

**Social and Political
Sciences of the
Environment**

Radboud University Nijmegen

Quality Assurance Netherlands Universities (QANU)
Catharijnesingel 56
PO Box 8035
3503 RA Utrecht
The Netherlands

Phone: +31 (0) 30 230 3100
Telefax: +31 (0) 30 230 3129
E-mail: info@qanu.nl
Internet: www.qanu.nl

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This report was finalized on 8 October 2013

Report on the master's programme Social and Political Sciences of the Environment of Radboud University Nijmegen

This report takes the NVAO's Assessment Framework for Limited Programme Assessments as a starting point.

Administrative data regarding the programme

Name of the programme:	Milieu-maatschappijwetenschappen (Social and Political Sciences of the Environment)
CROHO number:	66839
Level of the programme:	Master
Orientation of the programme:	academic
Number of credits:	60 EC
Specializations or tracks:	Milieu-maatschappijwetenschappen (MMW, taught in Dutch); European Spatial and Environmental Planning (ESEP, taught in English).
Location(s):	Nijmegen
Mode(s) of study:	fulltime
Expiration of accreditation:	31-12-2014

The visit of the assessment committee Environmental Sciences to the Radboud University Nijmegen took place on 28 and 29 May 2013.

Administrative data regarding the institution

Name of the institution:	Radboud University Nijmegen
Status of the institution:	publicly funded institution
Result institutional quality assurance assessment:	positive

Quantitative data regarding the programme

The required quantitative data regarding the programme are included in Appendix 5.

Composition of the assessment committee

The committee that assessed the master Social and Political Sciences of the Environment consisted of:

- Prof. W.A. Hafkamp, chair, professor in Environmental Sciences, Erasmus University Rotterdam;
- Prof. I. Janssens, research professor at the University of Antwerp, research group of Plant and Vegetation Ecology;
- Prof. A. Jamison, professor in Technology, Environment and Society, Aalborg University, Denmark;

- Prof. I. Loots, professor at the Sociology Department and the Institute of Environmental Development (IMDO) at the University of Antwerp.
- Ms. K.A. Gosselink BSc, master student of Environmental Sciences at the University of Wageningen.

The committee was supported by Drs. E. Poort who acted as secretary.

Appendix 1 contains the curricula vitae of the members of the committee.

Working method of the assessment committee

Preparation

The assessment of the master's programme Social and Political Sciences of the Environment of Radboud University Nijmegen is part of a cluster assessment of eleven Environmental Sciences degree programmes offered by six universities. The entire cluster committee consists of eleven members.

The preparatory meeting for the cluster assessment took place on 25 March 2013. During this meeting the committee members received an introduction to the assessment framework and evaluation procedures and agreed upon its general working method. Furthermore, the domain-specific requirements and the most recent developments concerning the Environmental Sciences domain were discussed. These domain-specific requirements and the actual context form the starting point for the evaluation of the quality of the degree programmes.

In preparation of the assessment of the programmes, a self-assessment report (critical reflection) was prepared by the programme management. This critical reflection was sent to QANU and forwarded to the committee members, after a check by the secretary of the committee to ensure that the information provided was complete. The committee prepared the site visit by studying the critical reflection and a selection of master's theses. The secretary of the committee selected fifteen theses of each programme randomly and stratified them from a list of all graduates of the last two years. The following stratification was used: five theses with low grades (6-6.5), five theses with middle grades (7-8) and five theses with high grades (9-9.5). QANU asked the programme to send the theses including the assessment forms and divided them among the committee members. Each committee member therefore assessed three theses.

When a committee member assessed a thesis as questionable or unsatisfactory, another committee member did a reassessment. If more than 10% of the theses are assessed as questionable or unsatisfactory by two committee members, the selection of theses for the programme could be extended to 25. This was not the case in Nijmegen.

Site visit

The committee members formulated questions raised by studying the critical reflection in advance. These questions were circulated in the committee.

The committee visited the programme in Nijmegen on 28-29 May 2013. It started on the first day with a preparatory meeting to prepare for the site visit. The programme of the site visit was developed by the secretary in consultation with the chair and the programme management. The committee interviewed students, teachers and alumni, the programme

management and representatives of the Faculty Board, the Examination Board, and student and teacher members of the Programme committee. An open office hour was scheduled and announced (but not used).

During the site visit, the committee studied additional material made available by the programme management. Appendix 7 gives a complete overview of all documents available during the site visit. The committee used the last hours of the site visit to establish the assessments of the programme and to prepare the presentation of its preliminary findings to the representatives of the programme.

Report

The secretary wrote a draft report based on the committee's findings. The draft report was then amended and detailed by the committee members. After approval of the draft report by the committee, it was sent to Radboud University Nijmegen for a check of factual errors.

Frameworks and decision rules

The assessment was performed according to the NVAO (Accreditation Organization of the Netherlands and Flanders) framework for limited programme assessment (as of 20 November 2011).

In the frameworks, a four-point scale is prescribed. The committee used the following definitions for the assessment of the standards:

Generic quality

The quality that can reasonably be expected in an international perspective from a higher education Bachelor's or master's programme.

Unsatisfactory

The programme does not meet the current generic quality standards and shows serious shortcomings in several areas.

Satisfactory

The programme meets the current generic quality standards and shows an acceptable level across its entire spectrum.

Good

The programme systematically surpasses the current generic quality standards across its entire spectrum.

Excellent

The programme systematically well surpasses the current generic quality standards across its entire spectrum and is regarded as an (inter)national example.

Assessment rules of limited programme assessment

When Standard 1 or Standard 3 is assessed as 'unsatisfactory', the general assessment of a programme is 'unsatisfactory'. The general assessment of the programme can be good when at least two standards, including Standard 3, are assessed as 'good'. The general assessment of the programme can be excellent when at least two standards, including Standard 3, are assessed as 'excellent'. In all other cases the programme is assessed as 'satisfactory'.

Summary judgement

This report presents the findings and considerations of the committee that assessed the master's programme Social and Political Sciences of the Environment (SPSE). The assessment is based on interviews conducted with management, staff, students and graduates of the programme and on information provided in the critical reflection, selected theses, course files and additional details provided during the site visit. During its assessment, the committee observed positive aspects as well as issues that could be improved. Taking these aspects into consideration, the committee found that this programme fulfils the requirements set by the NVAO for re-accreditation.

Dutch Flemish referential framework for academic environmental education

The committee established that the Dutch-Flemish referential framework for academic environmental education reveals that the participating institutes are well aware of current developments and relevant questions in the field of environmental sciences. The committee is convinced that the domain-specific framework offers a solid foundation for the environmental sciences.

Standard 1: Intended learning outcomes

The SPSE programme regards environmental issues as complex social and political issues as they have societal causes, provoke societal effects, and ask for societal and political responses. Its main goal is to enable students to play their role as academic professionals in the analysis and management of environmental governance phenomena.

The committee appreciates the clear socially and politically orientated profile and branding of the programme, which is a strength. It is convinced that the programme meets a particular need for graduates that can approach environmental sciences from a social scientific background.

The committee established that the programme is research-driven. It concludes that the programme has a relevant and broad set of learning outcomes that conforms to the demands for a programme at the academic master's level and is well aligned with the Dutch-Flemish referential framework.

The committee has the impression that the intended learning outcomes are clearly related to the requirements of the professional field of an academic researcher. They however do not seem to fully address the skills required for other professions for which an academic degree is a requirement or at least a benefit, such as social entrepreneur or consultant.

Standard 2: Teaching-learning environment

The programme has a study load of 60 ECs and takes one year full-time. It consists of six courses of 6 ECs each and a 24 EC master's thesis period. Until 2012 the master's programme had two specializations: a mostly Dutch-language specialization (Milieu-maatschappijwetenschappen, MMW) and an English-language specialization that focuses on the European aspects of spatial and environmental policy (European Spatial and Environmental Planning, ESEP). In September 2012, a third specialization was launched, Planet Europe, that builds on the objectives of ESEP. It is a full-time, 2-year (120 ECs) Erasmus Mundus programme offered in collaboration with Cardiff University (UK) and Blekinge Institute of Technology (Sweden). In the near future the ESEP specialization might merge totally with Planet Europe, and the ESEP specialization itself will disappear.

The committee studied the different components of the programme and is of the opinion that the critical reflection provides an adequate and convincing representation of the relation between the intended learning outcomes and the components of the curriculum.

The committee concludes that on paper the intended learning outcomes refer to both academic skills and practical skills. As mentioned before (standard 1) it gained the impression that in daily practice the programme primarily trains students to become academic researchers. It understands the programme's choice to focus on academic skills but advises it to shift the balance slightly towards the training of action-orientated skills so students will be better equipped for all kind of academic professions in the field including 'social change agents' or 'social entrepreneurs'.

The programme offers teaching and learning methods in which students have the opportunity to learn alongside staff members through close contact with them and their research practice. The committee appreciates this didactic principle and believes that it is fitting to gradually turn from a teacher-student interaction into an interaction between professional peers (senior and junior). It was impressed by the enthusiasm, involvement and quality of the teaching staff.

The committee considers the low number of students a potential risk for the existence of the programme. It was reassured that the programme may expect a further increase in student numbers due to a stronger focus on environmental issues during the bachelor's programme Geography Planning and Environment (GPE) and the implementation of the new two-year specialization 'Planet Europe'.

The committee applauds the development of the programme in the international specializations ESEP and Planet Europe, but advises the programme to develop its strategy further and look for new possibilities for funding in the European context.

Standard 3: Assessment and achieved learning outcomes

The committee established that the Board of Examiners is in control and familiar with the programmes it is responsible for. The committee appreciates the initiatives taken by the Board of the University to formalise the process of assessment methods and the archiving of all relevant data sets on which the master's thesis research is based.

The committee read and assessed a selection of 15 theses and established that their level and the quality are at least satisfactory. It noted that some theses had a weak problem definition, and sometimes the referencing was assessed as quite limited. It agreed with the grades given by the supervisors who assessed the latter theses with a lower but still passing grade.

The committee is impressed by how the programme developed a standard rubric for assessing the theses but thinks that students should be better informed about how they will be assessed in their individual case. Also, it thinks that the assessment form overemphasises the elaboration of the theoretical framework at the expense of the students' creativity and empirical work. The committee established that some theses contained good empirical research, and it was impressed by the originality of some of them. It would even have awarded some theses a slightly higher grade than given by the supervisor.

Although the committee is of the opinion that the programme focuses primarily on training academic researchers, it established that most graduates are able to find different kinds of appropriate jobs in their discipline.

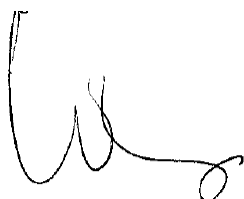
Conclusion

The committee assesses the standards from the Assessment Framework for Limited Programme Assessments in the following way:

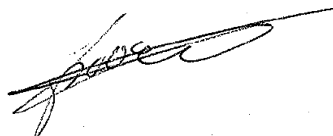
Standard 1: Intended learning outcomes	satisfactory
Standard 2: Teaching-learning environment	satisfactory
Standard 3: Assessment and achieved learning outcomes	satisfactory
General conclusion	satisfactory

The chair and the secretary of the committee hereby declare that all members of the committee have studied this report and that they agree with the judgements laid down in it. They confirm that the assessment has been conducted in accordance with the demands relating to independence.

Date: 8 October 2013



Wim Hafkamp
chair



Esther Poort
secretary

Description of the standards from the Assessment framework for limited programme assessments

Standard 1: Intended learning outcomes

The intended learning outcomes of the programme have been concretised with regard to content, level and orientation; they meet international requirements.

Explanation:

As for level and orientation (bachelor's or master's; professional or academic), the intended learning outcomes fit into the Dutch qualifications framework. In addition, they tie in with the international perspective of the requirements currently set by the professional field and the discipline with regard to the contents of the programme.

Findings

1.1 The domain of environmental sciences

The environmental sciences examine human-environment interactions and the resulting problems from an integrated and interdisciplinary perspective. Environmental scientists in the Netherlands, Flanders and abroad have proclaimed themselves to be interdisciplinary by nature. The environmental sciences discipline comprises the natural sciences, the social sciences, and the technical and medical sciences, and attempts to integrate the myriad of perspectives within these disciplines into one complementary whole. Nevertheless, programmes take up different positions in the spectrum of involved disciplines and environmental specialisms. The domain of environmental sciences and initiatives towards establishing international benchmarks are described in the Dutch-Flemish referential framework for academic environmental education (Appendix 2). This framework is the result of discussions between the academic heads of the Dutch and Flemish environmental educational programmes.

The committee has established that the domain-specific framework reveals that the participating institutes are well aware of current developments and relevant questions in the field of environmental sciences. It is convinced that the domain-specific framework offers a solid foundation for the environmental sciences.

The master's programme Social and Political Science of the Environment (SPSE) is oriented to the social and political aspects of environmental issues. While the programme primarily builds upon concepts from sociology and political sciences, it also includes insights from public administration, planning, geography, European studies and related disciplines. It has thus an interdisciplinary, yet mainly social sciences character. In addition, it presumes that students have or will develop a basic understanding of the natural sciences aspects of the environmental issues concerned, for instance during their bachelor years.

Within its social and political sciences orientation, the programme has a pluralistic theoretical approach; master students are expected to handle a variety of theories, to judge different theoretical approaches, to compare and to combine them in order to obtain the most added value possible. The committee applauds this pluralistic approach.

The committee notes that the programme has a strongly defined profile and branding but misses direct links with other sciences, especially the natural sciences. The programme management explains that the absence of a direct link with the natural sciences is a consequence of the decisions made by the University Board during the implementation of the

bachelor/master structure. Until 2004 the programme was closely connected to the bachelor's programme Natural Sciences of the Environment and to the master's programme Environmental Sciences. Since the university decided to eliminate these two programmes, the SPSE programme indeed lacks a direct bridge to the natural sciences.

1.2 Programme objectives and intended learning outcomes

According to the critical reflection, the programme regards environmental issues as complex social and political issues, as they have societal causes, provoke societal effects and ask for societal and political responses. Its main goal is to enable students to play their role as academic professionals in the analysis and management of environmental governance phenomena. Its mission is therefore to teach students:

- to conduct socio-scientific research and to contribute to the analysis of the societal causes, effects and responses related to environmental issues;
- to apply relevant paradigms, theories and concepts from the social and political sciences domain in a pertinent and critical way, resulting in the design and organization of creative, acceptable and robust intervention strategies.

According to the Dutch-Flemish referential framework, the programmes in Nijmegen and Utrecht highlight the research-orientated approach. The programme itself also emphasises this in the critical reflection. It mentions that the intended learning outcomes focus primarily on academic qualifications and skills, including the ability to transfer analytical concepts, theoretical understandings and methodological skills from one field to another. Specifically, students are intensively trained in presentation skills and critical reading and analysis of scientific literature, for instance by writing a methodological review of PhD dissertations from the field.

The programme formulated the intended learning outcomes along the lines of the Dublin descriptors (Appendix 3). They refer to general academic knowledge, including knowledge of relevant research methods, communication and learning skills. This shows that the level of the programme's learning outcomes conforms to the demands for an academic master's level. The committee verified that the intended learning outcomes are well aligned with the Dutch-Flemish referential framework.

In general, the committee is of the opinion that the intended learning outcomes match the objectives of the programme. It is impressed by the training of the academic skills. However it has the impression that this strong academic training goes on the expense of the training of skills required to design and organize creative and robust intervention strategies. Therefore, it concludes that the intended learning outcomes are clearly related to the requirements of the professional field of an academic researcher, but that they don't fully address the skills required for other kinds of academic professions in the field. This is further elaborated under Standard 2.

Considerations

The committee appreciates the clear socially and politically orientated profile of the programme and the pluralistic theoretical approach. It is convinced the programme meets a particular need for graduates who can approach environmental sciences from a social scientific background. Because of the clearly defined focus, the profile is also necessarily fairly narrow in scope and misses direct links to natural sciences. The committee realizes that the master's programme might be too short to address the broad scope of related sciences of environmental studies and understands and also appreciates the choice of the programme to

focus on the social and political sciences. This point underlines the crucial link between the bachelor and the master's programme at Nijmegen.

The committee appreciates the clear socially and politically orientated profile and branding of the programme, which is a strength. It is convinced that the programme meets a particular need for graduates that can approach environmental sciences from a social scientific background.

The committee established that the programme is research-driven. It concludes that the programme has a relevant and broad set of learning outcomes that conforms to the demands for an academic master's level. In particular, the emphasis on analytical skills is outstanding. The learning outcomes are clearly related to the Dutch-Flemish referential framework.

The committee has the impression that the intended learning outcomes are clearly related to the requirements of the professional field of an academic researcher. They however do not seem to fully address the skills required for other professions for which an academic degree is a requirement or at least a benefit, such as social entrepreneur or consultant.

Conclusion

The committee assesses Standard 1 as 'satisfactory'.

Standard 2: Teaching-learning environment

The curriculum, staff and programme-specific services and facilities enable the incoming students to achieve the intended learning outcomes.

Explanation:

The contents and structure of the curriculum enable the students admitted to achieve the intended learning outcomes. The quality of the staff and of the programme-specific services and facilities is essential to that end. Curriculum, staff, services and facilities constitute a coherent teaching-learning environment for the students.

Findings

2.1 Structure and cohesion of the programme

The master's programme in Social and Political Sciences of the Environment is a one-year programme. It is organised within the Department of Geography, Planning and Environment (GPE) of the Nijmegen School of Management.

Specializations and recent developments

Based on the advice of the previous visitation committee, the programme made a deliberate choice to offer the Dutch-taught programme alongside an English-taught programme. Until 2012 the master's programme in the Social and Political Sciences of the Environment had two specializations:

- a mostly Dutch-language specialization (MMW);
- an English-language specialization on European Spatial and Environmental Planning (ESEP).

MMW has a univocal emphasis on the socio-scientific analysis of environmental issues, their causal mechanisms, their societal effects, and the societal and political responses thereto. The ESEP specialization concentrates on the European aspects of spatial and environmental policy and the influence of the European Union (EU) on spatial planning in European cities and regions. It focuses on how international discourses and institutions influence local practices in the EU member states (for example, through environmental legislation in the areas of air quality, water management or nature conservation) and how spatial development issues are dealt with across national borders, such as European transport networks or river management.

Building on the ESEP experiences, and with partners from Cardiff University (Wales) and Blekinge Institute of Technology (Karlskrona, Sweden), a new two-year (120 EC) specialization called Planet Europe was launched in September 2012. Planet Europe builds on the objectives of ESEP, while strengthening and extending them in a European and global context. In recognition of its academic quality and integrative efforts, the Planet Europe programme and its consortium partners received the Erasmus Mundus Quality label, with attached scholarships for the next five years. Planet Europe strongly and deliberately opts for further coordination between and convergence of MMW, ESEP and Planet Europe in the near future. During the interviews, the management explained that in the near future the ESEP specialization might merge totally with Planet Europe and disappear. As Planet Europe started only in September 2012, with the first cohort of students expected to graduate in 2014, it was not documented extensively in the critical reflection nor extensively discussed during the visit.

Curriculum

The 60 EC programme consists of six courses of 6 EC each and a 24 EC master's thesis period.

The academic year consists of two semesters of two blocks each. For MMW students, the first block consists of 1 full course of 6 EC and parts of two other 6 EC courses. The second block consists of 2 full courses of 6 EC and parts of two other 6 EC courses. The MMW has one elective course that can be followed during the first semester. It depends on the course chosen whether this is in block 1 or 2. The third block consists of a part of a 6 EC course and otherwise is used for the master's thesis. The fourth block is entirely devoted to the master's thesis.

For ESEP students, the first block consists of two 6 EC courses and the second block consists of three 6 EC courses. The third block consists of one 6 EC course and otherwise is used for the master's thesis. The fourth block is entirely devoted to the master's thesis.

The curricula of the two specializations are listed in Appendix 4. The MMW specialization consists of five mandatory courses and 1 elective. Students are free in selecting any master's level course in the university that supports their profile and specialization, mostly in the field of their master's thesis. It is the master's coordinator who, on behalf of the Board of Examiners, assesses the appropriateness of the students' elective course proposals. The ESEP specialization consists of six mandatory courses and no electives, the rationale being that the divergent backgrounds of the students lead to the need to create sufficient common ground.

The two specializations have one common course: Institutional Perspectives on Societal Change and Spatial Dynamics (taught in English). This course covers a number of social change processes such as globalization, Europeanization, privatization and individualization. These developments are viewed in an institutional context, and the consequences of them for planning and policy practices are analysed and evaluated. This course is also mandatory for Spatial Planning students.

Both specializations have a methodology course that covers a brief mobilization of already acquired methodological knowledge and skills. During the methodology course, students develop the research proposal for their own master's thesis. This design is presented at the end of the course and discussed with the staff and co-students. Part of the course involves finding a hosting organization that considers the research topic to be interesting. In line with the previous visitation committee's recommendation, this course is scheduled earlier in the curriculum than it was before.

Besides the two mentioned courses, the MMW offers one mainly theoretical course that covers pivotal issues in the field ('Key issues of social and political sciences of the environment') and two substantive courses ('Sustainability: analysis and politics' and 'Environment, business and society').

The ESEP specialization offers four additional, primarily substantive courses ('Comparative planning', 'European spatial planning and the EU territorial cooperation agenda', 'International environmental politics', and 'The EU and domestic impact: economy, space and environment').

As indicated by its share of 24 EC, the master's thesis is regarded as the apogee of the programme. Right from the start of the programme, students are invited to consider the

subject of their master's research. Furthermore, they are encouraged to look for an external organization where they would like to carry out their master's thesis research, which is willing to host them for a minimum of four months. Once approved by their lecturer, students start their four-month research period with the external organization. Students, in particular those going abroad, tend to work longer than the envisaged four months on their thesis and often stay for half a year or more at their host institute to carry out their research. In the interviews with alumni and students, it became clear that students appreciate the opportunity to do their research in an external organization. In the interviews with supervisors it was reassuring to see that they are well aware of coping with conflicts of interest on the thesis' elaboration. The students consider it a good opportunity to orient themselves to future professional practices.

Quality assurance of the programme

The master's programme coordinator, in close connection with the staff, safeguards the quality of the programme as a whole. The Board of Examiners of the Department of Geography, Spatial Planning and the Environment ensures that the various courses cover the intended learning outcomes in a predictable and transparent manner. This is done through a regular discussion between the master's programme coordinator or the master-specialization coordinator with course coordinators, while the assessment of the intended learning outcomes is regularly discussed between the Board of Examiners and the course coordinator. Especially at moments of changes in the curriculum, this is an important aspect of the (re)designing of the curriculum and its courses.

Students evaluate each individual course at a regular base. The results of these evaluations are discussed in the meetings of the educational committee of the Department of Geography, Spatial Planning and the Environment. If a problem recurs, this is communicated to the master's coordinator. During the site visit, the committee learnt that most courses are positively evaluated and that only rather small problems are identified. As an example of such a problem, the members of the Educational Committee mentioned the overlapping of content of two different courses.

Internationalization

As emphasized in the critical reflection, the programme opts for an international orientation of either of the specializations. This is partly reflected in the international character of issues and literature, and in the common course 'Institutional perspectives', where foreign students easily mix with Dutch students. Further exchange takes place in the 'International Environmental Politics' course, which is mandatory for ESEP students and very frequently attended as an elective by MMW students (and becomes mandatory for them as of 2013-14). In addition, all ESEP (and Planet Europe) courses are open to Erasmus students and other students as electives, so international student groups are common in practice. Increasingly, students opt for international issues and places to carry out their master's research.

The committee applauds the internationalization of the programme but thinks that the programme could have opted for other international partners. The management endorses this issue and explains that they are working on building a good network of partners. This is a big challenge given the lack of experience within the university regarding international partnerships. Because of this, the programme can be considered a pioneer regarding international educational cooperation.

2.2 Assimilation of the intended learning outcomes in the programme

The committee studied the matrix included in the critical reflection setting out the components of the programme linked to the intended learning outcomes.

The committee established that on paper the intended learning outcomes refer to both academic skills and practical skills. As mentioned before (standard 1), it gained the impression that in daily practice they are strongly focussed on the academic research skills at the expense of other professional skills. It noted that as far as practical skills are addressed, they are mainly linked up with the communication skills required for academic research. The development of more action-orientated skills is missing, like developing intervention strategies, gaining support and taking the lead. The committee considers these skills necessary for so called 'social engineers': professionals that can conceptualize and advise intentional change processes in the context of sustainable development.

In the interviews with the programme management and staff members, the committee learnt that the strong focus on academic skills has been thoroughly discussed and was strongly recommended by the Advisory Board. Therefore, the programme deliberately focuses on the learning outcome relating to classical academic qualifications and skills. All sorts of practical skills are to be trained on the job. The programme management explained that the majority of graduates work in positions in which they do not conduct scientific academic research. They work as a policy advisor or consultant, and some graduates have started their own business. In general, the programme management has the impression that their graduates are very well equipped for these jobs.

According to the students and the alumni, the programme is not too theoretical. They feel that the strong focus on analytical skills provides good basic tools for approaching all kinds of environmental problems from a broad perspective. This is not only suitable for being an academic researcher but also for other kinds of jobs like consultant or policy advisor. In general, they agree with the programme's choice to focus on academic skills. They also mention that if they had a choice, they would like to have the opportunity to develop more practical skills, for example by following additional electives within the GPE Department.

Although students and alumni think the programme is not too theoretical, the committee noted during the meeting with both alumni and students that they seemed to miss 'a sense of social entrepreneurship'.

The committee understands the programme's choice to focus more on academic skills but advises the programme to shift the balance towards the training of action-orientated skills so students will be better equipped to become change agents or 'social entrepreneurs'. The committee is of the opinion that the programme should address the development of these skills during the mandatory courses. It finds it undesirable that students who want to develop these skills have to follow an elective course elsewhere in the GPE Department. Since the curriculum of the ESEP programme doesn't contain room for an elective, ESEP students will have to exceed the required 60 EC. Therefore, the committee advises implementing different kinds of assignments during the courses that address the additional skills.

2.3 Didactic principles and teaching methods

Linking teaching and research is a key issue in the strategic plans of both Radboud University and the Nijmegen School of Management. The lecturers engaged in SCAPES (the Shaping and Changing of Places and Spaces), which is one of the three research programmes within the Faculty's Institute for Management Research, base their teaching partly on their own research, using concepts and cases studied, conveying results and sharing research difficulties with students.

The programme offers teaching and learning methods in which students have the opportunity

to learn from staff members through close contact with them and their research practice. Most courses use a combination of lectures, presentations, debates and a variety of individual or group assignments like presentations and written assignments.

During the programme, students are increasingly regarded as junior colleagues, responsible for their own learning process. As described in the critical reflection, the programme aims to challenge student in different ways, for example by giving them the lead in reading, reviewing and presenting scientific articles and PhD dissertations from the field. According to the students the programme indeed challenges them in different ways, for example by the amount and complexity of the (theoretical) literature they have to read.

The programme opts for a direct interaction with students, hence for small student groups. The critical reflection gives an example of the way this is achieved in the ‘Institutional perspectives on Societal Change and Spatial’ course. This is a common course for the Spatial Planning programme and the three SPSE specializations (MMW, ESEP and Planet Europe) and has over 70 students. As it is a core course, it is an appropriate platform to facilitate links between students following different specializations. Therefore, students are brought together in small tutorial student groups, coached by various lecturers, encouraging them to cooperate with students from other specializations to present and discuss their group work. This ensures that lecturers have opportunities to provide feedback on group work, in many cases on an individual level on their writings, presentations and assignments.

The committee established that both staff members and students are enthusiastic about the didactic approach and the direct interaction between staff and students. Students appreciate the small groups and the opportunity to motivate one another in a positive way. They enjoy the balance between the amount of group work and individual work. They also appreciate the short lines of communication with the staff, and they feel free to approach lecturers when they experience problems. The committee is enthusiastic about the didactic principle of the programme and believes that it fits well with the programme’s aim to gradually move from a teacher-student interaction to an interaction between senior and junior professional peers. The committee applauds the accessibility of the lecturers.

2.4 Academic staff and student-teacher ratio

One of the appendices to the critical reflection contains a list of the academic staff members. It states that both MMW and ESEP are carried out by a small number of skilled and dedicated staff members. Three-quarters of the 8 staff members involved in MMW and ESEP have a formal University Teacher Qualification (Dutch BKO) or Advanced Certificate (Dutch: UKO).

During the site visit the committee was impressed by the enthusiasm, extensive involvement and quality of the teaching staff. In the interviews with students and alumni, the committee did not note any signals of inadequate teaching qualifications. Students appreciate being educated by a small group of committed professors and the opportunities they have for direct interaction with the staff.

Since the staff teaches in several programmes, the student/staff ratios cannot be computed for a specific programme simply by counting staff and student numbers. The staff investment in the MMW master’s programme and ESEP specialization is 1.3 fte per year. This investment also covers students from other master’s programmes. In particular, the ‘Institutional Perspectives on Societal Change and Spatial Dynamics’ course is attended by a substantial number of Spatial Planning students. Therefore, it is hard to give a reliable

estimate of the student/staff ratio. In the critical reflection, the programme itself stated it is reasonable to estimate the staff-student ratio as between 1 to 20 and 1 to 30. Considering the high level of student-teacher interaction, the committee is of the opinion that the staff-student ratio is at least acceptable.

As mentioned in the critical reflection, the Nijmegen School of Management conducted a survey in 2011 regarding its employees' overall job satisfaction. The results showed that the load is perceived as rather high. Staff members experienced a great degree of autonomy, a good social atmosphere at the work floor level, yet limited reward for their work. Work satisfaction received a 9 (on a 10-point scale). During the interviews the staff confirmed the rather high workload, but considered it feasible as long as the amount of time spent supervising individual students is kept under control. This is especially the case for the 'International Perspectives on Societal Change and Space Dynamics' course. In general, the committee has the impression that the workload of the staff members is acceptable.

2.5 Student intake and study load

Students with a bachelor's degree in Human Geography and Spatial Planning (henceforth: a bachelor in Geography, Planning and Environment) from Radboud University Nijmegen are unconditionally admitted to the master's programme. Students with a bachelor's degree from a comparable programme at another university are also admitted directly. The latter applies, as far as MMW is concerned, to the Utrecht University MMW programme (Sustainable development/Environmental Studies) and to geography or planning bachelor's programmes as far as ESEP is concerned. Admission to either ESEP or Planet Europe includes the requirement for an English language test (IELTS, TOEFL or similar).

In addition, the master's programme is open to those with a bachelor's degree in the social sciences in the broadest sense. In most cases, no formal pre-master's programme is needed. Each individual student is advised to follow a tailor-made programme, often requiring the students to study literature on some specifics of environmental issues, in other cases requiring them to attend an extra course in research methodology. The programme also has considerable experience with students coming from a university of applied sciences or polytechnic. These students are expected to enrol in a 60 EC tailor-made pre-master's programme. In order to bridge possible deficiencies, most students have to attend courses on socio-scientific theory, on environmental issues and/or on research methodologies. To gain admittance to this pre-master, these transfer students must have an average mark of 7.5. Students with an average mark of 7.0 to 7.5 are required to write a letter of motivation to the Examining Board.

During the interviews, the committee established that the pre-master seems to be well able to tackle all kinds of problems encountered when enrolling students with different backgrounds. According to the programme management, in daily practice there is no difference in feasibility for the students with a university bachelor or polytechnic transfer students. The students interviewed confirmed this.

The committee has some concerns about whether all graduates acquired the presumed basic understanding of the natural sciences' aspects at the end of the programme. Since the programme does not contain any course that addresses the natural sciences, the committee asked how the programme guarantees that all enrolling students have this basic understanding. According to the programme management, this basic knowledge is mainly gained during the preceding education. The bachelor's programme Geography Planning and Environment contains one specific course that addresses the basic knowledge of natural

aspects of environmental issues. This course is also part of the aforementioned pre-master's programme.

During the master's programme students have different opportunities to extend their knowledge about specific themes of personal interest, mainly by studying specific topics during a course or during their thesis research. Students confirmed that they have enough basic natural sciences knowledge and that they have the necessary tools to find the natural sciences background information they need. According to the students, there is enough knowledge available within the university if you ask for it.

The committee is reassured that students had already acquired this basic knowledge during their preceding education (bachelor or pre-master) and that incoming students from other universities or other bachelor programmes have enough opportunities to develop this knowledge during the master's programme. The committee concludes that the programme itself doesn't provide any course addressing the natural sciences the, courses in the bachelor dedicated to natural sciences on the one hand, and the students' acquired ability to look for themselves for necessary extra information on the other, apparently suffice to be able to work in empirical domains, policy fields and organizational settings that do appeal for a basic understanding of natural sciences.

Student numbers

Appendix 5 provides an overview of the number of students. The committee is concerned about the low number of students enrolling in the programme. During the interviews, the management endorsed these concerns but elucidated that they expect this number to increase. The programme had suffered from the decision of the University Board in 2004 to restrict it to a master's programme only. Since the University Board did not take any measures to ensure that students enrol in the programme, the enrolment dropped. As mentioned before, the programme followed the advice of the previous assessment committee and initiated the English-taught ESEP specialization. In addition, the programme has put much effort in the last three years inserting environmental courses in the new, integrated bachelor's programme Geography, Planning and Environment. In the first year over 100 students enrolled in this integrated bachelor and 70 of them continued to the second year. Based on the optional courses these students take, it is estimated that 20 to 25 of these students will enrol in the master's programme specialization Planet Europe (in addition to a substantial influx of international students). Overall, the committee is reassured that the programme has taken sufficient measures to ensure an increase in the number of students who will enrol in the near future.

Study load

During each course evaluation the students are asked about the perceived workload. According to the critical reflection, these systematic evaluations show that the programme is neither too heavy nor too light. This was confirmed during the interviews with the students, the alumni and the educational committee. As mentioned in the critical reflection, this might be due to the small numbers of students and their rather informal exchanges with the staff, as possible problems are monitored and signalled very early, and leave room for remedial measures.

Although it can be concluded that the programme is feasible, the majority of students spend more than one year to finish it. This is mainly because they take more than four months for their internship/master thesis. Because of this, the committee is concerned whether hosting organizations ask students to do activities that are not directly related to their own research

project. Students explained that lecturers always stress the fact that you have to do your own research project, but you are free to choose to do more. Most students deliberately choose to do other activities, because they consider it a good opportunity to obtain work experience. However, the committee wonders if this is always a deliberate choice of the student, and it is not totally convinced that it is feasible to conduct a research project for an external organization and write a master thesis within this period. Students should be better supported in making the agreements with the external organization in order to ensure that the research can be achieved within four months.

The lecturers explained that they guide the students to come to a tripartite agreement between student, staff and organization. This three-way accommodation process is considered a part of the learning process to fit a scientific question in the demands of an organization. During the years the staff has accumulated a group of organizations that have proved to be suitable and reliable hosts. Students confirmed that they receive a lot of information that helps them to find an appropriate organization. In addition, they are welcome to come forward with a 'new' hosting organization themselves.

2.6 Tutoring system and programme-specific facilities

The Faculty provides a well-equipped 'Studielandchap' and a so-called Logg Inn, the latter established in 2012 in the former library rooms. The availability of over 100 PCs, Wi-Fi, standard books, encyclopaedias and atlases enables students to study literature, work on their assignments and their master's thesis, etc. Along with the 'Studielandchap', the Faculty has a ViSa Skills Lab where group decision-making can be facilitated, visualised and reported. During its site visit, the committee established that students were pleased with the available facilities. It confirmed that the programme has sufficient study facilities

The faculty study advisers initially provide study supervision. Students can contact the study advisor responsible for their programme with many types of questions, for example about optional course subjects or exams. They are referred to specialists such as student psychologists, if necessary. In addition, the study adviser monitors the progress of all individual students in order to detect study delay at an early stage. They invite students for a talk if there is evidence that the student may exceed the maximum allowed study duration of two years. The committee is of the opinion that study delay should be identified earlier, since the programme should be feasible in one year.

Considerations

The committee studied the different components of the programme and is of the opinion that the critical reflection provides an adequate and convincing representation of the relation between the intended learning outcomes and the components of the curriculum.

The committee concludes that on paper the intended learning outcomes refer to both academic skills and practical skills. As mentioned before (standard 1), it gained the impression that in daily practice the programme primarily trains students to become an academic researcher rather than social engineers. The committee realizes that the Advisory Board has encouraged the programme to concentrate on academic skills. However, the committee has the opinion that a master's programme should address both academic and practical skills so students will be prepared for all kind of academic professions in the field including 'social change agents' or 'social entrepreneurs'. Therefore it advises to shift the balance slightly towards the training of action-orientated and implement different kinds of assignments during the courses that address these practical skills.

The committee had some concerns about whether students have a basic understanding of the natural sciences' aspects of the environmental issues by the end of the programme. During the interviews, it was reassured that students had already acquired this basic knowledge during their preceding education and had enough tools to find the specific natural sciences background information they need for their topic of interest. The committee established that the pre-master is well able to tackle all kinds of problems associated with enrolling students with different backgrounds.

The committee appreciates the didactic principle of the programme and believes that it fits well with this programme's aim to gradually turn from a teacher-student interaction into an interaction between senior and junior professional peers. The accessibility of the staff adds to the general impression that the didactic principle works well. The committee was impressed by the enthusiasm, involvement and quality of the teaching staff. It is remarkable that such a small number of staff is able to deliver good quality in the courses.

The committee established that the programme is feasible but that most students do not finish the programme within one year. As long as this is the result of the student's choice to extend their internship in order to gain work experience, the committee agrees with the programme management that this should not be considered a serious problem. However, the committee questions if this is always a deliberate choice of the student and advises supporting students more in making the agreements with the external organization in order to enable them to accomplish their research project and write a master thesis within four months.

The committee considers the low number of students a potential risk for the existence of the programme. However, during the last two years the number of students has increased slightly. The committee is reassured that the programme may expect a further increase in student numbers due to a stronger focus on environmental issues in the bachelor GPE and the implementation of Planet Europe.

The committee applauds the development of the programme in the international specializations ESEP and Planet Europe but thinks that the programme could have optimized its international partnerships. It realizes that this is partly a consequence of the fact that the programme is a pioneer within the university regarding the formation of extensive international partnerships. It advises the programme to develop its strategy further and look for new possibilities for funding in the European context.

Conclusion

The committee assesses Standard 2 as 'satisfactory'.

Standard 3: Assessment and achieved learning outcomes

The programme has an adequate assessment system in place and demonstrates that the intended learning outcomes are achieved.

Explanation:

The level achieved is demonstrated by interim and final tests, final projects and the performance of graduates in actual practice or in post-graduate programmes. The tests and assessments are valid, reliable and transparent to the students.

Findings

3.1 Board of Examiners

The Board of Examiners plays an important role in the assessment of the quality of the examination of the programme. The Board checks the quality of the examination of separate courses and throughout the programme, and it determines the criteria for the assessment of the master's thesis. It frequently initiates discussions on examination and related issues in the monthly department-wide meetings.

In order to monitor the degree to which the various assessments and examinations of the courses cover their intended learning outcomes, coordinators are requested to supply a 'course portfolio'. This portfolio contains a full course description, the assignments and exams, the students' and the lecturer's evaluation. Since 2011 the Board of Examiners has initiated a process of general critical reflection on assessment methods and forms. The Board of Examiners also demanded the formalization of a so-called assessment matrix. Since the programme has just started using this, it is still evolving.

The Board of Examiners developed a standardized master's thesis assessment form. This standard form has to be filled out independently by the supervisor of the master's thesis and by a 'second reader', the latter not being involved in the supervision process. According to the critical reflection, in daily practice no great difficulties are experienced with bridging possible differences between these two assessments. This is confirmed during the interview with the lecturers and students. The high level of agreement between different supervisors can be seen as a result of consecutive efforts, initiated by the Board of Examiners, to make sure that the assessment of master's theses is done in a comparable and reliable way. At least every two years, the Board organizes peer review meetings, in which a selection of the theses are re-evaluated and the results are compared with the original assessments by the thesis supervisor and the second reader. Possible discrepancies are discussed, and when needed, standards are fine-tuned and re-calibrated between all examiners involved. In addition, the Board of Examiners has developed extended guidelines for how to use the master's thesis assessment form. The form and the guidelines are available and explained to students.

As of 2011, the Board of Examiners also formalized the regulation of submitting relevant data sets on which the master's thesis research is based. The committee applauds these recent developments of regulating and archiving all gathered data.

3.2 Assessment system

All courses of the MMW and ESEP master programmes use a variety of examination methods ranging from student presentations, intermediary assignments and full academic papers to oral exams. Only one course has a written exam.

All students' assessments are followed by a feedback opportunity, either scheduled or upon request, in which students have the opportunity to enquire about the method of grading, and

if necessary to request a revision of the final grade. The examiner informs the student about whether the request is accepted or rejected, and for what reasons. If necessary, the student may appeal to the Board of Examiners. Should even this process fail to resolve the matter, the student may appeal to the Examination Appeals Board of Radboud University Nijmegen.

During the site visit, the committee members studied some assignments and the feedback given by the lecturers. It noticed that the feedback provided by staff members is generally impressive, but occasionally very limited. During the site visit, the lecturers confirmed that they sometimes have to limit their feedback, especially for the 'Institutional perspectives on societal change and spatial dynamics' course. This course has multiple assignments, and given the large number of students (the course is also mandatory for Spatial Planning students), the lecturers don't have enough time to give extensive feedback for each assignment. However, they always give feedback on the final assignment of this course, and students can ask for more feedback on the other assignments. The committee did not receive any signs of dissatisfaction with the way students get feedback from the lecturers.

3.3 Master's theses

The committee read and assessed a selection of 15 theses (see Appendix 7). The documents it studied show that students have acquired knowledge and understanding at a level that suits a master's programme and that they are able to conduct research at that level as well. None of the theses read were considered to be unsatisfactory. However, the committee considered the problem definition in some theses as weak. In some studies, referencing was assessed as quite limited, and some of the theses were considered to be too extensive and lengthy. These particular theses were assessed with a lower, yet still satisfactory grade, with which the committee agreed.

In general, the committee agreed with the grades awarded. However, it feels that some assessments overemphasize the elaboration of the theoretical framework and that the student's empirical work should be more appreciated. Furthermore, it is of the opinion that the standard assessment form does not encourage and reward thinking that goes beyond the conventional practice of (thesis) research in the field. In some cases the committee would have rated the thesis with a slightly higher grade because of the good empirical work or because of originality.

The committee is impressed with how the programme developed its standard rubric for the assessment of the thesis, including a flexible weighting mechanism, but discovered that students are not always well informed about the specific weights applied in their individual case. Therefore, it advises informing students about how the different aspects will be weighted at the onset of the thesis. It also advises being more specific about what is expected regarding the aspects mentioned in the standard rubric, for example by linking them to the intended learning outcomes.

Besides the supervision from the university, the student is also supervised by the hosting organization. The committee wonders if students experience any tension because of discrepancies in the demands and advice from these different angles. It was reassured by staff and students that this rarely happens, mainly because of the clear agreements that are made in advance.

3.4 Professional Activities after Graduation

The critical reflection explains that the Advisory Board is an important way of keeping in close touch with the field of employment. The Advisory Board is asked for advice on major

strategic issues for the further development of all Geography, Planning and Environment (GPE) Department education programmes. During the interview the committee was assured that several members of this Advisory Board have a background in environmental sciences.

Staff members have regular contacts with the field of employment through different means: via their own scientific or contract research, when supervising master's thesis research projects, and via personal contacts with alumni. Therefore, they know where former students are employed and how the market is evolving. According to the critical reflection, a majority of alumni works in positions in between research and policy-making, either in private consultancy companies or with public authorities. Another group of alumni opted for a job as a researcher either at universities or within other research institutes. A smaller proportion works with organizations in the field of environmental education and communication, including schools at the secondary and polytechnic level. According to the critical reflection, it is fair to state that alumni are able to find a job within a reasonable period of time after graduation. It mentions that even though market conditions have been worsening in the last few years, some students still got a job offer within the period of their master's thesis.

Students and alumni consider themselves well prepared for entering the labour market. According to both students and alumni, the programme is not too theoretical. They think that the analytical skills acquired are not only suited for an academic research job but also for more practical consultancy jobs. The committee noted that the students who were interviewed have a clear vision of their future career. However, it still feels that this vision is quite narrow and limited to academic researcher jobs or consultancy jobs.

Considerations

The committee established that the Board of Examiners is in control and familiar with the programmes they are responsible for. It appreciates the initiative taken by the Board of Examiners to formalise the process of assessment methods and forms by demanding each course provide an assessment matrix. It also applauds the formalization of submitting and archiving all relevant data sets on which the master's thesis research is based.

The committee noted that all courses are assessed by means of more than one assessment method, for example written assignments and oral presentations. These assessments are generally provided with extensive feedback, which confirms the committee's observation that the staff is highly committed.

The committee read and assessed a selection of 15 theses and established that their level and quality are at least satisfactory. It noted that some theses had a weak problem definition, and sometimes referencing was assessed as quite limited. It agreed with the grades given by the supervisors who assessed those theses with a lower but still passing grade.

The committee is impressed with how the programme developed a standard rubric for assessing the theses but thinks that students should be better informed about how they will be assessed in their individual case. Also, it thinks that the assessment form overemphasises the elaboration of the theoretical framework at the expense of the students' empirical work. It established that some theses contained good empirical research, and it was impressed by the originality of some of the theses. It would even have awarded some theses a slightly higher grade.

Although the committee is of the opinion that the programme focuses mainly on training academic researchers, it established that most graduates are able to find different kinds of

jobs in their discipline. It still feels that students would have even more job opportunities if the programme would shift the balance towards the training of more action-orientated skills so students will be better equipped to become change agents.

Conclusion

The committee assesses Standard 3 as ‘satisfactory’.

General conclusion

The committee concludes that the objectives and intended learning outcomes of the master’s programme Social and Political Sciences of the Environment offered by Radboud University Nijmegen meet the standards required for an academic master’s programme.

The committee appreciates the clear socially and politically orientated profile of the programme and the pluralistic theoretical approach. It is convinced the programme meets a particular need for graduates who can approach environmental sciences from a social scientific background.

The committee is of the opinion that the different components of the programme enable the students to achieve the intended learning outcomes. It was impressed by the enthusiasm, involvement and quality of the teaching staff. It understands the programme’s choice to focus on academic skills but advises it to slightly shift the balance more towards the training of action-orientated skills so students will be better equipped to become change agents.

According to the committee, the programme has an adequate assessment system and demonstrates that the intended learning outcomes are achieved.

In general, the committee concludes that the programme can be qualified as ‘satisfactory’.

Conclusion

The committee assesses the master’s programme Social and Political Sciences of the Environment as ‘satisfactory’.

Appendices

Appendix 1: Curricula Vitae of the members of the assessment committee

Prof. W.A. Hafkamp (chair of the committee) is professor in Environmental Sciences, Erasmus University Rotterdam (1994- present). He graduated in Econometrics from Tilburg University (1977), was appointed assistant professor at the Economics Faculty of the University of Amsterdam (1977-1984), and received his PhD in economics at the Free University, (thesis: 'Triple Layer Model; An Economic-Environmental Model for The Netherlands'). He was head of the Economic-Technological Department of the Institute for Environmental Studies of the Free University Amsterdam (1984-1998) and a professor of Environmental and Nature Conservation Studies of Tilburg University, Faculty of Economics and Econometrics (1990-1995). Professor Hafkamp was Dean of the Faculty of Social Sciences of Erasmus University, where he was also involved in setting up the master of Strategic Urban Studies (2001-2005). Besides being a professor, he is a consultant and practitioner. He worked for KPMG Environmental Consulting and was a member of the Management Board of the Joint Programming Initiative Urban Europe. He was scientific director of Nicis Institute, The Hague, the Netherlands Institute for City Innovation Studies. He has over 25 years of experience in research, policy and practice, on issues ranging from transport and environment, urban development and spatial policy, environmental management in industry, waste management and safety to sustainable development. He was, and in some cases still is, member or chair of numerous councils, committees and boards.

Prof. I. Janssens is research professor at the University of Antwerp (since 2003), affiliated to the research group of Plant and Vegetation Ecology. He studied Analytical Chemistry (Bachelor, 1987), Environmental Sciences (Master, 1991), Biology (Bachelor + Master, 1995) at the University of Antwerp. He obtained a PhD on Soil carbon cycling in 1999 (highest distinction, University of Antwerp, funded after obtaining a highly competitive grant from the Flemish National Science Foundation). After his PhD, Ivan Janssens obtained two consecutive, highly competitive, post-doctoral grants from the Flemish National Science Foundation. During this period, he worked at the Australian National University (Canberra, Australia, to get acquainted with stable isotope applications in ecology) and at the University of Tuscia (Viterbo, Italy, to specialize in the eddy covariance technique to study ecosystem-atmosphere interactions, and in ecosystem manipulation methodologies). Professor Janssens' overarching research focus is the functioning of terrestrial ecosystems, with a strong emphasis on soil processes, ecosystem biogeochemistry (carbon, nitrogen, and recently also phosphorous cycles), greenhouse gas emissions, and on how these ecosystem responses are affected by climate change and by atmospheric pollution. Prof. Janssens was a member of the Review Committee in Climate Studies at Wageningen University (2012).

Prof. A. Jamison is professor in Technology, Environment and Society, Aalborg University, Denmark. In 1970 he obtained his B.A. (Bachelor of Arts) magna cum laude in History and Science, Harvard University. He was an external lecturer (Science and Society), University of Copenhagen (1976-1984), and in 1983 he obtained his PhD in Theory of Science at the University of Gothenburg, Sweden (thesis 'National Components of Scientific Knowledge: A Contribution to the Social Theory of Science'). He was the organizer and teacher of courses on theory and methods of environmental science and social movements and politics at Malmö University College. He was also the organizer and teacher of a course on perceptions of technology at Denmark's Technical University (DTU). He is coordinator of the Program of Research on Opportunities and Challenges in Engineering Education in Denmark. He is the coordinator of a research program in Denmark on engineering education with particular focus on sustainability issues (PROCEED). He served as a consultant for the ESSENCE network that was funded by the EU to investigate higher education in the environmental

field. He was also coordinator and co-founder of a master's degree program in environmental management at Aalborg University and served as a guest professor in the environmental studies program at Malmö University College.

Prof. I. Loots is professor at the Department of Sociology and the Institute of Environmental Development (IMDO) at the University of Antwerp since 1992. She studied Political and Social Sciences (Bachelor, 1978; Master 1980) and defended her PhD on urban spatial development and urban networks in 1990. She teaches in the Sociology Department and the interdisciplinary master Environmental Sciences and also in the postgraduate programmes Environmental Coordinator and Energy & Climate. She has been a member of several boards of examinations and educational committees. Besides being a professor, she was an advisor to the Technology Assessment Board within the Flemish Parliament (2001-2011) and several policy oriented research organizations like the Flemish State of the Environment Reporting Agency, the Research Institute for Nature and Forest, the Institute for Technology Research VITO and the Advisory Group on Climate Change and Social Justice. Her overarching research focus is the analytical aspects of policy renewal, policy organization and evaluation, public support and stakeholder participation (multi-actor settings), inter- and transdisciplinarity (science-policy-society relations and boundary work), the social construction of risk, risk governance and social impact assessment. She was a jury member of the Dutch Visitation Committee of Environmental Sciences in 2001 and of the Accreditation Organization of the Netherlands and Flanders (NVAO) for the accreditation of the master programme Industrial Ecology (Delft University and Leiden University) in 2009.

Ms. K.A. Gosselink BSc is a master student in Environmental Sciences at Wageningen University. She also obtained her Bachelor in Environmental Sciences at Wageningen University. She was a member of the board of the Student Union of Wageningen (2010-2011) and a member of the educational committee. In addition, she was a member of the Wageningen Environmental Platform.

Appendix 2: Domain-specific framework of reference

Dutch-Flemish referential framework for academic environmental education

This text is the result of discussions between the academic heads of the Dutch and Flemish environmental education programmes. In anticipation of the visitations and accreditations scheduled in 2013/14 and 2015/16 respectively, they deemed this an appropriate time to draft a collective referential framework.

Generally speaking, this Dutch-Flemish referential framework aligns with the Bologna Process, from which the 'Framework of Qualifications for the European Higher Education Area' (FQ-EHEA) was born. In formulating this referential framework, close attention was paid to the demand for a 'domain-specific referential framework' (DSF) by the Dutch QANU and the demand for 'domain-specific intended learning outcomes' (DSL) in Flanders.

All Dutch and Flemish environmental education programmes offered at university level – as well as those offered at the vocational level in Flanders – were invited to discuss this collective referential framework. Many attended these meetings and have made substantial contributions to this text. These meetings offered attendees the opportunity to identify and assess the similarities and differences between the programmes, and much progress was made. While this referential framework partially builds on earlier international benchmarks (see below), it also strives to take a bold new step towards a European benchmark for academic environmental education, the added value of which needs no further explanation.

Although many Dutch and Flemish environmental programmes collaborated on this referential framework, they do not all intend on formally implementing it: some are seeking accreditation as environmental programme, while others prefer to focus on specific environmental themes and attach more importance to visitations with colleague institutions in the fields of e.g. engineering or chemistry. Even the programmes that do endorse this DSF/DSL are not expected to identify with every element. They are, however, expected to use their respective 'self-evaluation' and 'critical reflection' reports to position their programme within the general framework of this document. In both cases, this document will serve as a general frame of reference only.

The document begins with a description of the environmental sciences domain (1) and moves on to discuss earlier initiatives taken towards establishing an international benchmark (2). It then offers a brief history of academic environmental education in the Netherlands and Flanders (3), including their similarities and differences. This will be used to discuss the academic competencies for bachelor's and master's degree programmes (4). The document will then explore the labour market for environmental scientists (5) and will conclude with the academic goals for environmental education at the bachelor and master levels (6).

1. Environmental Sciences: a description of the discipline

With the advent of environmentalism in the 1970s, academic environmental research and education gained a serious international foothold. As a result of this academic research and education, the environmental sciences domain developed into an established and accredited field in the Netherlands, Flanders and abroad, with its own 'body of knowledge' (Scholz, 2011), chairs, departments, academic education and research programmes, scientific organizations and journals. Environmental education now enjoys excellent contacts with professionals in the environmental market, bolstering it with skilled experts and collective research. These environmental professionals have since organised themselves into distinct associations.

Several definitions of environmental sciences are available in both the Low Countries and the international arena (see Udo de Haes, 1984; Stern, 1993; Boersema and Reijnders, 2009). A closer examination, however, will reveal certain parallels: the environmental sciences concern the study of human-induced environmental problems. The word ‘problem’ is crucial here: from the outset, the environmental science discipline has profiled itself as a solution-oriented and mission-oriented field, deeply rooted in society (Broekhans, 2003). With its problem-solving nature, the environmental sciences focus on analysing and explaining environmental issues in order to find a suitable approach and solution. For the natural sciences, this means an examination of the physical, chemical and biological mechanisms of environmental degradation. The ensuing explanations provide for the design, implementation and evaluation of technical and engineering strategies. For the social sciences this means that, in addition to research on societal causes such as demography, economy, technology and culture, the discipline also offers political and policy solution strategies. All of the environmental sciences position their diagnostic and solution-driven approach within spatial and temporal dimensions – including interactions between the ‘here and now’ and the ‘there and later’ – with an eye for the complexity and uncertainty of environmental issues. For all environmental scientists, the effectiveness, political robustness and social legitimacy of any approach or solution must also be the object of research and reflection. From the very start, environmental scientists in the Netherlands, Flanders and abroad have proclaimed themselves to be interdisciplinary by nature. The environmental science discipline comprises the natural sciences, the social sciences, and the technical and medical sciences, and attempts to integrate the myriad of perspectives within these disciplines into one complementary whole.

In short: the environmental sciences examine human-environment interactions and the resulting problems from an integrated and interdisciplinary perspective. Much like Crutzen and the ‘anthropocene’ (2002), environmental scientists, borrowing from cognitive and ethical insights, believe that human activities have led to the serious degradation of our natural environment, the repercussions of which affect society as a whole.

Since the publication of *Our Common Future* in 1987, the sustainability sciences have gained considerable ground. Interdisciplinary by nature and borrowing heavily from cognitive and ethical insights, this discipline promotes the necessary transition towards a more sustainable society. The sustainability sciences also embrace dozens of concepts, approaches and themes from the environmental sciences, including systems thinking, modelling, and transitions, among others. The environmental sciences, however, take their own stance within this field: to them, sustainable development is a distinct object of (diagnostic and solutions-oriented) research and the driving force behind ethical scientific and social actions. Although ‘sustainable development’ is often viewed in its broader context, environmental scientists primarily focus on the ecological aspect of the ‘planet’ pillar. Like sustainability sciences, environmental sciences primarily emphasise different yet cohesive time-space scales, constantly connecting the ‘here and now’ with the ‘there and later’. Both the environmental and sustainability sciences appreciate the complexity of environmental issues, the limits of human knowledge and the ethical implications of both in terms of their uncertainty, precautions and risk governance.

Of course, environmental science activities – or in this case environmental education programmes – cannot pay equal attention to all of these aspects. Environmental scientists can decide to highlight the natural or social science aspect, the cognitive or ethical aspect, or the design or analysis aspect. They can also focus on specific themes, such as water, biodiversity, energy, industrial processes or global governance. Regardless of how they position

themselves, environmental programmes must always keep a keen eye on the different dimensions and aspects of the environmental sciences.

2. Environmental Sciences: inspiring international benchmarks

The environmental science programmes offered in the Netherlands and Flanders were inspired by earlier benchmarks published abroad. In this case, ‘benchmark’ should be defined in the broadest sense of the word as a set of desires, demands, aspirations, qualifications and conditions for environmental science education, independent of the demand for formal status as an instrument of accreditation. Moreover, inspiration is sometimes roused by the content or substantive aspects and sometimes by the method or approach. In short: three inspirational reference points.

ES3

In 2007, the English Quality Assurance Agency for Higher Education published a revised version of their 2000 benchmark for Earth Sciences, Environmental Sciences and Environmental Studies (ES3) (see: www.qaa.ac.uk/academicinfrastructure/benchmark/statements/earthsciences.asp). This report largely focuses on the substantive benchmark for bachelor’s programmes in these fields. Various substantive elements – including (sub) disciplines (geochemistry), themes (environmental hazards), and concepts (renewable energy) – are presented as (sub) categories in a virtual field. The advantage of such an approach is that it clearly traces the historical transformation of the ES3 fields, starting with their classification under more traditional natural sciences, like geology, to their reclassification under the earth sciences, to the more interdisciplinary environmental sciences. What is more, the report identifies a wide variety of essential substantive elements, to which different subsets apply in environmental sciences rather than in earth sciences. In identifying these substantive elements, the ES3 report reveals striking similarities to an earlier report: ‘Wisconsin’s Model Academic Standards for Environmental Education’ (1998). The drawback of the ES3 approach is its strong inclination to the natural sciences. Disciplines and niches such as environmental economics, environmental sociology, environmental policy science, environment and nature education, and science and technology studies are not included. It also fails to highlight the importance of the ethical aspects described above and the continuum between fundamental and applied, and explanatory and design research. A logical counterpart to this strong substantive focus is the limited attention paid to academic, professional, methodological and reflexive skills.

AUDES

In the 1990s, several European academic environmental programmes founded the Association of University Departments in Environmental Sciences (AUDES). Biennial conferences were held to discuss the exchange of knowledge and academic curricula and to draw up individual country reports. These meetings inspired Jamison and Maarleveld (2001) to draft an assessment report which stated that, as a whole, European environmental education pays due attention to scientific, social and ethical themes. With an eye towards the further professionalization of these programmes, the report defined a common knowledge base that could serve as a kind of core curriculum for all environmental programmes.

This core curriculum consisted of five elements: moral and ethical issues, the relationship between the environment and society, technical orientation, theoretical orientation and a variety of practical skills, each of which receiving further elaboration. It was never their intention to have all environmental education programmes blindly adopt these five elements as part of their core curriculum, nor was it their intention to incorporate them into a rigid accreditation process. These elements were intended to set the common standard for all

environmental programmes and facilitate the international exchange of information in the short term and lead to the creation of professional standards for environmental professionals in the long term. The advantage of this approach lies in its identification of broad and coherent fields of interest and its ability to bridge the gap between what they considered to be classic contradictions: academic versus professional; natural versus social sciences, and so on. The disadvantage is that such broad fields of interest are also subject to various interpretations. With a European ambition, it is easy to see how the latter may seem inevitable.

Multilateral benchmarks

Some Dutch and Flemish environmental programmes are involved in multilateral and/or European agreements with sister institutions, while others prefer to focus on North-South themes only. This does not lead to an all-embracing benchmark for the whole field, but rather to independent agreements about the design, content and implementation of programmes resulting in the gradual convergence of departments. The following is a non-exhaustive list of environmental programmes with Dutch and Flemish participants, founders and coordinators:

- JIMiSD is the Joint International Master in Sustainable Development. The programme connects natural scientific and social scientific knowledge to the development and evaluation of sustainable development policies in developed and developing countries. This programme was developed by University Utrecht in cooperation with four other European and four non-EU universities (<http://www.uu.nl/faculty/geosciences/EN/studying/informationforstudents/masterprogrammas/SUSD/JointProgramme/Pages/default.aspx>).

- IMETE is the International Master of Science in Environmental Technology and Engineering. This programme is coordinated by the University of Gent (www.imete.ugent.be).
- EMMEP, the Erasmus Mundus Minerals and Environmental Programme, offers a specialised European Geotechnical and Environmental Course that highlights the environmental and geotechnical aspects of mining. This programme is coordinated by TU Delft (www.master-ema.org).
- Planet Europe is a Joint Master's Programme initiated by Radboud University Nijmegen in cooperation with the Blekinge Institute of Technology and Cardiff University that prepares graduates for a career in environmental and spatial planning in Europe (www.planet-europe.eu).
- LECH-e stands for Lived Experience of Climate Change. This master track (30 EC) was developed by the Open University in collaboration with six other European universities and focuses on developing multidisciplinary knowledge and skills in the field of climate change and personal experience (<http://www.leche.open.ac.uk/>).

These and other collaborations between Dutch, Flemish and foreign environmental education programmes do not provide for an all-embracing benchmark. The programmes that collaborated on this referential framework and continue to collaborate in lasting partnerships can certainly claim moments of international exchange and coordination; of choices made and positions taken. In this sense, they are indeed a source of inspiration.

3. Environmental science education in the Low Countries: similarities and differences

It is impossible to describe the forty-year history of the environmental sciences in the Low Countries and abroad in just a few sentences. This section is by no means exhaustive. Instead, this historical sketch aims to describe the choices made in environmental education in the Netherlands and Flanders. These choices can be partly attributed to the different institutional

contexts, but also to how each country dealt with the multitude of disciplines, perspectives and themes. This diversity also exposes the many similarities in the environmental science discipline. As the next section will reveal, the latter greatly contributed to the communal competencies we see today.

In the 1970s, environmental education was introduced in the Netherlands, predominantly in the form of interdisciplinary and interdepartmental (elective) courses. In the 1980s, many universities also began offering specializations or four-year programmes in environmental science. From the early 1980s, environmental science institutes and departments – since then grouped in the ICM, the Interuniversity Committee Environmental Sciences - began making agreements on distinct thematic specializations (energy, space, nature, policy and others) in their education and research. This allowed for a sharper classification of these programmes within the natural sciences, social sciences and other academic disciplines. During the first visitation of environmental education (VSNU, 1995), this multidisciplinary categorization and specialization was easy to identify. This type of profiling helped form the basis of the 2000 CROHO reforms, which divided these programmes into environmental natural science, environmental technology, environmental health, and environmental social science categories. The 1990s and early 2000s also ushered in new changes in the Netherlands: in addition to an interest in specific environmental education programmes, general environmental issues were receiving increasing attention from the more classic programmes like urban planning, chemistry, law, and engineering. To a certain extent, both of these variants played communicative roles. Participation in successive environmental science visitations continued over the years, with eleven visitations in 1995 (VSNU, 1996), five in 2002 (VSNU, 2002) and four bachelor's and eight master's visitations in 2007 (QUANU, 2007 and 2008). This amplified environmental focus led other programmes to sharpen their environmental profiles as well, or develop environmental masters – as was the case in Flanders from the very start (see below). Due in part to the Bologna Process, the Netherlands now has four environmental science bachelor's programmes (UU x2, WUR and OU). The other, formerly undivided, programmes gradually merged their bachelors with broader programmes in biology, chemistry, geography and administration. This not only fits the trend of following up a broader bachelor's programme with a more specific master's programme, but has also led to a wider range of more specialised master's programmes (see below).

Flanders has also seen the emergence of environmental science programmes since the 1970s. Like the Netherlands, some were based on interdepartmental collaboration, but most were specialised tracks offered within existing programmes. Unlike the Netherlands, however, these tracks never intended becoming independent programmes. In 2011, 20 to 25 environmental majors, electives and advanced master's programmes were offered by various faculties within the disciplines of engineering, biology, applied medical and biomedical science, economics, management, and law. The continued development of environmental science programmes and specializations was largely a result of new environmental policies and regulations following the Flemish constitutional reforms of 1980 and 1988. That development led to a growing demand for environmental activities. Some of the more established environmental occupations (environmental coordinator, soil remediation expert, EIA expert, environmental expert, environmental auditor, environmental verifier (EMAS), and energy expert), started demanding specific graduate or postgraduate degrees.

In Flanders, certain government regulations stemming from the Bologna Process led to further streamlining: while master's programmes were required to have at least one related bachelor's programme, the advanced study programmes were becoming financially unfeasible. As a result, many of the advanced master's programmes were demoted to the status of regular

master's to ensure better alignment with multiple non-environmental bachelor's programmes. While Flanders currently has two specialised environmental science bachelor's programmes (HUB and HoWest), a structured dialogue between the various environmental science programmes has yet to be initiated. In 2007, seven environmental science programmes participated in the VLIR visitations (UA, UG x2, VUB x4). Flanders now has three specialised environmental master's programmes; the rest are accredited as separate programmes within healthcare, (applied) biology, industrial science and other disciplines.

While the first impression to be drawn from this brief development history is one of great disparity, the following axes have introduced more structure to the field and allowed for the positioning of independent environmental education programmes.

The first axis is formality: there are undivided four or five-year programmes; three-year bachelor's programmes; and one or two-year masters' programmes. This, according to FQ-EHEA regulations, has implications for the required competencies (see below). The second, substantive axis concerns the nature and extent of interdisciplinarity: this is used to define the multidisciplinary nature of the environmental science programmes within the natural or social science disciplines. Combined with the first axis, this differentiates the broad, multidisciplinary (environmental science) bachelor's programmes in the Netherlands from the more disciplinary ones. Both types can be followed with a multidisciplinary but thematically strong master's programme (Environment and Resource Management, VU; Energy and Environmental Sciences, RUG; and others) or a more general master's programme (Environmental Sciences, OU,UA, UU, WUR).

According to the CROHO format, the Dutch master's programmes are considered multidisciplinary within the divisions nature (Environmental Sciences, UU; Environmental Sciences, OU; Energy and Environmental Sciences, RUG), engineering (Industrial Ecology, TU Delft/UL), agriculture and natural environment (Environmental Sciences, WUR; Urban Environmental Management, WUR) or society and politics (Social and Political Sciences of the Environment, RU). They are all accessible to a relatively wide range of bachelor's graduates, albeit often with the requirement of a pre-master's programme. In Flanders, the seven visited master's programmes (VUB, UG and UA) were all interdisciplinary yet all very different. Although sometimes accessible to a wider range of bachelor's programmes, they were often limited to programmes within their own disciplines. The general pattern is that the more interdisciplinary in nature, the higher the student intake (Environmental Sciences, Human Ecology). This is in stark contrast to the selective entrance requirements held by specific natural science and engineering master's programmes, with the latter often involving a more specific thematic focus (Environmental Sanitation, Environmental Remediation and Environmental Management).

An equally large number of other environmentally relevant master's programmes in both Flanders and the Netherlands are not truly multidisciplinary. In this context, the term 'environmental programme' refers to an environmental specialization in another programme or discipline, often in the natural science and engineering disciplines. Several of these Flanders-based programmes were involved in the development of this referential framework, even though they intend to maintain their accreditation as a natural science or engineering programme.

Thirdly, programmes can be positioned on the continuum between research-oriented and career-oriented profiles. Those who use terms like 'the academic professional' indicate their need for a middle ground between research and career-oriented skills. This applies in

particular to the master's programmes. While the Social and Political Science of the Environment programme (RU) and the Environmental Science programme (UU) highlight the research-oriented approach, the Environment and Resource Management programme (VU) and the Environmental Science programme (OU) prefer a more career-oriented approach. In Flanders, the interdisciplinary nature of the programmes offers a wide variety of career prospects in the research, management and policy sectors. Several programmes have integrated the aforementioned – and for some programmes compulsory – entry requirements (e.g. Environmental Coordinator). For some of these occupations, strict conditions have been set for the accreditation of the profession, but not for the programme itself.

The fourth and final axis on which environmental programmes revolve is that of internationalization: in terms of content, they all pay close attention to transnational and global perspectives on environmental issues. Where they differ is in their linguistic and thematic preferences (e.g. English instruction with a strong affiliation for development issues). These preferences can be easily identified by the cultural diversity of their student bodies (which may or may not be supplemented by Erasmus exchange programmes, Erasmus Mundus programmes or Joint Curriculum Development programme – see list), their pursuit of international benchmarks and the career prospects of their graduates.

Flanders is in a very different position here: introducing a language of instruction other than Dutch is a considerable responsibility (Decree by the Flemish government on regulating the responsibilities and requirements of introducing a language other than Dutch, B.S. 08/11/2004). For this reason, the influx of foreign students in Flanders is largely regulated by specific programmes that target an international audience, primarily 'the global South'. The internationalization of Flemish education is often supported by ICP programmes aimed at students from developing countries. Together with Erasmus Mundus, they strive to develop joint master's programmes in international partnerships (see above). Other programmes work with foreign guest lecturers, short study trips to supplement courses or the master's thesis, or with virtual environments for foreign students.

4. Competences of an academic environmental scientist (m/f)

Any observation regarding the competences after having completed an academic environmental study should distinguish between bachelor and master level, as defined by the FQ-EHEA (the Framework of Qualifications for the European Higher Education Area). The next step is to distinguish between generalist and the more specialised studies. The final step is the consideration of ethical and reflexive competences.

In general terms, the academic bachelor's graduate is expected to be able, with some support, to reason at a scientific level and to apply the knowledge and insights acquired. This implies that graduates from an environmental study at bachelor level can, without further qualifications, carry out fieldwork and supportive or executive tasks in, for instance, for EIA-related research, standard policy development or project work. Screening of the pre-masters for higher vocational education graduates reveals that they are particularly focused on complementing the professional skills already acquired with the scientific skills needed to take up the academic environmental study at master level (entry level master). Following their master's, the graduate is capable of independently functioning at a scientific level, i.e. able to develop ideas in research or expertise in an original way, and also to apply these ideas in new, more complex or uncertain situations.

As stated, environment-generalist studies can be distinguished from environment-specialist studies. Generalist studies are oriented toward a more generic job profile and, consequently,

need to cover a broader spectrum of disciplines and methods. They educate students to become an all-round researcher, environmental advisor, process supervisor, environmental coordinator, sustainability expert etc., in both private and public organizations. The substantive, methodical, strategic and communicative skills aspired to are focused on being able to reason and to constantly be alert to the context in broad areas of science, both scientifically (interdisciplinarity, complexity, uncertainty), and socially (political sensitivity, social unrest). This is expressed in (the demands on) the problem theorem of the master's research and thesis, and possibly in the inclusion of practical aspects in execution and assessment. In addition, where specific environmental themes such as water pollution or sustainable production processes are involved, the generalist gives priority to the interaction between environmental subdivisions and sustainability aspects, to social opportunities and effects, and to the multiple-layered character of issues and solutions in time and space. The avoidance of 'shifting' of environmental problems in time, space or otherwise is thereby a crucial motive. The compilation of often dissimilar knowledge, maintaining an overview, making integral assessments, comparison and integration are essential cognitive and methodical competences. The specialist is more geared to concentrating on a specific component, such as polluted riverbeds, eco-design and environmental law. Even though these studies also comprise several disciplines, there is one key discipline. Furthermore, the quality of this process, subdivision or field of effect is the central point, and the context is not the deciding factor.

Environmental education programmes also differ in the motivation and social attitude of the environmental sciences and the environmental professional. They can be more or less focused on the analytical competences required to understand environmental issues, or more intent on solution-focused skills. Other divisions of focus are social motivation, passion and ethical reflexes. At bachelor level, social motivation and ethical aspects are recognised, if nothing else; they are, incidentally, related to a cognitive analysis of the background of environmental issues, and are therefore also objects for study. At master level, students are challenged to involve normative principles in their research, based on assumptions like environmentally responsible solutions, sustainability, socially responsible entrepreneurship, intra- and inter-generational justice, prevention and precaution, safety, etc. Programmes can, however, also compel the environmental professional to steer away from social choices and to seek the ethical norm in classical attitudes of the scientific sphere: scientific curiosity and innovation, but also dissemination of knowledge and service provision. Whereas the first type of study places more emphasis on practical issues, interventions and finding solutions, the second type focuses on scientific research and design routines. This differentiation should not, however, be interpreted as the difference between fundamental and applied or intervention-oriented work, nor as an indicator for academic levels.

Finally, environmental programmes pay attention, albeit in varying degrees, to skills aimed at the reflexivity of the –future- environmental professional. Apart from interdisciplinarity and methodical diversity, this also involves the necessary skills for coping with scientific uncertainty and social sensitivity, and with homing processes. Communicative skills are indispensable in this regard. Simultaneously, there must be a firm basis of classical rational target-oriented strategic thinking and systematic action, and of result-oriented process control. The ability to work under given personal, financial and temporal conditions is thereby of importance. The aforementioned skills lead to a certain level of classical and contemporary management skills. The skills areas, professionalism, and reflexivity are essential for intellectual quality. Those publishing on the subject of bio-fuels or who create designs for a new generation of refining techniques must, by means of an argumentative attitude, be able to deal with the critical reactions of peers and, at the same time, be

sufficiently structured and thorough to be able to continue on the determined path. Nevertheless, in a context of global risks and complex environmental issues, reflexive skills are of more value to the environmental professional than ‘classical’ strategic thinking and acting.

5. Labour Market

Although no recent and systematic research is available, all the signs indicate that the labour market for environmental scientists is, in quantitative terms, reasonably stable whereas, in qualitative terms, it shows an increasing diversity of professional profiles. Some scenarios even show a future shortage of ‘green professionals’ (Bakker, 2011; ROA, 2011). Rather than speculating on this, in this section we pay attention to the manner in which programmes are attuned to the needs of the field, and to the degree of success of graduates.

Tuning to the needs of the professional field

Programmes in both the Netherlands and Flanders are in fairly regular consultation with the professional field through a variety of channels: through participation in advisory councils, professional field committees or sounding board committees, often following curriculum reviews and/or visitations; through interaction at all kinds of congresses and workshops; through research programmes, traineeships and graduation projects on behalf of and at organizations in the associated field, and, more recently, through professional social media such as LinkedIn. In the Netherlands, moreover, there are continuous contacts with the VVM (Association of Environmental Professionals), in particular via the VVM-section ‘Environmental Education and Labour Market’ (MO). In Flanders, master’s course providers are in consultation with, for instance, the employers and professionals of VOKA (Flemish Employers Association), UNIZO (Employers’ Network) and VIK (Flemish Chamber of Engineers), with Vmx (The Association of Flemish Environmental Coordinators), with VMD (Flemish Environmental Experts), and with FEBEM (Federation of Environmental Companies). Whereas these national associations are, as a rule, members of international professional associations, such as ENEP/EFAEP (European Network of Environmental Professionals), the synchronization with the professional field is usually oriented toward the Netherlands and Flanders.

From a historical viewpoint (see section 3 above), it has become clear that environmental education in Flanders is partly determined by the fact that certain profiles and competences are laid down in the regulations required for certain recognised jobs and professions. This is also a mechanism for connecting to the labour market.

Graduate success

Although academic bachelors can, in principle, start on the labour market, there is little systematic information available on the civil effect of the bachelor study. In the field of environmental education, the impression prevails that bachelor graduates, sometimes with a number of years’ experience, go on to take a master’s degree, since neither the student nor the employer regard the bachelor level as a final qualification. In Flanders, the government Higher Education Register literally states in 2011-2012: ‘The academically oriented bachelor study is, in fact, not aimed at the labour market. (...). However, this does not mean that these graduates cannot find a position on the labour market, as there is also a demand for graduates from academic bachelor programmes (e.g. IT professionals)’. And further: ‘For academically oriented bachelor programmes, the move to a master’s is the main goal’. Therefore, also in Flanders environmental professionals who only hold an academic bachelor’s degree are an exception.

Environmental education providers are, through surveys among their graduates, reasonably well informed about the labour market for their graduates. In a general sense, the job opportunities for environmental scientists follow the economic climate of the general labour market. The environmental labour market does, however, exhibit specific trends with regard to specific environmental themes: from soil sanitation to EIA in the eighties and nineties, and, more recently, from sustainability assessments to renewable energy projects. The cessation of a specific demand (recent example: nature conservation) also becomes quickly apparent.

The survey of graduates from all academic environmental programmes shows, across the full spectrum, that these graduates tend to succeed and that, even when the public interest in the environment declines (after 1992-93, and after 2001) and in a poorly-performing economy, jobs are still available for environmental scientists with good qualifications. These opportunities can be mainly found in professional profiles on a continuum from research to advice. On the Dutch market, the proportion of private consulting firms is much larger, whereas in Flanders the emphasis is more directed to public organizations. A recent communal trend which is also visible in the environmental labour market, is the continual increase in the number of independent businesses, particularly consultancies in the field of environmental and energy technology, environmental communication, etc. NGOs are also increasingly active as environmental service providers, advisors etc. All this contributes to an increasing diversity of profiles on the environmental labour market. As already indicated, more and more academic programmes are providing courses with an 'environmental aspect' in addition to the existing academic environmental programmes.

Finally: although academic environmental programmes increasingly focus on foreign students, there is only limited information available regarding the labour market situation of graduates who have returned to their country of origin. This also applies to 'native' students who have gone abroad.

6. Consequences for the final attainment levels

This DSF/DSL is, by definition, not the platform to formulate final attainment levels of specific programmes. This will be done by the programmes themselves through their 'self-evaluation' or 'critical reflection' reports. In this last section, we have formulated implications for the final attainment levels in the form of points of attention which should be worked out in more detail.

In the first place, final attainment levels should cover the essence and the entire breadth of the field of environmental sciences, as described in section 1, including the positioning in that field. On the level of the specific programmes, not only the international benchmarks stipulated in section 2 may serve as a source of inspiration, but also the involvement in multilateral alliances. Secondly, the final attainment levels of each programme should do justice to the positioning of that particular programme with regard to the various characteristics and dimensions stipulated in section 3. This, of course, concerns the level, bachelor or master, and the way in which the level of access to the master's programme is warranted. It also concerns the positioning of the course in respect of the nature and the degree of interdisciplinarity and, particularly at a master's level, the consolidation in a (dominant group of) discipline(s) and the thematic choices or omissions. In addition, programmes should indicate their positioning with regard to research and/or vocational orientation, and for which social roles and/or professions they primarily aim to educate their students. Finally, the above means that courses should indicate their policy on internationalization, both with regard to inflow and outflow.

Bachelor's in Environmental Sciences

Students who have completed an environment-specific bachelor's programme have at least the domain-specific knowledge and skills set out below. The student:

General:

- is able to define environmental issues as human-environment interaction issues, to indicate the multi-faceted nature of these issues, to identify the aspects in this regard that require either typical natural or social science research, and to argue the necessity and the interconnection of a variety of disciplinary approaches.
- is able to identify the nature, the extent or gravity and the background of environmental issues, to further analyse and interpret these aspects using scientific concepts, theories and methods, and to formulate recommendations for dealing with these issues.
- is able to position environmental issues within the context of 'sustainable development' as an object of scientific practice, as a directive and as a background for transition-oriented intervention.

Depending on the specific focus of programmes on natural science or social science:

- is familiar with natural science cause and effect processes and is able to apply natural science approaches and methods of analysis (e.g. generating models, systems analysis).
- is familiar with social cause and effect processes as an object and is able to apply social science approaches and research methods.

In addition, the following applies to both bachelor groups:

The student:

- has, through theme-oriented studies, built up experience with multidisciplinary collaboration and the associated methodical and communicative problems and skills.
- has the basic academic skills for setting up a research plan, formulating a problem, gathering information, processing and interpreting data.
- is able to submit oral and written reports and to clarify, defend, and if required, adjust a scientifically based point of view.
- is experienced in and able to recognise and address the ethical aspects of an environmental issue, and can choose and defend an ethical position.

Incidentally, as a consequence of the increasing mobility of students between the bachelor's and the master's programmes, it is also important for academic environmental bachelor's programmes that students have a sufficiently broad and generic level of academic knowledge and skills, in order to enable their inflow to other, non-environment-specific, master's programmes if desired.

Master's programmes in Environmental Sciences

As indicated above, mobility of students between bachelor's and master's programmes is on the rise. As a result, environmental programmes are increasingly faced with an inflow of students to the master's programme, without having followed a 'logical' preliminary bachelor's. The increasing division of bachelor and master implies that courses need to warrant both the final level as well as the entry level to the master. All environmental science programmes apply a number of general rules in this connection. For trained academics the following (mix of) conditions apply: a sufficient basic level in either the social or the natural sciences, sufficient analytical, methodical and research knowledge and skills, and – this does not apply to Flanders – a basic knowledge of issues regarding the environment and

sustainability. For non-academics, in most cases in addition to the requirements noted above, a switch programme varying from 30 to 60 EC applies, with the possible requirement of a minimum average score and a letter of motivation or an introductory interview as a condition for entry. The objective of this is twofold: improving general scientific skills or competences, and upgrading basic scientific discipline (www.hogeronderwijsregister.be, 2011).

The competences of a master's student on completion of their academic training in environmental sciences can be summarised as follows:

- is able to assess the relevance of environmental issues in the context of both the natural and the social sciences.
- is able to position environmental issues within the context of sustainable development.
- is able to carry out in-depth research and analysis of environmental issues, starting from a set of concepts, theories and research methods based on either the natural or the social sciences, or from a twofold approach.
- is able to independently set up an investigation into an environmental issue, to carry out this investigation, to report on the progress, and to formulate recommendations for further intervention and research.
- is able to make a profound contribution at an academic level to the transition to a sustainable society, on the basis of acquired substantive and methodical knowledge, skills in the field of the integration of knowledge, and reporting and advisory skills.
- is able to communicate both in a scientific and a non-scientific context about environmental issues and the way to deal with those issues, to assume scientifically sound points of view in that connection, and to argue those points of view.
- is able to critically reflect on environmental issues, the contribution of environmental scientists in that respect, and the associated questions of complexity and uncertainty.
- is trained to assume the role of an environmental professional, acting as a researcher, an advisor and/or an operative for academic, government or private (profit and non-profit) organizations.

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Appendix 3: Intended learning outcomes

Competencies and learning outcomes for the Master's programme in Social and Political Sciences of the Environment.

Knowledge and understanding

- being knowledgeable about the development of ideas within the Social and Political Sciences of the Environment, including the development of social and political science approaches to, and theories on, environmental matters
- having insight into relevant social science paradigms, concepts and theories that are important when analysing and clarifying environmental issues
- having knowledge of policy processes of a variety of organizations, including the methods of policy development and the organization and evaluation of policy
- having knowledge of the main aspects of environmental policy, as this is implemented in the Netherlands and various other countries, at various scales from local to global.

Application of knowledge and understanding

- be able to apply paradigms, concepts and theories from the social sciences to the analysis and explanation of environmental issues
- the capacity to use social science research methodology, including descriptive and inductive statistical techniques
- the ability to perform research that focuses on the analysis and explanation of environmental problems and on the analysis, design, and evaluation of environmental policy, and to report on it
- the ability to analyse the practice and the social and environmental consequences of specific environmental policies on different levels in the Netherlands and abroad
- the ability to develop innovative theoretical insights regarding the meaning of social structures and institutionalizations at home and abroad, on various levels, when dealing with environmental problems and problems of environmental policy
- the capacity to describe and explain specific developments in a number of relevant areas of these environmental development processes, such as the demographic, social-cultural, economic, environmental and other areas
- the ability to formulate proposals based on scientific research and the ability to make a relevant contribution concerning existing environmental problems
- the ability to design, shape and realize environmental policy together with the public and private parties involved
- the ability to make ex ante and ex post evaluations concerning the consequences of implemented policy on the quality of the environment and nature and in terms of sustainability
- the capacity to recognize the contributions other disciplines can provide to the analysis of and approach to environmental issues; having the skills that allow you to identify and explore this kind of interdisciplinary knowledge
- the ability to recognize environmental problems and to identify relevant environmental policy and relevant policy actors
- the capacity to describe and explain general and specific environmental processes and structures in interaction with relevant societal processes and the environmentally-oriented actions of individuals and institutions.

Making judgements

- the ability to evaluate environmental and social-scientific approaches concerning their internal consistency, empirical validity, applicability and social relevance, and to contribute to the continuing process of theory formation
- the ability to use relevant environmental and social-scientific theories, methods and techniques to define a problem for scientific research, both independently and when part of a team, to derive scientific research questions, to select and process data, make conclusions and evaluate them
- being able to critically evaluate and compare various contemporary theories regarding environmental problems
- being able to critically compare and evaluate various contemporary theories regarding environmental policy on various governance levels
- being able to analyse and evaluate events in practice, as well as the environmental and social consequences of environmental policy on various levels, in the Netherlands and abroad
- the ability to evaluate how other scientific fields can contribute to the analysis of and approach to environmental issues
- the ability to account for one's own position with respect to environmentally relevant social developments and problems.

Communication

- the ability to interpret and describe social-science terms, approaches and methods and their relationship to the environment, and to discuss this with colleagues
- the ability to work together in a professional and goal-oriented way in a wide range of social settings (interdisciplinary teams of experts, consultation and negotiation), taking into consideration other individuals' standpoints, positions and values
- the ability to communicate in a professional way, either verbally or in writing, with various people and groups
- the ability to provide leadership
- the capacity to conduct meetings and to negotiate efficiently and effectively.

Learning skills

- the ability to develop your own social and intellectual skills to stay abreast of changing social circumstances and to embrace the values and norms of a responsible academic professional
- the ability to deal with a variety of situations effectively – by linking insights, skills and attitude with one another and reflecting on the outcome
- the capacity to deal critically and responsibly with the relationships and tensions between personal values, professional values, values imposed by the organization where one is employed, and central, societal values.

Appendix 4: Overview of the curriculum

Programme of the master's specialization MMW

Semester 1

Module name	EC	Type of exam	Language	Block
Institutional Perspectives on Societal Change and Spatial Dynamics	6	Written examination and paper	English	1
Elective	6			
Duurzaamheidspolitiek: analyse en sturing / Sustainability politics : analysis and governance	6	paper	Dutch	2
Milieu, bedrijf en samenleving / Environment, Business and Society	6	paper	Dutch	2
Milieu-maatschappijwetenschappen: kernthema's / Social and Political Sciences of the Environment: Key Issues	6	Paper	Dutch	1, 2

Semester 1 en 2

Module name	EC	Type of exam	Language	Block
Methodology and preparation for the Master's thesis/ Methodologie voor MMW en Vomathe	6	Paper	Dutch	1, 2,3

Semester 2

Module	EC	Type of exam	Language	Block
Masterthesis MMW	24	Paper	Dutch	3, 4

Programme of the master's specialization ESEP

Semester 1

Cursusnaam	EC	Type of exam	Language	Block
Comparative Planning	6	Paper	English	1
Institutional Perspectives on Societal Change and Spatial Dynamics	6	Written examination and paper	English	1
European Spatial Planning and the EU Territorial Cooperation agenda	6	Paper	English	2
The EU and domestic impact: economy, space and environment	6	paper	English	2
International Environmental Politics (ESEP)	6	paper	English	2

Semester 2

Cursusnaam	EC	Type of exam	Language	Block
Preparation Masters Thesis	6	Paper	English	3
Masters Thesis ESEP	24	Paper	English	3,4

Appendix 5: Quantitative data regarding the programme

Data on intake, transfers and graduates

Students in MMW 2007-12

	MMW Enrolled	MMW Student numbers	MMW Granted Degree
2007/08	8	22	7
2008/09	6	20	5
2009/10	7	20	5 ²
2010/11	10	18	8 ²
2011/12	9	19	1 ³

² two students still active

³ seven students still active

Teacher-student ratio achieved

Since the staff teaches in several programmes student/staff ratios cannot be computed for a specific programme simply by counting staff and student numbers. The staff investment into the MMW and ESEP master's programme is 1,3 fte per year. Part of these investments also regards students from other master's programmes. Therefore it is hard to give a reliable estimate of the student/staff ratio. As noted in the critical reflection, the programme itself thinks it is reasonable to estimate the staff-student ratio as between 1 to 20 and 1 to 30.

Average amount of face-to-face instruction per stage of the study programme

Throughout semester 1 (and as to MMW dependent upon their elective course), students do have 8 to 10 contact hours per week through lecturing. In addition, as all courses have mandatory reading, discussing and presenting tasks, students spend at least the double of that in tutorials, working groups.

Appendix 6: Programme of the site visit

Tuesday 28 May

18:00 – Preparatory meeting
20.00 reviewing documents

Wednesday 29 May

9:00 – 9:45 reviewing documents

9:45 – 10:30 Management of the programme

- prof. dr. ir. Rob van der Heijden, decaan
- prof. dr. Anna van der Vleuten, vice-decaan onderwijs
- prof. dr. Pieter Leroy, sectievoorzitter GPM, coördinator Master MMW

10.30– Students
11.15

- Jorn Freriks
- Nick Stap
- Lesley ter Maat
- Ellen Tenbült
- Lisan van Loon
- Richard van der Hoff
- Aniek Linskens

11:15 – Lectures
12:00

- drs. Jacques Klaver
- prof. dr. Pieter Leroy
- dr. ir. Duncan Liefferink
- dr. Sietske Veenman
- dr. Mark Wiering
- prof. dr. Arnoud Lagendijk, Institutional perspectives en ESEP/Planet Europe

12:00– Lunch and consultation hour
12:45

12:45 – Educational committee
13:15

- prof. dr. Henk van Houtum, chair
- drs. Jacques Klaver, secretary
- dr. Roos Pijpers
- drs. Henk Donkers
- Marjolein Kouwenhoven, chair student members
- Inge Oortgiesen
- Lisa Jacobs

13:15 – Board of examiners
14:00

- prof. dr. Huib Ernste, chair
- dr. Mark Wiering, secretary
- prof. dr. Peter Ache
- drs. Lieneke Spreeuwenberg, study adviser

14:00 – Alumni
14:30

- Wieteke van Dijk
- Arne Pronk
- Lisette Firet
- Mathijs van Poederooijen

14:30 – Preparing for the final
15:15 meeting

- 15:15 – Final meeting with the
16:00 management
- prof. dr. ir. Rob van der Heijden, decaan
 - prof. dr. Anna van der Vleuten, vice-decaan onderwijs
 - prof. dr. Pieter Leroy, sectievoorzitter GPM, coördinator Master MMW)
- 16:00 – Committee meeting
17:30
- 17:30 – Oral presentation by the
17:45 chairman
- 17:45 – *Drinks*

Appendix 7: Theses and documents studied by the committee

Prior to the site visit, the committee studied the theses of the students with the following student numbers:

s0116777
s500364
S0412554
s4001397
s4019385
s0819131
s0719498
s4066065
s0500445
s4011015
s0330434
s0403466
s4081978
s0748684
s0433128

During the site visit, the committee studied, among other things, the following documents (partly as hard copies, partly via the institute's electronic learning environment):

- forms used for assessing the theses;
- materials and publications used for information and marketing purposes;
- learning materials: handbooks, readers, collections of articles, etc.;
- examples of papers, reports and internship reports produced by students;
- rules and regulations for writing theses, reports, research papers;
- rules and regulations applying to internships;
- exam regulations;
- written exams and assessment materials;
- recent minutes and reports of meetings of the Board of Studies, the Board of Examiners, annual reports on education;
- reports of evaluations of courses and curricula;
- results of surveys among graduates;
- policy reports and documents relating to the degree programmes

Appendix 8: Declarations of independence



DECLARATION OF INDEPENDENCE AND CONFIDENTIALITY

TO BE SUBMITTED PRIOR TO THE ASSESSMENT OF THE PROGRAMME

THE UNDERSIGNED

NAME: WA HAFKAMP

HOME ADDRESS:

STADE DE COLOMBES 55
1098 VS AMSTERDAM

HAS BEEN ASKED TO ASSESS THE FOLLOWING PROGRAMME AS AN EXPERT / SECRETARY:

ENVIRONMENTAL SCIENCES

APPLICATION SUBMITTED BY THE FOLLOWING INSTITUTION:

QANU

HEREBY CERTIFIES TO NOT MAINTAINING ANY (FAMILY) CONNECTIONS OR TIES OF A PERSONAL NATURE OR AS A RESEARCHER / TEACHER, PROFESSIONAL OR CONSULTANT WITH THE ABOVE INSTITUTION, WHICH COULD AFFECT A FULLY INDEPENDENT JUDGEMENT REGARDING THE QUALITY OF THE PROGRAMME IN EITHER A POSITIVE OR A NEGATIVE SENSE;



HEREBY CERTIFIES TO NOT HAVING MAINTAINED SUCH CONNECTIONS OR TIES WITH THE INSTITUTION DURING THE PAST FIVE YEARS;

CERTIFIES TO OBSERVING STRICT CONFIDENTIALITY WITH REGARD TO ALL THAT HAS COME AND WILL COME TO HIS/HER NOTICE IN CONNECTION WITH THE ASSESSMENT, INsofar AS SUCH CONFIDENTIALITY CAN REASONABLY BE CLAIMED BY THE PROGRAMME, THE INSTITUTION OR NVAO;

HEREBY CERTIFIES TO BEING ACQUAINTED WITH THE NVAO CODE OF CONDUCT.

PLACE:
UTRECHT

DATE:
25 March 2013

SIGNATURE:




DECLARATION OF INDEPENDENCE AND CONFIDENTIALITY

TO BE SUBMITTED PRIOR TO THE ASSESSMENT OF THE PROGRAMME

THE UNDERSIGNED

NAME: Ivan Janssens

HOME ADDRESS:

JACOBSLAAN 122
2580 ZOERSEL, BELGIUM

HAS BEEN ASKED TO ASSESS THE FOLLOWING PROGRAMME AS AN EXPERT / SECRETARY:

ENVIRONMENTAL SCIENCES

APPLICATION SUBMITTED BY THE FOLLOWING INSTITUTION:

QANU

HEREBY CERTIFIES TO NOT MAINTAINING ANY (FAMILY) CONNECTIONS OR TIES OF A PERSONAL NATURE OR AS A RESEARCHER / TEACHER, PROFESSIONAL OR CONSULTANT WITH THE ABOVE INSTITUTION, WHICH COULD AFFECT A FULLY INDEPENDENT JUDGEMENT REGARDING THE QUALITY OF THE PROGRAMME IN EITHER A POSITIVE OR A NEGATIVE SENSE;



HEREBY CERTIFIES TO NOT HAVING MAINTAINED SUCH CONNECTIONS OR TIES WITH THE INSTITUTION DURING THE PAST FIVE YEARS;

CERTIFIES TO OBSERVING STRICT CONFIDENTIALITY WITH REGARD TO ALL THAT HAS COME AND WILL COME TO HIS/HER NOTICE IN CONNECTION WITH THE ASSESSMENT, INsofar AS SUCH CONFIDENTIALITY CAN REASONABLY BE CLAIMED BY THE PROGRAMME, THE INSTITUTION OR NVAO;

HEREBY CERTIFIES TO BEING ACQUAINTED WITH THE NVAO CODE OF CONDUCT.

PLACE: *Antwerpen*

DATE: *20/3/2013*

SIGNATURE:



DECLARATION OF INDEPENDENCE AND CONFIDENTIALITY

TO BE SUBMITTED PRIOR TO THE ASSESSMENT OF THE PROGRAMME

THE UNDERSIGNED

NAME: ANDREW JAMISON

HOME ADDRESS: KABBARSVÄREN 25
S-232 52 ÅKARP
SWEDEN

HAS BEEN ASKED TO ASSESS THE FOLLOWING PROGRAMME AS AN EXPERT / SECRETARY:

Environmental sciences

APPLICATION SUBMITTED BY THE FOLLOWING INSTITUTION:

QANU

HEREBY CERTIFIES TO NOT MAINTAINING ANY (FAMILY) CONNECTIONS OR TIES OF A PERSONAL NATURE OR AS A RESEARCHER / TEACHER, PROFESSIONAL OR CONSULTANT WITH THE ABOVE INSTITUTION, WHICH COULD AFFECT A FULLY INDEPENDENT JUDGEMENT REGARDING THE QUALITY OF THE PROGRAMME IN EITHER A POSITIVE OR A NEGATIVE SENSE;



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HEREBY CERTIFIES TO BEING ACQUAINTED WITH THE NVAO CODE OF CONDUCT.

PLACE:
Utrecht

DATE:
25/03-2013

SIGNATURE:



DECLARATION OF INDEPENDENCE AND CONFIDENTIALITY

TO BE SUBMITTED PRIOR TO THE ASSESSMENT OF THE PROGRAMME

THE UNDERSIGNED

NAME:

LOOTS ILSE

HOME ADDRESS:

KAPELLELEI 36

B-2610 MORTSEL

BELGIË

HAS BEEN ASKED TO ASSESS THE FOLLOWING PROGRAMME AS AN EXPERT / SECRETARY:

ENVIRONMENTAL SCIENCES

APPLICATION SUBMITTED BY THE FOLLOWING INSTITUTION:

QANU

HEREBY CERTIFIES TO NOT MAINTAINING ANY (FAMILY) CONNECTIONS OR TIES OF A PERSONAL NATURE OR AS A RESEARCHER / TEACHER, PROFESSIONAL OR CONSULTANT WITH THE ABOVE INSTITUTION, WHICH COULD AFFECT A FULLY INDEPENDENT JUDGEMENT REGARDING THE QUALITY OF THE PROGRAMME IN EITHER A POSITIVE OR A NEGATIVE SENSE;



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HEREBY CERTIFIES TO BEING ACQUAINTED WITH THE NVAO CODE OF CONDUCT.

PLACE: ANTWERPEN

DATE: 20.3.2013

SIGNATURE:



DECLARATION OF INDEPENDENCE AND CONFIDENTIALITY

TO BE SUBMITTED PRIOR TO THE ASSESSMENT OF THE PROGRAMME

THE UNDERSIGNED

NAME:

Kawire Gosselink

HOME ADDRESS:

Droerendaalsesteeg 61

6708 PN Wageningen

HAS BEEN ASKED TO ASSESS THE FOLLOWING PROGRAMME AS AN EXPERT / SECRETARY:

Environmental Sciences

APPLICATION SUBMITTED BY THE FOLLOWING INSTITUTION:

QANU

HEREBY CERTIFIES TO NOT MAINTAINING ANY (FAMILY) CONNECTIONS OR TIES OF A PERSONAL NATURE OR AS A RESEARCHER / TEACHER, PROFESSIONAL OR CONSULTANT WITH THE ABOVE INSTITUTION, WHICH COULD AFFECT A FULLY INDEPENDENT JUDGEMENT REGARDING THE QUALITY OF THE PROGRAMME IN EITHER A POSITIVE OR A NEGATIVE SENSE;



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CERTIFIES TO OBSERVING STRICT CONFIDENTIALITY WITH REGARD TO ALL THAT HAS COME AND WILL COME TO HIS/HER NOTICE IN CONNECTION WITH THE ASSESSMENT, INSOFAR AS SUCH CONFIDENTIALITY CAN REASONABLY BE CLAIMED BY THE PROGRAMME, THE INSTITUTION OR NVAO;

HEREBY CERTIFIES TO BEING ACQUAINTED WITH THE NVAO CODE OF CONDUCT.

PLACE: Wageningen

DATE: 22-03-2013

SIGNATURE:



DECLARATION OF INDEPENDENCE AND CONFIDENTIALITY

TO BE SUBMITTED PRIOR TO THE ASSESSMENT OF THE PROGRAMME

THE UNDERSIGNED

NAME:

Esther Paart

HOME ADDRESS:

Laan van Albertshoeve 130
1902 PS Castricum

HAS BEEN ASKED TO ASSESS THE FOLLOWING PROGRAMME AS AN ~~EXPERT~~ / SECRETARY:

Environmental sciences

APPLICATION SUBMITTED BY THE FOLLOWING INSTITUTION:

Qanu

HEREBY CERTIFIES TO NOT MAINTAINING ANY (FAMILY) CONNECTIONS OR TIES OF A PERSONAL NATURE OR AS A RESEARCHER / TEACHER, PROFESSIONAL OR CONSULTANT WITH THE ABOVE INSTITUTION, WHICH COULD AFFECT A FULLY INDEPENDENT JUDGEMENT REGARDING THE QUALITY OF THE PROGRAMME IN EITHER A POSITIVE OR A NEGATIVE SENSE;



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HEREBY CERTIFIES TO BEING ACQUAINTED WITH THE NVAO CODE OF CONDUCT.

PLACE: Utrecht

DATE: 25-3-2013.

SIGNATURE: