land and Water Management meet standard 2.

Standard 3. Student assessment

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

Findings

System of assessment

The system of assessment for both programmes is designed along the lines of the WU assessment policy, which was revised in 2022/2023. The assessment policy has three main principles:

1. Assessment and education are well aligned.
2. The assessment policy is scientifically grounded.
3. Assessment is our shared responsibility.

One of the goals of the new assessment policy, is to integrate more formative assessment methods into the programmes. Feedback is used as an integrative part of the assessment procedure, helping students to understand what they are already good at and which areas need more attention. Through a combination of formative and summative assessment the programme aims to help students to become increasingly capable of evaluating their own performance and managing their learning process.

The Programme Committee keeps track of whether the intended learning outcomes for the programme as a whole are covered in the programme's courses, and that these learning outcomes are assessed at a sufficient level. Each learning activity, whether a course, project study, internship or thesis, has an assessment strategy that aligns with the intended learning outcomes. Using constructive alignment, the programmes relate the assessment per course to the programme ILOs and teaching methods. Most courses use a variety of assessments to address different (levels of) learning outcomes. These include written exams, presentations and papers, and in one case a movie pitch. The course guides also provide information about the assessment strategy so that students know how and when they will be assessed during the course. Both programmes make use of rubrics when assessing theses and internships to help ensure reliable testing procedures. Students are given the opportunity to inspect their exams to see how they scored, and ask for feedback on their performance in order to learn. Teachers have to enter the finals results, grades and feedback into Osiris, which helps regulate the reliability and transparency of the assessment.

The panel found the system of assessment to be thorough and comprehensive, and was impressed with the new assessment policy, which it found to be clear and extensive. The panel found the transparency of the assessment matrix and the assessment strategy very insightful. The matrices of both programmes show that the assessment methods are aligned with the learning objectives of the courses. It was positive about the variety of assessment methods and the creativity of some of the tests, like the movie pitch. The use of Osiris is viewed by the panel as a good way to guarantee a systematic uniform assessment.

Thesis assessment

Both programmes follow the guidelines of the WU assessment policy on thesis assessment. The programmes each use rubrics to assess the theses. The MSc theses are all assessed using the WU-wide rubric, whereas the BSc theses have their own, programme-specific rubrics. The reason for this is that the bachelor's programmes of the WU vary too much in both content and structure to make a rubric that would suffice for all of them. The theses are assessed using the 'four eye principle', which means that two assessors independently assess and grade the students' products, performance and progress using the thesis rubric. As a rule, these assessors are the thesis supervisor and an examiner who is the second to review the thesis. The assessment outcome is registered on the online thesis assessment forms in Osiris and discussed with the student.

For both programmes, the rubrics for thesis assessment assign 40% of the grade to research competences and 50% to the thesis report. For the master's programme, the other 10% of the grade are based on colloquium (5%) and the oral defence (5%). For the bachelor's programme, this is 10% for completion activities which include the presentation and the participation in BIL thesis writing sessions. These criteria are shared with students, both orally and on paper, at the start of their thesis and agreed in the thesis learning agreement.

The BIL programme offers students the possibility to link their thesis to their internship. They can write their thesis on a theme that they worked on during their internship, or use data that they collected or used. For the thesis, additional scientific literature needs to be collected, studied and processed.

The panel studied the thesis assessment and spoke with teaching staff and students of both programmes on the topic of assessment. The panel was positive about the assessment along the lines of the 'four eye principle', and believes that this demonstrates the programmes' commitment to reliable and transparent assessing procedures. The panel found the theses assessment procedures for both programmes to be adequately organized.

The panel studied 15 theses of both programmes, and raised doubts about the grading of one of the theses of the bachelor's programme. It found the thesis in question to be awarded a slightly higher grade than appropriate, which the panel concluded they were awarded because of the way the criteria within the rubric are divided. Since the rubric of the bachelor's thesis awards 40% of the total grade to research competences, which are process-oriented, the thesis in question was able to pass with a thesis report (50%) that was of doubtful quality. After the panel shared its findings with the programme, it immediately discussed this issue with the teaching staff. During interviews at the site visit, the panel found that the teaching staff had discussed the matter and had decided to change the rubric to bring all components into balance, looking further into how this could be best achieved. The panel compliments the programme on its swift initiative in this regard, which it finds indicative of a learning organization. The panel encourages the program to continue reviewing and refining the bachelor thesis rubric to ensure reliable grading in future situations.

Examining Board

The International Land and Water Management programmes falls under the Examining Board Environment and Landscape (EBEL), one of the four Examining Boards of Wageningen University. The chair groups facilitate the courses and assign the examiners for each course, who must be approved by the EB's. The EB also monitors compliance with the assessment policy on programme- and course-level. It checks whether assessment strategies have been prepared for all courses, evaluates the quality of the tests, monitors the quality of the thesis assessments and consults at least once a year with the Programme Director and the Programme Committee on these topics. EBEL organizes reviews of theses samples for the various programmes on a regular basis. Reviewers are members of the Examining Board or examiners in the Land and Water Management domain. EBEL conducts regular and follow-up visits to each of the chair groups contributing to the International Land & Water Management programmes every three to five years. During a regular visit, EBEL reviews the assessment procedures of the group, in particular regarding the validity, reliability and transparency of the examinations. In order to ensure that all individual curricula cover all ILO's, EBEL has to approve each study programme for both the BIL and MIL students. Their individual curricula are studied by the Board before approval, and adjustments can be imposed if necessary.

The panel studied the functioning of the Board of Examiners and found that it is sufficiently equipped to carry out their legal responsibilities. The panel appreciated that checks and balances are in place regarding the assessment of both International Land and Water management programmes. The visits to the Programme Committee once every year and the chair groups once every three to five years ensure that assessment quality on both course and programme level is regularly discussed. The panel also appreciated the Board monitors the exit level of the programmes through thesis sampling. During the site visit, the panel interviewed members of EBEL and found that the Board sometimes is unable to find the associated substantiation of the theses' grades in Osiris. This is a technical issue due to the transition the programmes are making to Osiris and the thesis rubrics. The panel advises the programme to address this, as this transition was partly inspired by the EB's desire to get a clearer view of the argumentation of a certain grade.

Considerations

The panel studied the assessment practices and policy of the International Land and Water Management. It found the system of assessment to be thorough and extensive, and was impressed by the new assessment policy. The intended learning outcomes are assessed through various methods, which are aligned with the programme ILOs through constructive alignment. The transition to the Osiris system was positively received by the panel, as was the use of rubrics for the theses and internship. Transparency and reliability are achieved in several ways, such as the assessment strategies and the assessment matrices. The panel is positive about the way in which the theses of both the BIL and the MIL programmes are assessed. It found that the rubrics contribute to the reliability of the assessment. It advises the programme to review the BSc

rubric and improve the balance between several subcategories of the grading. The panel concludes that the Examination Board (EBEL) can do its job well, and that all checks and balances are in place to safeguard the assessment procedures of the programme. The regular meetings with both the Programme Committee and the chair groups, as well as the samples of the theses that the EB studies, all add to this safeguarding. The panel encourages EBEL to be more assertive in its advice to the programme teachers and managers, and to ensure the advice is acted upon.

Conclusion

The panel concludes that the bachelor's and master's programme International Land and Water Management meet standard 3.

Standard 4. Achieved learning outcomes

The programme demonstrates that the intended learning outcomes are achieved.

Findings

Theses

Both the bachelor's and the master's programme regard the thesis as the final project in which students demonstrate that they achieved the programme's ILOs. In its preparation for the site visit, the panel examined a selection of 15 theses per programme. In the selection, the panel ensured a proper distribution across grades and (for the master's programme) all specializations.

The panel concludes that the bachelor's and master's theses it read were of an appropriate level. The theses dealt with a broad spectrum of and relevant topics and cross between science, engineering and social science. The panel found that the bachelor's theses appropriately demonstrate the opportunities that students have to pursue their own research, using a diversity of methods and originality of topics. In the opinion of the panel, this implies that students learned relevant skills for this in the programme. Regarding the master's theses, the panel concludes that the theses contained well-conducted methodology, research and good discussions, and were well structured and very well readable.

One of the BSc reports did not meet the minimum requirements in the eyes of the panel as the research methodology and analysis were insufficient and the thesis lacked embedding in theoretical frameworks or literature. After investigating this, the panel considers this thesis to be an incidental case that is not indicative of the overall final level. It noted that the thesis was awarded a slightly higher grade than appropriate because of the way the criteria within the rubric are divided (see Standard 3).

Alumni

The large majority of bachelor's students continue with a master's programme after graduation. Their choices are mainly the master's programmes; International Land and Water Management, Geo-Information Science, Earth and Environment, and Climate Studies at the WU. Most graduates of the master's programme find a job within six months after graduation. International students from outside Europe mostly return to their jobs from which they took unpaid leave to study the programme. After five years, almost half of the graduates work in consultancy and advisory positions relevant to the field. Graduates also qualify for relevant PhD programmes or positions as researcher; 18% of graduates work in applied and fundamental research in their first job, often as a PhD-candidate. The panel concludes that the programmes prepare graduates adequately for the professional field.

The panel learned from the interview with students and alumni, that once graduates have started their jobs, they feel competent and confident about the knowledge and skills they obtained throughout the programme and feel well-prepared for the professional field. On the other hand, the panel also noted that some students lack confidence and awareness of their competences during the programme and in the opinion of the panel, the programme management could communicate more clearly to students the unique knowledge and skills they obtain throughout the programme (see Standard 1).

Considerations

The panel concludes that the bachelor's and master's theses show that students achieve the intended learning outcomes. The panel was pleased with the thesis quality of theses, although some more attention could be paid to theory analysis and theory building. Theses are clearly of the level and quality that may be expected from a bachelor's and master programme respectively. The bachelor's programme prepares graduates sufficiently for follow-up master's programme and the master's programme prepares graduates sufficiently for the professional field. Alumni feel the programme prepared them well for their careers. They find employment in relevant jobs, both inside and outside academia.

Conclusion

The panel concludes that the bachelor's and master's programme International Land and Water Management meet standard 4.

General conclusion

The panel's assessment of the bachelor's and master's programme International Land and Water Management is positive.

Recommendations

1. Strengthen the attention to the theory and history of land and water management and its relation to historical and contemporary colonialism in the curricula of both programmes. Interconnections between theory, practice and policy, especially within the thesis, need more attention.
2. Improve the thesis instruction for students of both programmes, especially concerning the word count and content of the theses, and communicate these guidelines clearly to students of both programmes.
3. Keep monitoring the feasibility of both programmes and if necessary further optimize the curricula to keep them feasible. Avoid giving students the impression that they have to complete more courses than necessary within the curriculum.
4. *For the bachelor's programme:*
Pay attention to the bachelor's job profile to assure students awareness of job possibilities after graduating the bachelor's programme.
5. *For the bachelor's programme:*
Continue to review and discuss the rubric for the BIL thesis to achieve also in future situations, a proper balance among the various grading subcategories.

Appendix 1. Intended learning outcomes

Bachelor's programme International Land and Water Management

Learning outcomes with respect to general skills at Bachelor level - After successful completion of the BSc program graduates are expected to be able to:

1. Formulate a problem definition, research objective, and research questions, resulting in an adequate research design, in the domain of international land and water management (research design under supervision)
2. Apply appropriate methods and techniques to collect, analyse and interpret data from literature and empirical research in the domain of international land and water management (carry out a research or design project under supervision)
3. Apply scientific knowledge, individually and in teams, together with relevant stakeholders of different backgrounds and nationalities, for designing land and water management alternatives at a technical, organisational and / or institutional level
4. Communicate their findings in a clear and concise manner, both in writing and verbally, geared toward various audiences

Learning outcomes specific for the domain of international land and water management - After successful completion of the BSc program graduates are expected to be able to:

5. Combine basic knowledge of social and biophysical sciences with knowledge of project and design processes and use this combination to address issues regarding international land and water management
6. Understand and apply the aspects of agro-ecological systems and its interlinked components, including soil, water, plants and derived products; and land and water-related technical infrastructures to manage these natural resources
7. Understand the social-economic, legal, institutional and political contexts of land and water management
8. Distinguish the various stakeholders and analyse their interests and influence in land and water contexts
9. Distinguish and analyse the human challenges in the world with regard to the use, distribution and management of land and water resources in the world, such as poverty alleviation, achieving food security, preventing or mitigating conflicts and natural hazards and disasters

Learning outcomes with respect to reflective learning and personal development - After successful completion of the BSc program graduates are expected to be able to:

10. Recognize and describe intra- and intercultural phenomena, place them in the context of frameworks for analyses, and develop or develop coping mechanisms. Several frameworks for analysing cross-cultural differences and apply these to presented intercultural incidents, to incidents the graduates have experienced, and to the cultural backgrounds of fellow students
11. Have developed a problem-oriented and interdisciplinary attitude;
12. Reflect critically on personal competences and on problems, theories and research results in the domain of international land and water management
13. Acknowledge the ethical and value-driven aspects of research and intervention strategies, and the various roles of the specialist in the domain
14. Design and plan their own learning path and define their own roles in relation to the world's major human challenges

Master's programme International Land and Water Management

Learning outcomes with respect to general skills at Master level. After successful completion of the MSc program graduates are expected to be able to:

1. Formulate a problem definition, research objective, and research questions, resulting in an adequate research design, in the domain of international land and water management (research design)
2. Apply appropriate methods and techniques to collect, analyze and interpret data from literature and empirical research in the domain of international land and water management (carry out a research or design project individually)
3. Function in multidisciplinary and multicultural teams or groups in complex land and water management contexts
4. Communicate convincingly their research or design findings in a clear and concise manner, both in writing and verbally, geared toward various audiences with different backgrounds and nationalities

Learning outcomes specific for the domain of international land and water management. After successful completion of the MSc program graduates are expected to be able to:

5. Apply knowledge on scientific paradigms and theoretical approaches to land and water management issues related to major human challenges (such as climate change mitigation and adaptation, poverty alleviation, achieving food security, preventing or mitigating conflicts and natural hazards and disasters) and translate this into a cross-disciplinary framework.
6. Apply interactive approaches with stakeholders and actors at the respective levels for different agro-ecological systems;
7. Analyze policies and policymaking processes, the institutional contexts and the multi-faceted consequences of interventions in land and water management;
8. Propose interventions for alternative management systems for land and water issues at local and watershed level.

Learning outcomes with respect to reflective learning and personal development. After successful completion of the MSc program graduates are expected to be able to:

9. Reflect critically on personal competences and on problems, theories and research results in the domain of international land and water management
10. Acknowledge and reflect on the ethical and value-driven aspects of research and intervention strategies, the various roles of the specialist in the domain, and the position vis-à-vis other actors

Specialization A: Sustainable Land Management

After successful completion of the specialization Sustainable Land Management graduates are expected to be able to:

11. Analyze and evaluate, in a cross-disciplinary manner, the processes, drivers and consequences of land degradation, and predict and evaluate the effects of interventions
12. Analyze and evaluate how physical and socio-economic aspects can be investigated in an integrated way, and how this knowledge can be applied for development purposes

Specialization B: Water, Society and Technology

After successful completion of the specialization Water, Society and Technology graduates are expected to be able to:

- analyze and evaluate, in a cross-disciplinary manner, different forms of water use and water resources management strategies applied at field, scheme and catchment level by different stakeholders
- analyze and evaluate interactively with stakeholders, institutional and infrastructural designs for sustainable irrigation and water management interventions in a cross-disciplinary manner.

Specialization C: Adaptive Water Management

After successful completion of the specialization Adaptive Water Management graduates are expected to be able to:

- to critically reflect on different definitions of integrated and adaptive water management;
- apply theoretical concepts in the analysis of adaptive water management issues;
- propose and critically evaluate adaptation strategies and innovations.

Specialization D: Flexible Configurations for Innovative Minds

After successful completion of specialization D graduates are expected to be able to:

- to critically reflect on different definitions of international land and water management, and define their specific focus
- apply theoretical concepts in the analysis of land and water management issues to explore the new frontiers
- propose and to critically evaluate land and water management strategies and innovations, on the basis of their specific focus

Appendix 2. Programme curriculum

Bachelor's programme International Land and Water Management

| Year 1 | AM | PM | Year 2 | AM | PM | Year 3 |
|--------|---|---|--|---|---|---|
| | Period 1 September-October PEN 10503 Ecology I WRM 12803 Orientation on International Land and Water Management | Period 2 November-December MAT 14803 Mathematics 1 OR MAT 15303 Statistics 1 HWM 10303 Water 1 | Period 3 January MAT 14903 Mathematics 2 MAT 15003 Mathematics 3 | Period 4 February AEW 23803 Water 2 SOC 22803 Soil 2 | Period 5 March-April CPT 11806 Technology, development and natural resources HWM 21806 Hydraulics and hydrometry | Period 6 May-June/July SLM 10806 Design land & water management 1 CSA 10306 Crops & cropping systems |
| | SLM 11303 Introduction Exploring Professional Practices YWU 10803 Introduction Environmental Sciences WRM 10306 Irrigation & water management (International excursion) | SGL 12803 Introduction to Soil Geography 1 SLM 20306 Land and water engineering AEP 10303 Intro Economics | GRS 10306 Introduction Geo-Information Science | DEC 20306 Rural households and livelihood strategies | WRM 21312 Design land & water management 2 SDC 22806 Land & Water Politics | YRM 21306 Research methodology for human - environment interactions |
| | SLM 10306 Land degradation and remediation (International excursion) | Free choice OR minor The internship and thesis combination can be followed in period 1, 2 & 3 or period 4, 5 & 6, depending on free choice or specific minors. | YEI 80812 Thesis (combined with Internship including international fieldwork experience) | YEI 70318 BSc Internship (combined with Thesis including data collection) | Joint rounding off phase: Writing, Peer reviewing, Presentation and defence. | |

- Social science course
- Natural science course
- Integration course

Master's programme International Land and Water Management

Specialisation A – Sustainable Land Management

| | Period 1 September - October | Period 2 November - December | Period 3 January | Period 4 February | Period 5 March - April | Period 6 May - June/July |
|------|---|---|--|--|--|--|
| MIL1 | AM Free choice | SLM 30806 Land Degradation & Development | WRM 33806 Gender and Natural Resources | SLM 31806 Erosion Processes & Modelling | SLM 31306 Fundamentals of Land Management | WRM 60309 Sustainable Land and Water Management (Spain) |
| | PM SLM 30306 Issues and Concepts in International Land and Water Management | Free choice | OR PPS 30306 QUALUS OR SLM 32306 Land First – from promises to practice | | WRM 32306 Research Approaches to Land and Water Management | YMC 60300 MOS Modular Skills Training |
| MIL2 | | | OR Free choice | OR Free choice | | |
| | | | | | Choose one of the following: XXX 79324 Research practice or XXX 70324 Internship | |

Specialisation B – Water, Society and Technology

| | Period 1 September - October | Period 2 November - December | Period 3 January | Period 4 February | Period 5 March - April | Period 6 May - June/July |
|------|---|--|---|---|--|--|
| MIL1 | AM Free choice | WRM 34806 Water, Society & Technology - concepts and debates | WRM 33806 Gender and Natural Resources | WRM 31306 Political Ecology of Water | WRM 30806 Water Delivery | WRM 60309 Sustainable Land and Water Management (Spain) |
| | PM SLM 30306 Issues and Concepts in International Land and Water Management | WRM 34306 Water System Design for Water Use from Multiple Sources | OR Free choice | OR Free choice | OR Free choice | YMC 60300 MOS Modular Skills Training |
| MIL2 | | | | | WRM 32306 Research Approaches to Land and Water Management | |
| | | | | | Choose one of the following: XXX 79324 Research practice or XXX 70424 Internship | |

Specialisation C - Adaptive Water Management

| | | Period 1 September - October | Period 2 November - December | Period 3 January | Period 4 February | Period 5 March - April | Period 6 May - June/July |
|------|----|---|---|--|---|--|--|
| MIL1 | AM | Free choice | WSG 35306 Modelling Future Water Stress OR Free choice | ENP 37306 Water Governance, Concepts and Practices OR WRM 33806 Gender and Natural Resources | WSG 34806 Climate Change Adaptation in Water Management | SDC 35306 Natural Hazards and Disasters OR Free choice | WRM 60309 Sustainable Land and Water Management (Spain) |
| | PM | SLM 30306 Issues and Concepts in International Land and Water Management | WSG 33806 Integrated Water Management | OR WSG 35806 Climate smart agriculture OR Free choice | WRM 32306 Research Approaches to Land and Water Management | WRM 60300 MOS Modular Skills Training | |
| MIL2 | | WSG 80436 Thesis Water Systems and Global Change | | | | Choose one of the following: XXX 79324 Research practice or XXX 70324 Internship | |

Specialisation D - Flexible Configurations for Innovative Minds

| | | Period 1 September - October | Period 2 November - December | Period 3 January | Period 4 February | Period 5 March - April | Period 6 May - June/July |
|------|----|---|---|---|---|---|--|
| MIL1 | AM | Free choice | SLM 30806 Land Degradation & Development OR WRM 34806 Water, Society & Technology - concepts and debates OR Free choice | One course in blue from other specialisations | WSG 34806 Climate Change Adaptation in Water Management OR one course in blue from other specialisations | SLM 31306 Fundamentals of Land Management OR one course in blue from other specialisations | WRM 60309 Sustainable Land and Water Management (Spain) |
| | PM | SLM 30306 Issues and Concepts in International Land and Water Management | WRM 34306 Water System Design for Water Use from Multiple Sources OR WSG 33806 Integrated Water Management OR Free choice | OR Free choice | OR Free choice | WRM 32306 Research Approaches to Land and Water Management | WRM 60300 MOS Modular Skills Training |
| MIL2 | | MSc Thesis SLM-80336 or WRM-80436 or WSG-80436 | | | | Choose one of the following: XXX 79324 Research practice or XXX 70324 Internship | |

Appendix 3. Programme of the site visit

Thursday 10 October 2024

| | | |
|-------|-------|-----------------------------------|
| 11.30 | 11.45 | Welcome |
| 11.45 | 12.30 | Panel preparation (incl. lunch) |
| 12.30 | 13.15 | Interview programme management |
| 13.15 | 13.30 | Break |
| 13.30 | 14.15 | Interview BSc students |
| 14.15 | 14.30 | Break |
| 14.30 | 15.15 | Interview BSc teaching staff |
| 15.15 | 15.45 | Break |
| 15.45 | 16.30 | Interview MSc students and alumni |
| 16.30 | 16.45 | Break |
| 16.45 | 17.30 | Interview MSc teaching staff |

Friday 11 October 2024

| | | |
|-------|-------|--|
| 9.00 | 9.30 | Panel preparation |
| 9.30 | 10.15 | Board of Examiners Examining Board + Study Advisors |
| 10.15 | 11.00 | Internal panel session |
| 11.00 | 11.30 | Concluding session programme management |
| 11.30 | 13.15 | Internal panel session (incl. lunch) |
| 13.15 | 13.45 | Oral feedback panel |
| 13.45 | 14.30 | Development dialogue |

Appendix 4. Materials

Prior to the site visit, the panel studied 15 theses of the bachelor's programme International Land and Water Management and 15 theses of the master's programme International Land and Water Management. Information on the theses is available from Academion upon request.

The panel also studied other materials, which included:

- Assessment policy WU 2023
- EER BAMA WU 2023-2024
- Framework for education Wageningen University 2023-2024
- Framework for education Wageningen University 2024-2025
- Study Advice Service level commitment v4.1
- NSE 2024 Bachelor International Land and Management
- NSE 2024 Master International Land and Management
- FBE annual reports 2020-2023
- MSc theses review EBEL July 2023
- PC BIL MIL year plans and annual reports 2021-2023
- 2024 BIL completion guidelines
- 2024 MIL completion guidelines
- BIL course material of courses:
 - Design in Land and Water Management 1
 - Irrigation and Water Management
 - Technology, Development and Natural Resources
- MIL course material of courses:
 - Fundamentals of Land Management
 - Integrated Water Management
 - WRM-32306 Research Approaches to Land and Water Management
- Education monitor 2024 BIL MIL