



Position statement Executive Board
Wageningen University & Research

Regarding the WIMEK clusters peer review assessment (2015-2021)

According to the Strategy Evaluation Protocol (SEP 2021-2027) the Wageningen Institute for Environment and Climate Research (WIMEK) clusters have been evaluated. An assessment committee of independent experts assessed the performance of WIMEK and its research clusters based on a self-evaluation and an online site visit.

The Executive Board has received the final report of the assessment committee, and has read it with interest. The Executive Board is pleased that the committee concludes that the clusters are well-positioned to achieve high impact results, especially if opportunities for collaboration within and across clusters are realized, and that the committee is impressed by the high scientific quality of the work and the results that have already been achieved. The Executive Board would like to thank the peer review committee for carrying out the evaluation.

The response to the main recommendations of the committee has been put together by WIMIK and its clusters and the Executive Board has integrally accepted the response, in which is described how the recommendations will be addressed and how the outcomes of the research evaluation will be used to further strengthen WIMEK's performance. The Executive Board encourages WIMEK and its clusters to enhance their collaboration with Social Sciences. Progress on follow-up actions will be monitored in our yearly quality assurance cycle.

Also on a general (WGS-wide) level the committee makes very useful recommendations. We are in the middle of a 'Recognition and Rewards' trajectory and agree with the committee that the criteria for the assessment of academic outputs should be diversified to fit disciplinary as well as practice-oriented research. In the same trajectory attention will be given to structures and mechanisms needed to avoid fierce competition between individual researchers. Moreover, the Executive Board agrees that the duration of the PhD trajectory requires are continuous attention. We will pursue a systematic analysis of early attrition and dropout rates in PhD trajectories and train supervisors to intervene when PhD students are overambitious. In that same regard we will make a continuous effort to guard the balance in the ratio between PhD candidates and experienced staff and assess the needs of postdoctoral students. We fully embrace diversity as a prerequisite to excel in science. Therefore we will install targeted measures to encourage the promotion of females and internationals to the higher-ranking functions of associate and full professors. For inclusion, safety and equality, we will, next to an open culture, install mechanisms that safeguard these aspects with special attention towards young scientists from the Global South. Lastly, the Executive Board agrees that clearer goals for the training of junior as well as senior scientist in research integrity can be

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set. Progress on follow-up actions will be monitored in our yearly quality assurance cycle.

The assessment report together with the response to the recommendations will be published on the WUR website, together with summaries of the WIMEK self-evaluation reports and the case studies.

With kind regards,

A handwritten signature in blue ink, appearing to be 'A.P.J. Mol', written in a cursive style.

Prof. dr Arthur P.J. Mol
Vice-president of the Executive Board

RESEARCH CLUSTER ASSESSMENT WAGENINGEN INSTITUTE FOR ENVIRONMENT AND CLIMATE RESEARCH (WIMEK) 2015 - 2020

Response of WIMEK to recommendations assessment committee

Recommendation: *Give the WIMEK clusters a helping hand in stimulating exploratory interdisciplinary and transdisciplinary, high-risk research with high impact, to ensure that this kind of research becomes more structurally embedded.*

WIMEK Response: WIMEK has appointed a postdoc, Dr Jillian Student, for two years with the following tasks:

- ✓ To make an inventory of the most important transdisciplinary research approaches (real cases) of WIMEK researchers in the past six years
- ✓ To reflect on these research approaches (e.g. co-creation, living labs, citizen science, involvement of stakeholders) from the perspective of current inter- and transdisciplinary theory
- ✓ To exchange information and experiences (including practical do's and don'ts) within Wageningen University on transdisciplinary research approaches
- ✓ To advise WIMEK on how to build a sustainable knowledge hub on inter- and transdisciplinary theory and methods
- ✓ To develop an inspiring PhD course or training on transdisciplinary research and to develop ways for staff to be trained as well.

The postdoc is supported by the WIMEK team.

Recommendation: *Be aware that interdisciplinary and practice-oriented research cannot be directly compared with single-disciplinary research. The criteria for the assessment of academic outputs should therefore be adapted.*

WIMEK Response: This issue has recently been acknowledged in assessing PhD theses, with separate criteria for inter- and transdisciplinary theses compared to disciplinary theses. Moreover, this is a point of attention for the WUR Recognition & Awarding Working Group, in which the WIMEK Director, Carolien Kroeze, participates.

Recommendation: *Share experiences on co-creation, in order to better understand the conditions under which participatory methods will have added value and lead to larger societal impact.*

WIMEK Response: this is a task of the WIMEK postdoc on transdisciplinary research approaches.

Recommendation: *Give junior researchers more accountability and acknowledgement for scientific advancement and highlight achievements at the junior level. This may ultimately encourage more junior researchers, and in particular female and non-Dutch academics, to look for long-term research opportunities at WIMEK.*

WIMEK Response: WIMEK will increase the possibilities to showcase the research results of young researchers by video pitches and video interviews published at the WIMEK website and contributions to WIMEK conferences. Moreover, WIMEK will involve young researchers more in the further development of WIMEK's Grand Challenges and the preparation of scientific events.

Recommendation: *Prioritize the types of societal impact and then strive for explicit and objective recognition of societal impact and activities, to align human resource processes with organizational objectives.*

WIMEK Response:

- ✓ WIMEK will develop an outreach strategy in which WIMEK specifies its goals, target groups and actions at the level of the Grand Challenges and SDGs, and the contributions it wants to highlight.

- ✓ WIMEK will contribute actively to the discussion on changing the culture or rewarding and recognition of scientific output indices to a more diverse set of activities, with special attention to the requirements for PhD theses. Moreover, WIMEK will promote also the diversification of PhD Trajectories by creating various pathways focusing for example on fundamental scientific research or scientific research for societal impact or scientific research combined with teaching and education.

Recommendation: *Avoid fierce competition between individual researchers, since this does not contribute to a happy working environment, fruitful collaboration, and productivity in general.*

WIMEK Response: Fierce competition between WIMEK researchers is very limited in practice. Moreover, this is a point of attention for the WUR Recognition & Awarding Working Group (Tenure Track 3.0), in which the WIMEK Director, Carolien Kroeze, participates.

Recommendation: *Integrate supporting activities for PhD's (such as peer groups, buddy system, postdoc being coaches to PhDs) are well appreciated. It would be good to integrate such activities in a WIMEK-wide policy.*

WIMEK Response: WIMEK will integrate its supporting activities better in a WIMEK-wide policy and stimulate its chair groups to contribute in an active way.

Recommendation: *Assess the needs of postdoctoral students and help them, for instance with career guidance tools.*

WIMEK Response: WIMEK will pay special attention to postdocs and develop a postdoc policy in close consultation with the WIMEK postdocs.

Recommendation: *For all PhD projects, make ambition meet duration. This pertains both to the scope of the project and the number of papers needed to be able to graduate.*

WIMEK Response: WIMEK supports the university wide policy that a PhD thesis should be focused on realistic ambitions with respect to for instance the number of chapters / articles. WIMEK will communicate this policy actively to PhD students and supervisors. In addition, WIMEK or WGS will establish a small working group to analyse the causes of delay in PhD trajectories and to propose appropriate actions to help PhD students, and their supervisors, to finish the PhD theses in time.

Recommendation: *Add intermediate milestones explicitly in PhD guidance and policy, particularly in the second and third year, where they are now lacking.*

WIMEK Response: the WIMEK team has developed a PhD progress monitoring form, which should be used by all WIMEK PhD candidates and their supervisors in the preparation of the annual Progress and Development meetings. WIMEK will stimulate the use of this form by all WIMEK chair groups.

Recommendation: *Make sure that staff has sufficient time for mentoring and supervision.*

WIMEK Response: this issue will be discussed during the periodic meetings of the WIMEK Director with the WIMEK chair groups.

Recommendation: *Set clear goals for the training of junior as well as senior scientists in research integrity.*

WIMEK Response: this will be done at WUR level supported by WGS actions.

Response of Cluster Climate, Water and Society (CWS) to recommendations assessment committee

Recommendation: *Embark on a focused effort to build a vision on where you want to be in six years. In doing so, look broader than just the water topic. Take into account your great expertise on for instance climate, energy storage systems, biodiversity, and pollution.*

CWS Response: We will embark on a process to develop a joint vision for the coming six years, which will contribute to the grand challenges of WIMEK and which will focus on climate, water and society. As a starting point, we will further elaborate the case studies (drought, nitrogen, climate and plastic) by collaborating more closely together as a point of departure for developing such a vision. For plastic, for example, an effort was made in October 2021 to initiate an ESG-wide community of practice (collaboration, cross-links, virtual theme cluster). This included water, air, soil compartments, public outreach & policy advice. Similar strategies will be applied to the other case studies, bringing together PhDs, post-docs and tenure trackers from the various group.

Using the outcome of the elaborated case-studies, the ambition level of our joint vision will be further explored and defined. One point of attention is that the synergy among the groups should be improved by defining joint research aims/lines.

Recommendation: *Subsequently, determine what combinations of expertise are necessary to perform cutting-edge research with regard to the challenges you identified.*

CWS Response: All our expertise appears relevant for cutting-edge research related to the WIMEK grand challenges. Based on the abovementioned case studies, we will identify how the combination of expertise from the natural sciences (e.g. hydrology and meteorology) and social sciences (e.g. environmental policy and governance) can be strengthened by the case study projects.

Recommendation: *Be bolder, and do not shy away from international ambitions*

CWS Response: CWS already has a strong international ambition, as illustrated by the many international collaborations and networks we participate in. In the future we aim to strengthen our role in the large scientific assessments on climate, biodiversity and water quality. We aim to profile ourselves more as a cluster by organizing a water-climate conference and to invite key-note speakers. Our ambition is also to organise theme days around the cases for community building (beyond the CWS cluster). A planned joint newsletter will also be helpful to profile the work we are doing and improve our outreach.

Recommendation: Define stakeholder groups and processes more distinctly, and develop a strategy for interactions at the science-policy interface. This will lead to trans- or interdisciplinarity in a natural way.

CWS Response: We will develop a strategy to strengthen our transdisciplinary research approaches (including citizen science initiatives) and improve our science communication for more policy impact (a.o. by science-policy dialogues) and continue our contributions to large environment and climate assessments, such as IPCC and plastic pollution. We will also critically reflect on the role of models to improve policy making. One example is the involvement of CWS scientists in critical reflections on the Dutch methodology to assess nitrogen deposition.

Recommendation: Give high priority to organizing the cross-disciplinary PhD activities you planned. Hire a staff member dedicated to improving funding for interdisciplinary research projects.

CWS Response: We will start to organize cross-disciplinary PhD days in fall 2022. We have already staff members who engage in interdisciplinary projects and acquire funding.

Recommendation: Integrate social science and even humanities into the natural and life sciences.

CWS Response: Within the cluster some groups excel in disciplinary research, while others already integrated natural and social sciences within their groups. In future activities, we will invest in integration of social sciences in the case studies, and also reach out to other clusters, focusing on e.g. governance.

Recommendation: Put clear interventions and targets in place to hire and keep female and international full and associate professors.

CWS Response: Inclusiveness & diversity as a ruling principle rather than gender & nationality alone. Interventions will mainly be made at the level of the chair groups or at the level of the Environmental Sciences Group. Within all chair groups we will aim for a diverse and inclusive culture and ensure that CWS activities will reflect this.

Recommendation: Train supervisors to intervene when PhD students are overambitious

CWS Response: Training of PhD supervisors is organized through Wageningen Graduate Schools, and we will encourage our staff to participate in this. To stimulate open and transparent discussions on this issue, we plan to start in 2022 with peer-to-peer learning among PhD supervisors.

Response of Cluster Environmental Technology and Microbiology (ETM) to recommendations assessment committee

Recommendation: *Clearly articulate outcome expectations at the end of six years from a problem-solving perspective, to enhance your attractiveness both to potential staff members and to external partners and stakeholders.*

ETM Response: Detailed scientific objectives and plans of the ETE and MIB groups are included in our strategy documents for the coming six years. These documents are also the blueprint for acquiring new staff, including new professors from 2024 in ETE. Relations with external partners and stakeholders are in motion as well, for example through our facilities such as Unlock.

Recommendation: *Seek more European leadership positions. This will help to build new projects and alliances, and also allow you to better showcase your excellent research infrastructures.*

ETM Response: This comment is well received and currently an ETM strategy is developed for a stronger participation in EU; basis is to do this as a team effort instead of at an individual level. This EU team will set out a strategy 2022 – 2024. This includes participation in Horizon EU RTD projects, Erasmus, COST and JPI.

Recommendation: *Conduct strategic pre-market assessment research, to determine which of your strengths is in greatest demand. Consult your many private sector and government partners.*

ETM Response: For applied research this pre-market assessment is done for the Netherlands through the networks of AquaConnect, Wetsus and TKI. Internationally we will focus on countries with already contacts (i.e. India, Bangladesh, Vietnam, Indonesia, Chili, China and USA/Canada) and aim to expand to Africa through new collaborations. However, as a public research institution, our focus is also primarily science oriented and includes fundamental research questions associated to societal challenges. Our scientific strategy is discussed with international academic network and scientific advisory board.

Recommendation: *Investigate whether it is possible to widen the range of your clients and possible markets.*

ETM Response: The widening of groups of clients and markets is especially relevant for use of our infrastructure, such as MODUTECH, UNLOCK, and the Centre for Living Technologies and Centre for Circular Society both of the EWUU Alliance. Strategies are being developed for that. For MODUTECH we seek collaborations with water boards and drinking water companies. The EU strategy should also bring new market options. Again, our focus in the fundamental research parts is on developing science, investigate fundamental questions, that later can be translated to society.

Recommendation: *Be more inclusive towards young scientists from the Global South, who are normally severely resource constrained.*

ETM Response: We agree with the problem of financial inequality which is unfair but change cannot be promoted alone by ETM; there are political and organization matters at international and national level that limit our scope of action. At WUR, we count on the Board and the Graduate school structure to find solutions for this, and take actions as far as we can to help to solve this inequality. In this context, it should be noted that UNLOCK is currently implementing a revolving fund using the revenues of UNLOCK operations to provide additional financial means that would allow to support excellent / highly innovative ideas of underprivileged researchers. We envisage that this can be realized as a yearly returning competition, where excellent and innovative ideas can be supported by “vouchers” and fellowships provided to underprivileged researchers.

Recommendation: *Investigate the underlying cause of declining productivity and use of research products by peers.*

ETM Response: This was a temporary moment, not in line with the longer trend. On the other hand, we would also like to point out that, as the committee acknowledges, our focus particularly in most recent years is science for impact, and our strategy to rank quality of our work over quantity of publications.

Recommendation: *Include more societal issues in your research programme, in collaboration with social scientists.*

ETM Response: We accommodated new projects where social sciences are actively involved (i.e. Environmental Policy WUR, Urban Economics WUR, Water Governance VU, Environmental Law and Legislation UU, Water Resource Management WUR, Sustainability Sciences CML-LU, and others) through projects such as AquaConnect, Richest Reefs, AMS projects and the EWUU Alliance challenging future generations.

Recommendation: *Actively stimulate collaboration between cluster members.*

ETM Response: Collaboration between ETE and MIB is solid, with e.g. several on-going shared PhD projects. ETE and MIB collaborate on content, facilities and in some strategic relations with external stakeholders for more than 50 years. We actively organize a variety of formal, scientific and informal social gatherings between MIB and ETE.

Within the EWUU initiatives in which we are actively engaged there have been several events organized to discuss science at interdisciplinary level (also connecting with previous point) and more to come in the future. Especially the young generations of scientists are stimulated in the EWUU.

Recommendation: *Make sure that every PhD candidate gets sufficient supervision. Consider working with external mentors.*

ETM Response: Supervision is tailored to the situation and type of PhD candidate (WUR based PhD, External PhD, Sandwich PhD), and also considering the different needs for PhD candidates and diversity of strategies by PhD supervisors. Proper PhD supervision is monitored via regular meetings with promotor(s) and co-promotor(s) and daily supervisor; in addition, the complete process is governed via annual P&D meetings. Chairs have also implemented PhD boards to regularly discuss PhD-trajectory, and continuously improve it, together with our PhD candidates. We will continue monitoring PhD supervision (quality, effect of personal styles, etc.) and ensure we take the right actions and measures for excellent supervision.

Response of Cluster Landscape Architecture and Spatial Planning (LSP) to recommendations assessment committee

Recommendation: *Take a step back; analyse ongoing processes and networks carefully, as a base for identifying your unique selling points, setting priorities and selecting a few key opportunities to maximize societal impact.*

LSP Response: Thank you for this suggestion. We have started to refine our vision and setting priorities in the research lines we will keep pursuing and research lines we will foster, by allocating own funding, recruiting suitable experts and building more strategic networks.

Recommendation: *Put special funding mechanisms in place to stimulate collaboration across clusters, share best practices on how to do interdisciplinary research, organise seminars and institute advisory roles to stimulate interdisciplinarity in research projects.*

LSP Response: We have allocated funding for interdisciplinary research and in that line, have already started to fund new research on the interfaces of different clusters. For instance we have shared PhD researchers with the GRS group, WRM group, postdoc with PEN and ESA and conduct research projects with members of the MAQ, GRS and ESA groups. We also hope that WIMEK supports us with more funding and in sharing best practice and organising seminars and network meetings for this matter.

Recommendation: *Consider collaborating with other research clusters within WIMEK, such as CWS and Soil, that both adopt a landscape approach in some research lines.*

LSP Response: We have cooperated with other research clusters within WIMEK clusters such as MAQ, GRS, and ESA groups and will do so even more in the future. We have now actively started looking for cooperation with the HWM group.

Recommendation: *Take up leadership in defining new collaborative research lines, as knowledge integrators and process designers, promoting the landscape approach as key to sustainability and resilience.*

LSP Response: We will do so, also involving other disciplines who work on transformative approaches such as environmental, food and farm technology and social scientists who work on participatory and stakeholder oriented approaches.

Recommendation: *Strengthen the methodological side of your research.*

LSP Response: We will continue and strengthen these efforts, for instance by investing in a dedicated PhD on 'research through design' methods.

Recommendation: *Document your work in at least two key publications: one on conceptual foundations and another on the methodological mixed methods approach.*

LSP Response: We will do so, through the work of the PhD on 'research through design' methods.

Recommendation: *Put further emphasis on the use of the agent-based models.*

LSP Response: We will invest in this stream of research and also in its relationship with other 'digital twin' simulations on the future effects of planning and design decisions. As such, these methods will also be part of the efforts in transdisciplinary research and research through design.

Recommendation: *Train supervisors to see it as their task to guard that PhD students do not do too much work, so that they stay on track.*

LSP Response :This has not been stated as a major issue in the report, based on the interviews with the PhD/ PD employees but we will definitely keep monitoring the relationship between effort and outcome.

Response of Soil Science Cluster (SSC) to recommendations assessment committee

Executive summary and main recommendations

The **Soil Sciences cluster** is one of the top research and student education centers of excellence globally in soil science. The committee finds that the cluster has a clear and fitting mission. As with the CWS cluster, the intended future destination is less clear. By leading a number of large international projects over the past six years, the Soil cluster has demonstrated its ability to act as initiator of multidisciplinary and transdisciplinary projects with scientists, governmental institutions, land user associations, farmers, NGO's and other relevant stakeholders. These and other projects have resulted in many highly-quality publications that are often used by researchers within the field. The globally leading position of the Soil cluster and its strong relationships with the Dutch government, the EU and UN bodies places it in a uniquely strong position. It could and should, in the committee's view, deploy leadership activities that could build on this position. The committee got a very favorable impression of PhD supervision in the Soil cluster. It sensed a true feeling of excitement about the future. This will be a powerful motor.

Main Recommendations

Recommendation: *Embark on a dedicated collective effort to set priorities and operationalize indicators and processes to assess how things are developing. This will help you to get a stronger grip on the future and reinforce international leadership. Be ambitious on societal impact.*

SSC Response: We warmly welcome the encouragement of the evaluation committee to reinforce international leadership and be (even more) ambitious on societal impact. The recommendation will be implemented by encouraging each of the five research lines to identify a priority research topic with societal importance and urgency and take collaborative action to seek funding on this topic. To identify these priorities, research lines and the soil cluster will team up with relevant national and international stakeholders to develop targeted approaches to achieve societal impact. Chair holders and the research lines leaders will organize an internal mid-term evaluation meeting to reflect on the development and success of each research line, and identify and discuss problems or obstacles encountered, if any. In addition, we will regularly invite prominent (inter)national researchers to discuss their work at our cluster, both in formal and informal setting.

Recommendation: *Affirm your international stature by publishing a strategic paper on the role of soils in the UN's sustainable development goals.*

SSC Response: We gladly accept this challenge and aim to prepare such a paper before 2024 authored by the respective chairs and research line leaders.

Recommendation: *For inclusion, safety and equality, do not solely depend on an open culture but have some mechanisms in place that safeguard these aspects.*

SSC Response: From the soil cluster we support the development of these mechanisms at research school and university level. In addition, the soil cluster itself aims to provide an inspiring, safe, and internationally oriented working environment, embracing staff and students from diverse backgrounds, based on fair and equal treatment principles to ensure inclusiveness. Potential mechanisms to safeguard these aspects will be explored by the soil science cluster.

Recommendation: *Install targeted measures to encourage the promotion of females and internationals to the higher-ranking functions of associate and full professors.*

SSC Response: We strongly support diversity of staff, as we believe the quality of research and education benefits from it. The soil cluster has made tangible progress on diversity in attracting new staff and appointing research line leaders in the soil cluster. We strive to make a similar leap in promotion of females and internationals to higher-ranking functions in coming years.

Recommendation: Guard the balance in the ratio between PhD candidates and experienced staff, in order to keep up PhD supervision at the present high level.

SSC Response: We welcome this suggestion, and already support our staff to disregard the incentives of the present tenure track system regarding the number of PhD candidates that experienced staff should supervise. The tenure track system and evaluation criteria are being amended in line with the 'recognition and rewards' guidelines of UvN. We support and encourage this transition, and expect it to resolve the issue with regard to PhD supervision targets and also enhance acknowledgement of teamwork and societal impact.

More detailed assessment

Open science

The committee sees evidence of a strong ethos and commitment to FAIR principles for data management, and an acknowledgement that there is more to do on this front. The FAIR principle is not fully adhered to yet in publishing research data. The committee recommends the cluster to act accordingly and strive for further progress towards full open-access publishing and FAIR data management.

To increase awareness and enhance skills on FAIR data management and publishing in environmental sciences, a course will be developed for PhD candidates and staff. This course is an initiative of Soil Cluster staff in collaboration with graduate schools and the WU library.