

2023 Assessment Report

**Institute for Biodiversity
and
Ecosystem Dynamics (IBED)**

**Faculty of Science
University of Amsterdam**

Table of Contents

Preface

1. Executive summary

2. Introduction

2.1 Aim of the assessment

2.2 The assessment process

2.3 Quality of the information

3. Structure, organisation and mission of IBED

3.1 Introduction

3.2 Mission and Strategy

3.3 Management and organisation

4. Findings

4.1 Mission, Strategy, Research quality, Societal Relevance and Viability

4.1.1 Mission

4.1.2 Strategy

4.1.3 Research Quality

4.1.4 Societal Relevance

4.1.5 Viability

4.1.6 Recommendations

4.2 Specific aspects

4.2.1 Open Science: availability of research output, reuse of data, involvement of societal stakeholders

4.2.2 PhD Policy and Training: supervision and instruction of PhD candidates

4.2.3 Academic Culture: openness, (social) safety and inclusivity; and research integrity

4.2.4 Human Resources Policy: diversity and talent management.

4.2.5 Recommendations

Annexes

1. Programme Site visit

2. Bio-sketches of the Evaluation Committee members

3. Quantitative data on the research unit's composition and funding

Preface

This assessment deals with the performance of the Institute for Biodiversity and Ecosystem Dynamics (IBED) at University of Amsterdam (UvA), its research in the context of its (inter)national fields of science and PhD training (retrospective: 2017-2022) and identifies ways for further improvement (2023-2028).

The IBED Evaluation Committee (henceforth, *the Committee*) was pleased to find a generally positive, collaborative spirit among the IBED staff, students, and the faculty in which IBED is embedded. This work spirit clearly contributes to the institute's success.

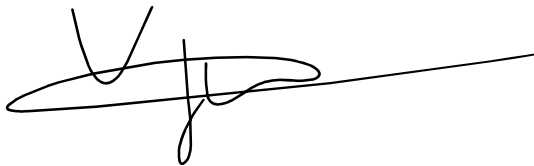
The Committee also found the institute's leadership to be strong at all levels, a sense shared by IBED's staff.

The Committee also noted that the decision to reorganize IBED from nine PI-directed divisions to four departments, coupled with a comprehensive Lab & Infrastructure Department, proved to be a key factor in ensuring IBED's success.

We thank Donya, Johan and Annemarie for their warm welcome, and express our gratitude for the great discussions and openness and for sharing your enthusiasm and fondness for being integral members of the IBED community with us. The organization of the site visit and the quality of information was great.

The Committee worked as a team and the evaluations, including strengths and areas for improvement, reflect a strong consensus among its members. We thank IBED for their support in this endeavor and hope our assessment will contribute to IBED's future both academically and in its contribution to the broader communities it serves.

On behalf of the IBED Evaluation Committee 2023,

A handwritten signature in black ink, appearing to be 'M. G. Vijver', written over a horizontal line.

Prof. dr. ing. Martina G. Vijver (Chair)

1. Executive summary

IBED's research addresses pressing questions about the planet's future health, aligning with UvA's theme of 'Sustainable Prosperity'. The institute advances both fundamental and applied science, including the development of emerging technologies, with an emphasis on valorisation. Through a holistic approach combining theoretical, experimental and observational methods, IBED's staff explores the diversity and dynamics of the natural and social dimensions of the living world across all temporal and spatial scales, from molecules to ecosystems, from past to present and future trends. The Committee finds strength in this broad mission made possible by the strength of the individuals represent formidable expertise across many disciplines in the institute's field.

The Committee, however, found that IBED could benefit from greater networking especially across departments. The stronger the network the easier it will be for IBED to capitalize on its existing strengths to pursue fundamental and especially societally relevant research opportunities.

In addition, the Committee explicitly supports IBED's view that there is no need for all staff members to engage in societal driven projects. Fundamental mission-driven versus more societal relevant research should remain balanced in an organic way. For the future the Committee regarded IBED's strengths in its fundamental inquiry-driven direction to be the force that underpins its increasing engagement in applied research designed to meet societal needs. The Committee observed that IBED's breadth, however, is also a handicap in that it makes developing coherent strategy difficult. In its current form, IBED's strategy plan requires more precision and a sharper view with respect to how its breadth can be sustained while it takes on more applied projects.

In the past six years many steps have been taken to ensure viability in a constantly shifting landscape of environmental challenges, scientific and technological advances, and funding for research, education, and training. IBED's success in securing its viability suggest that IBED's future financial health can be secured with a well-developed strategy plan. The Committee makes the following observations:

- A. Via national funding and university support and assistance, additional positions were secured by IBED through the "quality fund" (kwaliteitsgelden + Sector Plan). This recruitment will allow IBED to acquire more external funding.
- B. Centralization of the technicians who were formally dispersed among the former PI-driven divisions into the L&I department has proven to be successful and continuing and advancing centralization of computing, microscopy, chemical, physical, and biological resources and technologies should be pursued.

The forecast from these two large adaptations is that they should ultimately manifest themselves and creates benefits that exceed costs, yet a deficit has been there for 10-15 yrs. The Committee appreciated the steps taken by the Management Board (MB) and Faculty Board (FB), but more effort is needed to determine whether and which steps are needed to eliminate the annual deficit and strive for a financial viable future.

Finally, for the training and education of PhD candidates, the Committee recognized that major improvements have been made in the last six years, but the mean time to completion of their degrees is exceeding far the 4 years. This needs to change. Embedding the program into the Graduate School PE&RC was a great move and is highly valued by the PhD students as it provides

opportunities to more tailor their individual programs to their specific needs. The documents provided to students and their advisers and mentors at the start of each PhD candidate's program were found to be clear and useful and helps to ensure that all PhD candidates receive the same set of requirements. The Committee found IBED's programs for fostering early career researchers as a great platform for those seeking a career in academia.

While the Committee, in this report, provides a comprehensive summary of its assessment, it provides here the main findings and associated recommendations:

1. IBED should aim for a more focused and coherent strategy plan outlining its choices, decisions, and actions to be taken over both the short term and long term. The objective of this plan should be to develop an internationally recognizable unique research profile and improve IBED's visibility and standing in its field across both academic and non-academic sectors. This requires establishing a balance between curiosity-driven and demand-driven research. It also requires taking a more targeted approach to the acquisition of research funds and that can allow IBED to capitalize on its unique profile. An important part of this strategy will be to establish a consortium of partners that complement its profile; IBED should not aim to be a leading institution across all fields, but rather to excel in those disciplines for which it is demonstrably both strong and unique.
2. In following recommendation 1, IBED should strive to achieve a robust, positive financial standing. In these financially difficult times, choices have to be made on what to continue and what to stop, rather than reducing all activities by a certain percentage.
3. Significantly, and as soon as possible, reduce the current average time to complete projects of PhD candidates to 4 years. It is imperative that the causes for delays and the solutions developed to address them, be pursued productively and creatively, but in a timely fashion.
4. IBED needs to address the problem of unequal workload concerning teaching by staff members and PhD candidates, the latter of which now often must shoulder part of the "ad hoc" workload of their supervisor.
5. Ensure that *everyone* who works at IBED, including endowed staff, be made aware of and committed to social safety and contributes to IBED's sustaining its healthy, respectful, and positive working atmosphere.

2 Introduction

2.1 Aim of the assessment

All publicly funded university research in the Netherlands is evaluated at regular intervals in compliance with a national evaluation protocol (Strategy Evaluation Protocol; SEP2021-2027), as agreed by the Association of Universities of the Netherlands (UNL), the Netherlands Organisation for Scientific Research (NWO) and the Netherlands Academy of Arts and Sciences (KNAW). The evaluation process, which is applied at the research unit level, consists of an external peer review conducted every six years.

This research quality cycle aims to achieve three generic objectives:

- to assess a research unit in light of its own strategy and aims, including the sufficiency or appropriateness of the aims and strategy;
- to monitor and improve the quality of research conducted by the research unit;
- to contribute to fulfilling the duty of accountability towards government and society.

This assessment deals with the performance of the Institute for Biodiversity and Ecosystem Dynamics (IBED), its research in the context of its (inter)national field of science and PhD training (retrospective: 2017-2022) and identifies ways for further improvement (prospective: 2023-2028). The SEP includes a term of reference for the reflection on the institute's PhD training and education program. The Committee is requested to indicate whether its PhD training and education comply with the following conditions:

1. The Institute provides a well-organised, coherent and productive research environment for the PhD program.
2. The Institute offers a sound and institutionalised program in which students are trained to become independent researchers.
3. The Institute functions as an independent organisational unit with its own budgetary and managerial responsibility, with the university or universities involved providing a level of financing for a period of at least six years that can be described as sufficient in view of the Institute's planned capacity.

2.2 The assessment process

The research assessment as set out in the "Strategy Evaluation Protocol 2021-2027" for public research organisations is based on three central criteria:

- *Research quality*: the quality of the unit's research over the past six-year period, in light of its own aims and strategy;
- *Societal relevance*: the societal relevance of the unit's research in terms of impact, public engagement and uptake of the research;
- *Viability*: the extent to which the research unit's goals for the coming six-year period remain scientifically and relevant for society.

In addition, the following four specific aspects should be taken into account: (1) Open Science, (2) PhD Policy and Training, (3) Academic Culture and (4) Human Resources Policy. At the level of the Institute, the assessment Committee was expected to provide general findings and recommendations considering its strategy and three main tasks (doctoral education and training, coherent research programme, quality and progress of research). Four weeks before the site visit, the Committee received the Terms of Reference in which the task and expectations of the

Committee were described. Also, a copy of the SEP2021-2027 was provided as a tool supporting this assessment. According to the SEP2021-2027, the Committee was asked to review the performance of IBED in relation to its own strategy and previous targets as well as its international position within the respective research environment. The Committee was requested to report its findings in line with the three main criteria and the four additional aspects. The findings are reported in a narrative form and followed by recommendations for further improvement. In the text, the considerations of the Committee are clarified, while the conclusions are summarised in an executive summary. The assessment is based on the following evidence:

- a narrative self-evaluation report describing the aims, strategy and performance of the Institute, both for the past six years and for the next six years;
- a site visit focused on discussions with (both temporary and permanent) academic and supporting staff.

The site visit took place 29 November – 1 December 2023 and consisted of the following elements (see Programme in Annex 1):

- a meeting with the Dean of the Faculty of Science;
- a meeting with the Management Board of IBED and an introduction to IBED by the Director of the Institute followed by an interview of the Management Board including leaders of all four Research Departments;
- individual interview sessions with the Scientific Advisory Council, (senior) research staff members, Postdocs, PhD candidates, Vice-Dean of the Faculty of Science, P(h)D Council, Diversity, Equity and Inclusion Council and Stakeholders;
- a tour of the main research infrastructures and facilities with representatives from Department of Laboratory and Infrastructure (L&I); and
- a final plenary debriefing meeting including the IBED Board during which the Chair of the Committee presented the preliminary conclusions of this evaluation.

All meetings except the tour along research facilities were with the plenary Evaluation Committee.

The Evaluation Committee consisted of four peer members including the Chair, an independent PhD student from another Dutch university and an independent secretary.

The Committee consisted of the following persons:

- Prof. dr. Martina Vijver, Director Institute of Environmental Sciences (CML), Leiden University, Netherlands (Chair)
- Prof. dr. Shahid Naeem, Department of Ecology, Evolution and Environmental Biology, Faculty of Arts and Sciences, Columbia University in the City of New York, USA
- Prof. dr. Martin Kaltenpoth, Max Planck Institute for Chemical Ecology, Jena, Germany
- Prof. dr. Ellen Decaestecker, Department of Biology, Interdisciplinary Research Facility (IRF) Life Sciences, KU Leuven, Belgium
- Irene Waajen MSc, Faculty of Geosciences, Utrecht University, Netherlands (PhD candidate)
- Dr. Chris Mollema, Independent secretary to the Committee, Netherlands.

All Committee members signed a statement of impartiality and confidentiality declaring that they would judge without bias, personal preference or personal interest, and that their judgement is made without undue influence from persons or parties committed to the institute or departments

under review, or from other stakeholders. Although interviews were jointly prepared and performed with all Committee members, individual members were asked to take the lead in particular sessions and the resulting draft text of the Committee's findings. Bio-sketches of the Committee members are presented in Annex 2. Their findings and recommendations are described in this report. The final draft of the assessment report was presented to the Director of IBED to check for factual inaccuracies. The final report was sent to the Board of the University of Amsterdam.

2.3 Quality of the information provided to the Committee

The Self Evaluation including appendices and supporting documents

- Overall, the self-evaluation report with respect to content, clearness and length was very good. Supporting documents added useful information, e.g. documents on social safety.
- The report could have been a bit more self-critical in certain aspects, e.g. the interpretation of the survey results on work satisfaction, as well as the PhD graduation numbers and PhD duration.
- The formulation of the strategy to mitigate the weaknesses is not smart - sometimes vague - formulated in the strategy plan, many of the proposed steps remain superficial, so more concrete action items and goals would have been helpful.

Answers provided during the site visit

- Communication at all different levels was very honest and clear.
- The Committee was impressed with how well most IBED members know the structure of the institute.
- Critical questions were addressed thoughtfully.

Impressions on the tour of the facilities

- The L&I team was very professional and knowledgeable.
- There was a lot of enthusiasm by the L&I team for the science and their roles in supporting IBED's research.
- The L&I team's excellent organisation reflected one of flexibility and agility.
- The facilities were found to be state-of-the-art and maintained at a high level with clear procedures for safety, start-up of new research projects and for handling incidents (e.g., equipment failure, accidents, etc.) when and should they arise.
- An important part of L&I's functionality is related to maintaining clear communication of expectations of both staff and researchers, which is currently working well.

3. Structure, organisation and mission of IBED

3.1 Introduction

The Institute for Biodiversity and Ecosystem Dynamics (IBED) is one of the eight research institutes at the Faculty of Science (FNWI) of the University of Amsterdam. It merges research in the fields of ecology, evolutionary biology, environmental sciences, and Earth system science. The institute has a tradition that dates to its founding in the year 2000. For the education and training of PhD candidates IBED participates in the national Graduate School *Production Ecology & Resource Conservation* (PE&RC). PE&RC is a collaborative research and PhD training community. Members of the graduate school are PhD-candidates, postdocs, and scientific staff of Wageningen University, Utrecht University, University of Amsterdam, Vrije Universiteit Amsterdam, Radboud University Nijmegen, Netherlands Institute for Ecology, and Naturalis Biodiversity Center. PE&RC is coordinated by Wageningen University.

3.2 Mission and Strategy

IBED's general mission is to unravel the complexity of ecosystem functioning, and how ecosystems change over ecological and evolutionary timescales due to natural processes and human interference. The research at IBED is aimed at answering highly relevant present-day questions related to the future health of our planet and it fits to the UvA theme 'Sustainable Prosperity' as well as the Faculty's objectives to contribute to new technologies and sustainability with high potential for valorisation. In line with its mission, IBED combines theoretical, experimental, and observational science through field, laboratory, and computationally based approaches to increase understanding of the diversity and dynamics of human's natural environment from the level of molecules and genes to entire ecosystems.

The strategic aims of the past six years at IBED consisted of six pillars: 1) conduct high quality research in the field of Biodiversity and Ecosystem Dynamics, 2) provide high quality teaching and education that aligns with the research, 3) improve the organisation to foster collaboration within the institute as well as with other research institutes both nationally and internationally, 4) stabilise the institute's financial status, 5) ensure high quality facilities for research, and 6) to make IBED research more impactful for society through improved valorisation.

To achieve its goals, IBED merged nine research groups into four new research departments and a department for Laboratory and Infrastructure. It also installed several internal advisory committees and councils e.g. on science, laboratory and Infrastructure and PhD/Post Doc issues. Furthermore it formulated targets related to Research, Teaching, Valorisation, Organisation (internal and external cooperation as well as active participation in HR policy).

According to its Strategy Plan 2023-2028, IBED developed a strategy in which two main research Themes are installed across its four departments: (A) *Ecosystems Under Threat*: Changes in climate, land-use and exploitation, and (B) *Life in Flux*: Changing, emerging and evolving biological communities. Within both research themes a total of six collaborative focal points are formulated: (Theme A) 1. *Climate Change Ecology*, 2. *Landscape Diversity & Ecosystem Restoration*, 3. *Mitigating Environmental Pollution*, 4. *Sustainable Agriculture & Fisheries*, and (Theme B) 5. *Dynamics on ecological and evolutionary time scales*, 6. *Monitoring and modelling biodiversity*. By means of team

science, each collaborative focal point should link researchers across multiple departments and give focus to research towards current pressing scientific and societal questions.

To improve its financial situation, IBED will aim at a greater diversity of research funding including personal grants, collaborative consortia, as well as partnerships with private and/or public organisations. To better control its costs, IBED will further improve their management of research and project-based costs.

To realise its ambitions on Societal Engagement, IBED will develop a more systematic integration of societal engagement and outreach activities based on a common institute strategy, to incentivize staff to engage more systematically with society and better utilise its societal and research networks.

IBED will emphasise its efforts regarding Open Science and developments concerning Knowledge Safety. It will implement accurate data management throughout the whole research cycle and stimulate academic culture.

Mission and strategy concerning PhD training and education

IBED's main aim is to develop, coordinate, and facilitate a world-leading training programme for PhD-candidates and post-doctoral fellows within the field delineated by its scientific mission to "Understand the functioning of natural and managed ecosystems, to improve the quality of life". Central focus of the collaboration is the PE&RC PhD programme, which is embedded in an academic research environment. The ambition of PE&RC is to be at the international forefront of the scientific field in which it operates, by strengthening a coherent research framework that tackles both fundamental and societally relevant scientific challenges. An international network in which PE&RC operates, allows for a training programme for PhD-candidates and post-doctoral fellows. The scientific mission encompasses research on sustainable agro-production, biodiversity, ecosystem services, One Health, the bio-based economy, land dynamics and multifunctional land use at various spatial and temporal scales. IBED aims to increase the numbers of PhD students and more dissertations in the upcoming period and wants to improve the rate of success.

To improve the PhD trajectory duration and success rate, IBED will provide (co-)promoters the opportunity to discuss and learn different styles of supervision with staff members outside its own supervision teams. It also will regularly evaluate the guidelines for PhD supervision and discuss PhD training and education during annual appraisals of scientific staff involved in daily supervision and/or (co-)promotor.

3.3 Management and organisation

The IBED Management Board (MB) was installed in 2017, consisting of the IBED Management Team (MT: Scientific Director, Deputy Scientific Director, Institute Manager, Assistant Institute Manager and Management Assistant) plus the four Department Heads. The MT is responsible for daily management of the institute, the department heads for supervision of the research and teaching by the departments, while strategic decisions are taken with a shared responsibility. To facilitate the smooth flow of information between management and advisory committees and councils, one MT member regularly attends the advisory committee meetings. Furthermore, separate meetings

between MT and individual advisory committees are organised for specific matters, or as part of the biannual strategy days with the whole of the MB.

Nine PI-led groups were brought together in 2017 to form the four current research departments with the intention to increase coherence and interactions among staff working on similar themes: *Ecosystem and Landscape Dynamics* (ELD), *Evolutionary and Population Biology* (EPB), *Freshwater and Marine Ecology* (FAME) and *Theoretical and Computational Ecology* (TCE). The Laboratory and Infrastructures department (L&I) was established in 2018. L&I organises the laboratory and secretarial infrastructure for the institute. This includes overseeing the operation of three laboratory units: (1) the *Physical & Chemical laboratories*, (2) the *Aquatic Microbial Ecology laboratories*, and (3) the *Molecular Biology & Ecology laboratories*. In 2019, an additional dedicated Computational Support team was implemented within L&I. The Computational Support team was added to IBED's infrastructure portfolio and has been pivotal to the further development of IBED's expertise in data management, remote sensing, spatial analysis, high performance computing, bioinformatics, automated monitoring and machine learning. All facilities are accessible to all IBED staff and not linked to individual research departments. Each of the research departments has a Department Head that is appointed for 5 years with a possible extension of another 5 years.

Within IBED the following seven Committees and Councils have been installed:

1. International Scientific Advisory Committee (ISAC). Four Peers from international sister institutes for reflection on the past performance and future direction of IBED.
2. Scientific Advisory Council (SAC). Tenured staff representatives from the four IBED research departments.
3. Advisory Committee for Teaching and Education (ACTE). The members represent each IBED department and the directors of IBED-affiliated BSc and MSc courses. The Committee advises on strategy issues related to IBED teaching and education.
4. Laboratories and Infrastructure Advisory Committee (LIAC). The Committee advises on issues such as developments in (new) equipment and L&I expertise.
5. PhD/PD Council. This council gives advice regarding issues like training and supervision, courses, teaching by PhD candidates and Postdocs and career planning. It organises monthly seminars and open meetings with IBED management to discuss PhD and Postdoc related issues. Each research department is represented in the PhD/PD council.
6. Diversity, Equity and Inclusion Council (DE&I). Initiated by several IBED staff members to stimulate awareness, developing guidelines and designing and conducting surveys among IBED staff.
7. IBED Acquisition Committee. This Committee consists of the IBED Director, Institute Manager, Assistant Institute Manager, project manager of the Faculty of Science and a research funding adviser and business developer from Innovation Exchange Amsterdam (IXA). It actively keeps track of running acquisition and discusses funding opportunities including when research staff is eligible for personal grants. Relevant calls and funding opportunities for IBED are presented in the internal IBED newsletter.

In addition, to facilitate an Academic Culture and HR policy within the institute, IBED organises weekly soup lunches for all staff, a biweekly newsletter for all staff, monthly seminars with external speakers, a quarterly informal social gathering and an annual off campus IBED day.

4. Findings and recommendations

IBED's Scientific Director: Prof. Annemarie van Wezel

Total FTE research staff (2022): 45.1 tenure scientists, 29.0 postdocs, 33.6 support staff and 34.0 PhD candidates

4.1 IBED's Mission, Strategy, Research quality, Societal relevance and Viability

4.1.1 Mission

IBED's mission reflects the broad approach of advancing the fundamental sciences of ecology and evolution which underpin the natural and anthropogenic processes that govern the function and dynamics of natural and managed ecosystems. Such a broad mission requires working across multiple temporal and spatial scales and across multiple levels of the biological hierarchy (e.g., from genes to ecosystems).

While IBED's mission is arguably among the most important missions a scientific institution can adopt given the many environmental challenges we face in the Anthropocene, such a broad mission for an institute of IBED's size requires a well-structured strategy plan and a creative scientific framework that allows for productive and effective research, teaching, and service to both academic and non-academic enterprise. The strategy plan for the next six years takes the approach of organising IBED's functions into two research themes, (1) *Life in Flux* and (2) *Ecosystems Under Threat*, which are subdivided into six foci that cut across two areas of the national Sector Plan (*Biology and Earth and Environmental Sciences*). This Sector Plan, delineated in Table 4.1 of the Self Evaluation, serves as one of the mechanisms for achieving the key objectives outlined in their strategy (see 4.1.2, below) and has the advantage of building on existing IBED strengths in different research areas while fostering inter- and intra-departmental collaborations. In doing so, IBED can enhance stakeholder engagement, outreach, and societal relevance while also addressing budgetary issues through new acquisition opportunities.

The Committee observed considerable strength in IBED's mission. It found, however, several areas that could be improved or would benefit from greater clarity. First, such a broad mission can come across as both overly ambitious and vague in its objectives. IBED has expertise in many specific topics. IBED is built upon the unique expertise of its many individual researchers, not a comprehensive coverage of their broadly defined mission. It is the collaborative interdisciplinarity that will enable IBED to achieve its objectives, as outlined in their strategy plan, which requires building cohesion through collaboration and integration among their individual researchers that each have unique expertise in different, but related topics. Indeed, this cohesion is there but it has yet to materialized more to enable to get more acquisition opportunities.

Second, the translation of fundamental research to societal relevance, which is an important dimension of IBED's mission, could be more emphasized and better phrased in the strategy plans. They have started doing more of this in recent history and are doing this well in terms of outreach. While there is some "community" or "citizen" science, in which the public and stakeholders are actively engaged in IBED's conducting research, it seems limited to one or a few programs.

4.1.2 Strategy

IBED's Strategy Framework. IBED's strategy over its history has been based on its broad mission (see 4.1.1) which has resulted in an assemblage of a varied and impressive range of scientific talent of each individual with relatively strong credentials and performance records. IBED's recent re-organisation of the institute into a Management Board, four departments, a Laboratory and Infrastructure (L&I) department, and seven advisory councils was seen as a significant advance over its former nine chair-groups in which a PI served as chair of a research group.

This assemblage of talent, however, because it covers such a broad range of research topics that are housed within different units, has made the formulation of a cohesive strategy for the institute difficult. As noted by both the Management Board (MB) and Science Advisor Council (SAC), establishing a single framework is hampered by the fact that there is no way to construct a comprehensive strategy. A cohesive scientific framework, however, is necessary for IBED's international visibility and recognition of its profile, as it is for any scientific institution, to define its identity and establish its uniqueness among the wide array of well-known natural-science institutions both nationally and internationally.

The *IBED Self Evaluation* describes the current strategy framework developed by IBED to serve as a picture of the institute that illustrates its structure and objectives for the next six years (Fig 1.1, 2.1 and 2.2 of the *Strategy Plan*). While the Committee appreciates IBED's efforts, it identified several shortcomings in this strategy framework. As it stands, it is difficult to understand the "picture" that illustrates the strength of IBED. The Committee felt that IBED's framework can improve coherency. Also for future perspective, IBED should balance its fundamental and applied research across its units and make a clear plan how it will address key issues such as reducing mean PhD timelines to four years while at the same time increasing the number of PhD projects acquired and addressing budgetary shortfalls.

4.1.3 Research Quality

The impressive variety and range of different scientists, each with relatively strong credentials and performance records, is seen as a strength of IBED. IBED covers a broad spectrum of topics in environmental life sciences ranging from the molecular to the ecosystem level. This assemblage of talent covers many broad research topics within different departments. The credo of both the MB and the SAC that there is no "one-size-fits-all" strategy shows both a recognition and appreciation for the extraordinary intellectual breadth of IBED. Methods used are from chemical-based and biological-based experiments, field observations, to modelling approaches, which is a strength to have all in house.

Given the broad set of expertise available at IBED, interdisciplinary research with high relevance can arise from collaborations across departments as is envisioned in the Strategy Plan. In addition, research at IBED is strengthened by national and international collaborations. At the national level, these interactions are intensified via endowed professorships that are awarded for five years and can be extended with another five years. Endowed professors are present at IBED for about one day per week, thereby strengthening interactions and collaborations with IBED and fostering an influx of PhD students from other institutes and IBED itself.

The institute's assemblage of excellent researchers in their scientific fields is reflected in a prolific publication output with a continuously high number of papers in international journals, including highly cited papers in impactful journals. The Committee concluded that IBED's overall research quality is assessed to be very good. Note that many of the most important publications (especially in the FAME department) were not driven by IBED researchers but by collaborators at other institutions in the Netherlands or abroad. It showcases the strong network, however if it is possible it benefits IBED to take on a more leading role in studies with high visibility in the future. With a clear strategy and increased number of staff IBED needs to improve its financial viability by acquiring more research funding in the coming years.

4.1.4 Societal Relevance

The two IBED themes (Table 4.1 in the Self Evaluation) *Ecosystems Under Threat* and *Life in Flux* reflect structuring the overarching intellectual framework of IBED. Tackling pollution and issues of marine and freshwater and soil quality, climate change and more, are socially relevant research topics that fall under these two broad themes. When different groups were asked about mission-oriented (fundamental) versus societal relevant research, there was quite a consensus among the staff, whether senior, junior, technical, or administrative, that both were important. There was also consensus at staff level that there are external pressures and trends that are shifting the ratio towards more applied, more societally relevant research. IBED staff is open for outreach to society and showed many creative activities, which were organised on an *ad hoc* basis.

The strategy plan of the IBED states that they want to enhance stakeholder engagement. While the stakeholders were not consulted when writing the strategy document, they very much appreciated the interactions with IBED and explained that IBED members are very good in keeping the relationships to the different stakeholder institutions. Materialisation of these relationships generally relies on individual people, which is consistent and in line with IBED's science oriented focus that provides freedom to their staff in how much they engage in societal relevant questions. Establishing solid lines on inflow of students into the stakeholder groups was highlighted by the stakeholders; they saw this as an opportunity to intensify collaborations.

Fundamental mission-driven versus applied societal relevant research should remain balanced in an organic way. For the future the Committee regarded IBED's strengths in the fundamental mission-driven direction rather than driving all towards applied and societal challenges. The strategy plan requires more precision and a somewhat sharper view in this respect. Along similar lines, IBED could be more precise in defining itself to enable larger international visibility, which would also benefit funding acquisition as well interactions with stakeholder groups.

4.1.5 Viability

Based on its Self Evaluation and the interviews during the site visit, the Committee has observed a considerable potency within IBED to face the challenges in the coming six years. However, there are some items that need specific attention. The Committee has addressed these items first and then provided several recommendations and possible ways for improvements.

For many years, there has been a financial deficit. This has been explained by:

1) A period with a low number of professors with high teaching duties, resulting in relatively little funding acquisition. This is reflected in the low numbers of PhD candidates. The strategy has been to

make several changes, of which the greatest was hiring more academic staff with both a research and educational task (via National funding and central UvA support).

2) The Faculty leadership is aware of the institute's situation with regard to the financial deficit and the very high teaching load. IBED's MB is optimistic that the additional positions invested into IBED through the "quality fund" (kwaliteitsgelden) and the national Sector Plan will improve the situation by spreading the teaching load across more people, which will allow them to acquire more external funding.

3) The technicians who were first within the PI-groups have recently been centralised in a new department. The formation of the L&I department was seen by the Committee as an innovative and successful approach towards centralising computational, microscopy, chemical, physical, and biological resources and technologies. Extra investments in up-to-date equipment and computational resources were necessary but added to a further deficit of the institute.

The expectation of these large adaptations is that it will bring profit, but the deficit has been there for 10-15 years, and it is not sure if the adaptations are changing enough to start making a profit. The strategy for the coming period is that the newly established professors become more successful in obtaining funds, which is already evident from the last year when more external projects were obtained. Also, the support for grant acquisition became more professional.

In conclusion, the current financial situation of IBED is not healthy, and has lasted over a long period. The yearly deficits have been covered by the reserves of IBED up till 2022. From 2022 onwards the Faculty is covering the deficits; which is not sustainable. In addition, the Committee noticed that IBED should invest more in a unique profile of its institute to claim its international position better. The Committee applauds that IBED has taken some measures to remedy some worries e.g. by restructuring its organisation and management structure, hiring of new staff members and improving its acquisition of research funding. However, it became clear to the Committee that IBED has to make more choices. Such changes would allow turning to a positive financial result in the years ahead and contribute to IBED's long term viability.

4.1.6 Recommendations

Based on their observations, the Committee makes the following recommendations:

Mission and Strategy

1. *Reconsider and sharpen IBED's set of Research Themes.* Each theme should communicate IBED's unique capacity to advance fundamental science and tackle environmental problems. Ecosystems Under Threat and Life in Flux, do not adequately capture IBED's structure, mission and capacity to be a world-class institute. For example, Figure 2.1 in the Strategy Plan suggests a siloed structure in which the two Themes are unlinked and does not map on to the hub-and-spoke framework for the four departments and L&I that is shown in Figure 2.2.

2. *Develop a strong and recognizable profile.* IBED should develop a strategy framework that highlights its distinct nature as a scientific institute. Its strategy framework should more explicitly illustrate how its structure and assemblage of scientific talent constitutes a unique institution well poised to advance both fundamental and applied science in ways that set it apart from other leading

institutions, nationally and internationally. It should spell out specific foci that clearly link to IBED's unique strengths. Similarly, the Committee did not find the six Collaborative Focal Points to be particularly focused in ways that establish IBED as an institution tackling core issues in fundamental and applied research in unique ways that sets it apart from other institutions of its kind.

The Committee recommends that IBED improves its strategy to obtain the unique and recognised profile they want to show nationally and internationally. Development of such an identity will, however, undoubtedly require making choices (i.e., what to do and what NOT to do). IBED should also find themes that link the strong assemblage of scientists. In other words, themes that are built on the reputation of the scientist's teams. As a university institute, IBED should stay fundamental. That does not mean that IBED cannot also move a little to societal relevant research. Mission oriented research should resolve the problems for tomorrow, not for today. The Committee also sees a role for the Theoretical & Computational Ecology department, it recommends that this department should be applied more strategically to connect to the other research departments (e.g. by strategic hires of staff or PhD students that could bridge between theoretical knowledge and experimental research departments or by content e.g. adding the population level understanding as a selling point to link departments interests).

3. In addition, the Committee recommends that IBED, in its development of its revised strategy framework and plan, continues to pursue both internal and external consultations, and that the roles of the Scientific Advisory Council (SAC) to be made clear.

4. *Prioritize fundamental research.* IBED's mission (see 4.1.1, above) and strategy framework (see 4.1.2, above) builds upon its comprehensive coverage of approaches in the natural sciences which includes theory, experiment, observation, and methods development, with an emphasis on prioritizing fundamental research. The Committee felt that IBED indeed should retain its emphasis on fundamental research that is not necessarily immediately linked to applications. Next to that some projects are suitable to facilitate applied research, applications, and stakeholder engagement.

5. *Achieve financial security.* The Committee found IBED to be well aware of the urgent need to address its financial security, in particular, addressing the budgetary shortfalls it has incurred for many years. The Committee, however, did not find that IBED had a clear, detailed plan on the actions it would be taking to ensure that in the next six years.

The Committee sensed that IBED should spend more time in providing internal feedback and reflection on the quality of proposals before submitting them to improve its acquisition success rate. An additional means for revenue generation is strategic recruitment in which hiring new talent can capitalize on emerging funding opportunities and IBED has already had success in this approach (see point 6 Recruitment Strategy).

All this means that IBED has to identify where and how it can institute the best changes over the next six years. The Committee strongly recommends that IBED develops a detailed strategy plan on how it intends to change its deficits to profits through cost-cutting, improvements in efficiency, and increasing revenue generation.

6. *Reconsider recruitment Strategy.* IBED was very successful in hiring new people, though such a recruitment strategy comes with risks if the costs of additional staff are not met by the generation of additional revenue. Such risks are of particular concern if it exacerbates or extends current budgetary shortfalls.

The Committee encourages IBED to continue hiring new professors in what appears to be a collegial, collaborative, and consultative attitude, and continue to be attentive to the importance of ensuring that departments are growing evenly. It also recommends considering that it is important in their recruitment strategy to identify new “hot topic” areas. Finally, if IBED’s strategy maintains hiring at the assistant professor level (as it is quite difficult to recruit people at the full professor level), then providing support for the promotion of new hires through the ranks, should be continued and made explicit to the new recruited staff as should the providing of some starting package e.g. first year lower teaching load or help with writing grants.

7. *Develop strategy for addressing PhD timelines.* The Committee found that IBED is aware of the importance of having a PhD strategy that needs to focus on PhDs finishing in 4 years instead of the current average of 5, for both internal and external PhD candidates. However, in its meetings with faculty and the PhD/Postdoc Council, the Advisory Committee on Education and Teaching, and the Diversity, Equality, and Inclusiveness (DEI) Council, the Committee found that a detailed strategy for this improvement was lacking and not everyone was clear on what the best paths forward were. In some cases, especially with some senior faculty, the Committee found that the ambition of the supervisors and IBED staff is not always in line with meeting the contract time, while it recommends that they should take responsibility (and creativity) to fix these delays. The Committee recommends that in some cases, less risky or time-consuming chapters should be written in order to get the PhD projects finalized within their paid contract time.

Finally, in pursuing European funding as part of IBED’s strategic acquisition plans, there will be the challenge that many contracts from such funding will be only 3 years in duration. A strategy is required to cover for the fourth year of the PhD candidate.

8. *Improve strategy for teaching.* The Committee found the teaching plan and strategy to be well developed, though teaching effort seemed to be uneven among faculty and PhD candidates. Interviews with different groups suggest that teaching workload is currently uneven among teachers and transparency on teaching assignments can be improved. There also seemed to be heterogeneity in the way PhD students are assigned teaching and undergraduate advising responsibilities that are not always in line with the 10% of their appointment dedicated to education.

The Committee felt that IBED should consider ways to improve teaching workloads and balance the distribution of workloads among teachers.

9. *Improve Diversity, Equity and Inclusion (DEI) strategy.* The Committee commends IBED for its achievements in pursuing gender equality in professorships. Although IBED aims to also increase ethnic, and cultural diversity (IBED is 62% Dutch), there seemed not to be a clear strategy on how to achieve this. The Committee found the DEI Council to be energetic and dedicated to addressing these issues, though they are a relatively new unit within IBED that also has had to deal with the challenges of the pandemic, so more time needs to pass before this issue can be properly assessed.

One thing that became clear is that participating DEI training is voluntary and the DEI council noted that those who would benefit from such training are often the ones who do not take the training. The Committee therefore recommends pursuing mechanisms for making DEI training mandatory to all staff including endowed professors.

Research Quality, Societal Relevance and Viability

1. The Committee recommends to develop a more clear strategy to solve the financial deficit. The Committee recommends to identify where the best changes can be made, to make strategic choices, and what actions/support can be taken to increase the success rate of acquiring external grants. The Committee further recommends to spend more time at internal feedback and reflection on the quality of proposals (to improve granting rates) and to be more transparent in discussions with staff about financial issues.
2. IBED covers a broad area of topics. While this can be regarded as an advantage, the Committee recommends to organize a critical discussion on how to further improve coherence and foster interactions within and especially between departments. For the acquisition of EU grants you need to have broad expertise outside your institute.
3. The Committee recommends to think about a strategy to increase international, ethnic, and cultural diversity. The DEI-Committee is well positioned to do that, instead of leaving it to individual scientists.
4. In order to reduce the teaching workload the Committee recommends to improve the efficiency of teaching courses. Investigate whether there are possibilities to streamline courses better so that educational tasks for researchers are diminished. It is further recommended that there should be a strategy developed across the institute on how to achieve more transparency in teaching load and how to share the teaching duties more evenly.

4.2 Specific aspects

4.2.1 *Open Science*

The Committee appreciates that IBED is excellently tuned to the rapid move towards open science which includes publishing in open access publications, data sharing, and the open exchange of methods and protocols. They adhere to the FAIR principles (Findability, Accessibility, Interoperability, and Reusability), provide training, and L&I facilitates this. The Committee also observed that the data steward functions well in help using of data and with storing data in the proper accessible way.

It was further noticed that external stakeholders are satisfied regarding their cooperation with IBED and that they liked to continue or even expand this in the coming years.

4.2.2 *PhD Policy and Training: supervision and instruction of PhD candidates*

Overall, the PhD program structure and procedures that are in place were found to be adequate. The Committee noted that there seemed to be plenty evaluation meetings, which was seen as a strength. These meetings are helpful to reflect on the progress and supervision issues can be discussed and potential problems analysed. PhD candidates feel like the program at IBED is preparing them well for getting to their next steps in either academic or non-academic careers. During their program they can develop as independent researchers and develop skills that prepare them for the future. Post docs are positive about IBED, they feel part of the IBED community and regard a PD at IBED as a great step for their future career. Within IBED PDs are represented in the P(h)D council, and they are starting to be better embedded in the IBED protocols.

The joining of the PE&RC graduate school was an excellent step for PhDs and PDs at IBED. PE&RC offers an extensive list of different courses to improve knowledge and skills of early career scientists. Besides courses, each PhD candidate must join at least two international conferences. It is valued that an external person from PE&RC is present at IBED once every month, who can be addressed when small or larger issues affect PhD candidates. PE&RC also offers training for PhD supervisors, which is currently only mandatory when supervisors start to supervise. Maybe consider to send all PhD supervisors to a refreshment course on supervising PhD candidates. Although there are documents with clear requirements on the thesis, the interpretation of the quality of a thesis and the workload could be better streamlined and communicated among different supervisors. The P(h)D council of IBED is communicating with PE&RC to have regular mandatory trainings for PhD supervisors, which the PhD candidates wish to be implemented. On the other hand, it is valued that supervision is tailored to fit the style of the candidate and supervisor.

The Committee appreciated that alternative career paths are discussed in the progress meetings with supervisors and with the P(h)D council, while PE&RC organises events on this topic.

PhD candidates have a maximum of 10% of their time they need to spend on teaching. The teaching obligations are now mainly dependent on the PI of the PhD contract; if the PI has a high teaching load, the PhD candidate may be expected to teach many courses. The uneven distribution of teaching hours was already raised many years ago, but so far, no action has been taken to test a monitoring system where the teaching hours of all PhDs are registered. Currently, teaching hours are only discussed with the supervisors during evaluation meetings, and no check on this work balance is discussed beyond that which could be an improvement and assist to keep PhD projects within time. The ambition of the PhD program needs to be rediscussed in order to achieve durations of 4 years.

The P(h)D council is approachable for all PhDs and PDs and they take issues seriously. They discuss frequently with the MT. The PhD candidates appreciated the buddy system that the PhD council organises, where older PhDs are linked to a new PhD. However, this system needs a boost as it does not function as it should at the moment.

4.2.3 *Academic Culture: openness, (social) safety and inclusivity; and research integrity*

Many people conveyed their happiness/ satisfaction to be at IBED or to collaborate with IBED (including dean and vice-dean, stakeholders) or wished to strengthen the connection with IBED (stakeholders). Generally, in the interview meetings people were very satisfied with the academic culture, atmosphere, and communication at IBED. There were very positive comments about MB leadership, i.e. that the lines are clear for communication, open and approachable. It can be concluded that the sense of belonging of most IBED members is very high, and the MB is commended on creating an open, communicative, and collegial atmosphere.

Social safety procedures and people are in place. There is a very welcoming atmosphere. There is an onboarding procedure for new members: upon the start, they receive a booklet with relevant information and a lab safety tour when lab work is required. Over recent years, courses on awareness and information on who to turn to in cases of problems were installed. Regular social activities are taking place (e.g. “soup lunches”). Installing the overarching themes over the departments helped to increase the connection between researchers and supporting staff. Members of the L&I unit feel very valued and needed in the IBED community; they enjoy being part of the research institute.

There is training provided for PhD candidates and Post Docs on specific skills related to obtaining good job opportunities. PhD progression is evaluated frequently and at regular time intervals. With respect to social safety and research integrity, there have been many actions taken, but some areas of strengthening student/mentor relations may be worth addressing, such as being aware of and avoiding micro-aggressive behaviour which has been mentioned during the interviews.

Teaching and internship supervision workload is unevenly distributed (e.g. Earth Science staff with only a few people had a lot of teaching, and some lab technicians have a very high workload). The MB is aware and remediation has been taken care of to resolve this.

Many PhD students and postdocs are working in open offices. While this can enhance interactions between scientists, it is not conducive to and many young researchers feel it even hinders their writing. Renovation of the building should focus on creating more quiet places, also places where doors can be locked to e.g. leave computers running (to enable model calculations) are required more.

The DE&I-Committee was installed in 2021, which induced changes, but it is still work in progress. The solution DE&I is thinking about is making mandatory workshops on social safety (now optional and does not have the desirable result yet). If the DE&I suggest recommendations, they feel the MB accepts their input. There has been a crucial change to a gender balance in the last years which improved diversity and an inclusive atmosphere. The DE&I is developing guidelines for inclusive hiring.

4.2.4 *Human Resources Policy: diversity and talent management*

The Management Board has implemented several measures to communicate and discuss career perspectives and increase transparency in promotions for staff members. Department heads have annual meetings with all staff members to evaluate and discuss performance and career perspectives, and staff members can submit proposals for promotion. The MB is to be commended for its establishment of guidelines that clearly state expectations for the promotion of junior faculty. This process has helped to make promotions transparent. For the support staff, however, career perspectives are less obvious. In this context, it is noteworthy that the establishment of the L&I unit has resulted in increased responsibilities for the technical support staff, who seemed to appreciate this and valued the recognition they received from the MB and the individual researchers.

IBED has made great strides with respect to improving gender balance in its leadership. IBED has also met its goals when averaging across the professor levels, achieving an impressive 54% females in 2022. It has also improved on diversity, but there is still room for improvement on that aspect, as most academic staff is from the Netherlands (62% in 2022). The establishment of inclusive recruiting guidelines and the training of recruit committee members are good steps in the right direction, and here also the DEI council advices and their advice is taken seriously by the MB.

The PhD students are integrated into the structured program of the graduate school, and they are organised in the P(h)D council that advises the MB. A representative of the graduate school visits the IBED one day per month to be available for the matters and concerns of the students. As in many other institutions, the postdocs are less acknowledged on the structural level, but they are represented in the P(h)D council. The recent hiring of a part-time career support officer at the Faculty level has helped alleviate the need for career guidance (also outside of academia) on the PhD and postdoc level, but could be better advertised within IBED to increase the utilisation of this resource by its younger scientists. Additionally, there is the opportunity for tailored “impact training” at the level of the university, helping individual researchers to develop their research vision and/or the strategy to achieve set goals.

Finally, the Committee noticed that talent management of PhD candidates and other young staff members is currently primarily in the hands of individual supervisors, but would be more effective if organised at an IBED or Faculty level.

4.2.5 *Recommendations on the four specific aspects*

Open Science

The Committee recommends increasing efforts to share expertise on data management across different departments.

PhD and Post Doc training and education

The Committee recommends the following regarding PhD students and Post Docs:

- Organize a retreat with all assistants, associate and full professors to discuss ambitions, objectives and long-term goals of the PhD projects. The retreat should address the faculty’s sense of what constitutes a good quality program and what length of the PhD trajectory is the optimal to ensure that quality.
- Reestablish the aim for PhD durations aiming to delivering the manuscript of PhD thesis 6 weeks prior to contract termination. During the evaluation period, the candidate can work on, for

example, acknowledgements, formatting, and finalizing the chapters for submission to peer-reviewed journals or other quality academic outlets.

- Monitor the teaching hours of PhD candidates and try to distribute teaching courses more evenly. This also includes agreements on the amount of supervising BSc and MSc projects.
- Take steps to get more connection between external PhDs and IBED activities.
- Improve the position of Post Docs and ensure similar opportunities for all, it would be good to get a great paragraph in the strategy on Post Doc positions (for example, by checking the strategy of other universities) and develop ways that Post Docs can do something next to their project description, e.g. can PDs obtain their BKO and teach during their project work?
- Create spaces for writing that are quieter and safer (e.g., including locks). Smaller spaces (e.g. more like “phone booths”) for writing would be better than open rooms with many participants.

Academic Culture

The Committee recommends that attendance at workshops/courses on diversity/inclusion should be mandatory for all staff (at least every couple of years). Ensure that everyone who works at IBED is concerned about social safety so that everyone (including endowed staff) can promote the excellent IBED working atmosphere.

It is also recommended to professionalise the DE&I council. They now have protocols including interaction of the DE&I with the MB, but they need more sustainable funding, e.g. to develop and analyse surveys. In order to maintain their professionalism, the Diversity, Equity and Inclusion Committee raised the suggestion to add a 0.1 FTE position at IBED level to assist them. The Committee recommends taking this suggestion in consideration at the MB.

Human Resources

The Committee recommends bringing the senior staff in a role model position for younger staff members. It is further recommended that young professors could group amongst themselves and see what they could change and to enhance transparency on start-up funding of newly hired assistant and associate professors. Note that Assistant/Associate professors are currently not represented as a group in the MB (only in different councils).

Annexes

Annex 1. Programme of the UvA - IBED site visit

Meeting locations during the site visit:

- Hotel Casa Amsterdam
- Amsterdam Science Park 904, UvA Building C

Wednesday 29 November

Arrival in Amsterdam

Kick-off meeting Committee

Meeting with Dean of Faculty of Science

Dinner Committee

Thursday 30 November

08:30 – 09:00 Arrival Committee at Science Park

09:00 – 10:30 Preparatory meeting Committee

10:30 – 12:00 Meeting with IBED Management Board

- Welcome

- Short recap last and coming strategy period and self-assessment (10:30 – 11:00)

- Break (11:00 – 11:10)

- Discussion (11:10 – 12:00)

12:00 – 12:30 Meeting Scientific Advisory Council

12.30 – 13.30 Lunch and working time Committee

13:30 – 14:15 Meeting with (senior) research staff members (Assistant/Associate/Professor)

14:15 – 14:25 Break (recap)

14:25 – 15:10 Meeting with Postdocs

15:10 – 15:20 Break (recap)

15:20 – 16:05 Meeting with PhDs

16:05 – 17:10 Break (recap)

17:10 – 18:00 Tour of research infrastructure with representatives Laboratory and Infrastructure (L&I)

18:00 – 19:00 Working time Committee

19:00 Dinner Committee with Management Board - IBED

Friday 1 December

08:30 – 09:00 Arrival Committee at Science Park

09:00 – 09:30 Meeting with Vice-Dean Prof. dr. Lex Kaper

09:30 – 09:40 Break (recap)

09:40 – 10:10 Meeting P(h)D council

10:10 – 10:20 Break (recap)

10:20 – 10:50 Meeting Diversity, Equity and Inclusion Council

10:50 – 11:00 Break (recap)

11:00 – 11:45 Meeting with stakeholders

11:45 – 13:45 Lunch and working meeting Committee

13:45 – 14:15 Meeting with Management Board (optional with remaining questions)

14:15 – 15:30 Internal meeting Committee – review, writing, preparation preliminary findings

15:30 – 16:00 Presentation preliminary findings

16:00 Drinks and goodbye

Annex 2. Bio-sketches of the Evaluation Committee members

Prof. dr. Martina Vijver (CML – Leiden University, NL; Chair of the Committee)

Prof. dr. Vijver has the desired scientific background that resonates with the research carried out at the IBED, as she is Professor of Ecotoxicology. Her research focus is to bridge laboratory-field extrapolation; emerging compounds and materials are used to investigate the pollution-induced ecological impacts. Because of her role within Leiden University and as a member of the Earth and Environmental Sciences Council, she has sufficient knowledge of recent trends and developments in the Dutch and international research field, as well as the relevant funding landscape. She has been Scientific Director of the Institute of Environmental Sciences Leiden (CML) since the end of 2022 and is therefore familiar with the management structures and needs within a university setting and can assess the issues that are relevant to the SEP such as Open Science, PhD programs and policy, HR policy and the scientific academic culture. Finally, as the co-founder of Researchers in Science for Equality at UL, Prof. Vijver also brings knowledge in the field of Diversity, Equity and Inclusion (DE&I).

Prof. dr. Shahid Naeem (Columbia University, USA)

Prof. dr. Naeem is Professor of Ecology in the Department of Ecology, Evolution, and Environmental Biology, at Columbia University in the City of New York. He researches the ecological and environmental consequences of biodiversity loss, with a focus on how changes in the distribution and abundance affect how ecosystems function and ecosystem services are affected. His work combines theoretical, observational, and experimental studies under field and laboratory conditions, to uncover the mechanistic bases for the impacts of biodiversity loss on ecosystems. His pioneering work has demonstrated how the loss of species from ecosystems affect their ability to resist invasion by other species, affect production and nutrient cycling, and affect the reliability and stability of ecosystems. He authored the book *Biodiversity, Ecosystem Functioning, and Human Wellbeing: An Ecological and Economic Perspective*. He served as the director of science at EICES where he co-led a consortium that includes the American Museum of Natural History, the New York Botanical Garden, the Wildlife Conservation Society and the Ecohealth Alliance. He is also an experienced lecturer, being honoured as a Lenfest Distinguished Columbia Faculty. Prof. Naeem was elected as President of the Ecological Society of America (2022-2025).

Prof. dr. Martin Kaltenpoth (Johannes Gutenberg University, DE)

Prof. dr. Kaltenpoth is the Director and Scientific Member at the Max Planck Institute for Chemical Ecology and Professor for Evolutionary Ecology at the Friedrich Schiller University Jena. As an evolutionary ecologist his interests lie in the evolution, chemical ecology as well as the molecular interactions of insect-bacteria symbioses. The goal of Prof. Kaltenpoth's research is to characterise the diversity of bacterial symbionts in insects and their importance for the ecology of their hosts, tracing their evolutionary origin. He uses a combination of ecological experiments, phylogenetic reconstructions, molecular, chemical-analytical, and microbiological tools in a range of different model organisms. Prof. Kaltenpoth serves on scientific advisory boards and on evaluation committees for collaborative grants, and as a Director at the Max Planck Institute for Chemical Ecology he also has ample managerial experience.

Prof. dr. Ellen Decaestecker (KU Leuven Kulak, BE)

Prof. dr. Decaestecker is chair of the Interdisciplinary Research Facility Life Sciences at KU Leuven. She finished her PhD in 2002 at the KU Leuven in collaboration with UBasel, Switzerland. She was an

FWO postdoc fellow at the Immunity, Infection and Evolution Center at UEdinburgh before becoming associate professor at KU Leuven in 2012. Since 2018, she is full professor. She teaches Animal Diversity, Ecology and Evolutionary Biology. She is a member of the research council and the PhD committee of the Faculty of Science. She is secretary of the European Society of Evolutionary Biology. She has been president of the Royal Belgian Zoological Society. She is a member of the KNAW-NIOO advisory board and of the Spinoza-Stevin Prize selection committee. Her research group investigates host-parasite coevolution and host-microbiome interactions, mainly in invertebrate model organisms such as water fleas, freshwater snails and spider mites. The research focuses on adaptive responses in natural processes and to human induced stress using both genomics and theoretical modelling. Her group invests a lot of effort in citizen science and science communication with contributions to e.g. New York Times, Universiteit van Vlaanderen, De Standaard, PhD Cup.

Irene Waajen MSc (Utrecht University, NL)

Ms. Waajen is a PhD candidate at the faculty of Geosciences, Utrecht University. Her work is related to palaeo-environmental reconstructions of the southern North Sea, where she focusses on the response of landscapes and ecosystems to climatic cooling at the start of the last glacial period. She is also broadly educated in many reconstruction methods. She is further a member of the PhD council of Physical Geography and involved in the graduate school of geosciences. As her PhD project is in collaboration with TNO she also has experience in the application of science.

Dr. Chris Mollema (NL; Secretary of the Committee)

Since July 2022, Chris retired as senior advisor research at the central staff department 'Research & Impact Strategy' at Radboud University, Nijmegen (2006-2022). He had a similar position at the central staff department 'Research Strategy' at Wageningen University & Research (WUR, 1998-2006). In these jobs he was involved in research quality, assessments of research units and future planning of research. He served at several international research evaluation committees as secretary or member and held an invited lecture during the international seminar 'Research Evaluation & Assessing Research Quality' at the European Academy, Berlin in 2016. After his MSc (Biology) at Utrecht University and PhD at Leiden University he became senior researcher 'Breeding for Resistance to Insect Pests' at WUR working on sustainable resistance to herbivorous insects in several crops. He is an elected Fellow of the Royal Entomological Society (UK). From 2001-2005 he was a member of the Committee on Agriculture, Food and Biotechnology of the European Science Foundation's program COST to select and supervise collaborative research programs. He has been, among others, secretary of the evaluation Committee of Graduate School PE&RC (2003, 2015 & 2021), and Wageningen Plant Research (2004).

Annex 3. Quantitative data on the research unit's staff composition and funding

Number of IBED staff, postdocs and PhD-candidates 2017-2022:

IBED	2017		2018		2019		2020		2021		2022	
	#	FTE	#	FTE	#	FTE	#	FTE	#	FTE	#	FTE
<i>Scientific staff</i>												
Assistant professor (UD)	18	17,4	16	15,2	19	17,4	19	18,0	19	18,3	21	20,3
Associate professor (UHD)	13	11,7	15	13,1	16	14,1	19	15,0	20	15,9	19	15,2
Full professor (HGL)	7	6,2	7	6,6	8	7,6	10	8,7	10	9,2	10	9,6
Postdocs (PD)	22	19,9	21	18,2	24	21,5	24	22,6	24	22,2	32	29,0
PhD candidates (PhD)	38	37,4	34	33,8	28	27,6	31	30,6	33	32,6	35	34,0
Total research staff	98	92,6	93	87,0	95	88,2	103	94,9	106	98,3	117	108,2
Support staff	35	27,9	36	28,4	38	30,8	38	30,7	38	31,1	40	33,6
TOTAL STAFF	133	120,5	129	115,4	133	119,0	141	125,6	144	129,4	157	141,8

Internal PhD candidates enrolment and success rates:

Enrollment				Success rates													
Starting year	M #	F #	Total #	Graduated in year 4 or earlier		Graduated in year 5		Graduated in year 6		Graduated in year 7 or later		Graduated		Not yet finished		Discontinued	
				#	%	#	%	#	%	#	%	#	%	#	%	#	%
2014	4	6	10	2	20%	4	30%	3	30%	1	10%	10	100%	0	0%	0	0%
2015	8	4	12	0	0%	5	42%	0	0%	1	8%	6	58%	5	42%	1	8%
2016	4	7	11	0	0%	7	64%	2	18%	1	9%	10	91%	0	0%	1	9%
2017	2	6	8	0	0%	4	50%	1	13%	-	-	5	75%	2	25%	1	13%
2018	7	2	9	0	0%	2	22%	-	-	-	-	2	22%	3	33%	4	44%
2019	4	3	7	1	14%	-	-	-	-	-	-	1	14%	6	86%	0	0%
2020	4	8	12	-	-	-	-	-	-	-	-	-	-	12	100%	0	0%
2021	4	6	10	-	-	-	-	-	-	-	-	-	-	10	100%	0	0%
2022	2	7	9	-	-	-	-	-	-	-	-	-	-	9	100%	0	0%
Total	39	49	88	3		22		6		3		34		47		7	

External PhD candidates enrolment and success rates:

Enrollment				Success rates													
Starting year	M #	F #	Total #	Graduated in year 4 or earlier		Graduated in year 5		Graduated in year 6		Graduated in year 7 or later		Graduated		Not yet finished		Discontinued	
				#	%	#	%	#	%	#	%	#	%	#	%	#	%
2014	5	4	9	5	56%	1	11%	1	11%	0	0%	7	78%	0	0%	2	22%
2015	7	5	12	1	8%	5	42%	1	8%	0	0%	7	58%	2	17%	3	25%
2016	9	5	14	5	36%	2	14%	1	7%	0	0%	8	57%	3	21%	3	21%
2017	4	5	9	0	0%	2	22%	1	11%	-	-	3	33%	5	56%	1	11%
2018	4	4	8	1	13%	0	0%	-	-	-	-	1	13%	5	63%	2	25%
2019	1	5	6	0	0%	-	-	-	-	-	-	0	0%	5	83%	1	17%
2020	4	6	10	-	-	-	-	-	-	-	-	-	-	10	100%	0	0%
2021	0	5	5	-	-	-	-	-	-	-	-	-	-	5	100%	0	0%
2022	4	5	9	-	-	-	-	-	-	-	-	-	-	9	100%	0	0%
Total	38	44	82	12		10		4		0		26		44		12	

IBED's yearly turnover differentiating between revenues and costs 2017-2022:

	2017	2018	2019	2020	2021	2022
Revenues (in k€)						
University Funding	7813	8301	8595	9180	9133	9400
External Funding (2 nd & 3 rd Flow of fund)	4906	4575	4417	4012	4634	5612
External Funding (Other*)	455	258	363	330	552	524
Total revenues	13174	13134	13375	13522	14319	15536
Costs (in k€)						
Personnel cost	7204	7220	7403	8026	8559	9491
Other costs	6108	6248	6748	6266	6180	6774
Total Costs	13312	13468	14151	14292	14739	16265
RESULT	-138	-334	-776	-770	-420	-729

* e.g., education, secondments, other services, etcetera.

IBED's funding 2017-2022:

	2017		2018		2019		2020		2021		2022	
IBED	FTE	%	FTE	%	FTE	%	FTE	%	FTE	%	FTE	%
Funding												
Direct funding	44,0	47,5	45,4	52,2	50,3	57,0	52,4	55,2	53,5	54,4	55,2	51,0
Research grants	23,6	25,5	22,3	25,6	22,3	25,3	20,9	22,0	21,1	21,5	28,2	26,1
EU and Contract research	25,0	27,0	19,3	22,2	15,6	17,7	21,6	22,8	23,7	24,1	24,8	22,9
TOTAL FUNDING	92,6	100	87,0	100	88,2	100	94,9	100	98,3	100	108,2	100
Expenditure (M€)												
Personnel costs	7,20		7,22		7,40		8,03		8,56		9,49	
Other costs	6,11		6,25		6,75		6,27		6,18		6,77	
TOTAL EXPENDITURE	13,31		13,46		14,15		14,29		14,74		16,27	

IBED's funding corrected for research capacity (only Assistant, Associate and Full Professors):

	2017		2018		2019		2020		2021		2022	
IBED	FTE	%	FTE	%	FTE	%	FTE	%	FTE	%	FTE	%
Funding												
Direct funding	23,8	36,2	24,6	40,5	26,5	44,3	27,6	42,8	28,5	42,8	30,1	40,2
Research grants	20,6	31,4	19,5	32,0	19,9	33,3	18,8	29,1	18,4	27,6	23,9	32,0
Contract research	21,3	32,4	16,7	27,5	13,4	22,4	18,1	28,1	19,7	29,6	20,8	27,8
TOTAL FUNDING	65,7	100	60,8	100	59,8	100	64,5	100	66,6	100	74,8	100