6. ASSESSMENT OF THE CLUSTER LANDSCAPE ARCHITECTURE AND SPATIAL PLANNING

6.1. Organisation

The following chair groups are involved in the cluster Landscape Architecture and Spatial Planning (LSP):

- Landscape architecture
- Land use planning

In total, the cluster contained 14 academic staff members (in fte's), of whom 6 are PhD candidates and 4 are postdoctoral researchers on December 31, 2020. The number of fte's translates into 39 individuals that work at the LSP cluster.

The cluster originated in 2018 from two separate chair groups that were both considered to be too small to be viable. The cluster reported that at that time, satisfaction and motivation among the staff were low, due to high teaching loads, structural financial deficits and unstable leadership. With the appointment of two new chairholders in 2019 and 2020 however, it gained new vigour and entered into a much more prosperous and optimistic phase. Due to successful acquisitions of research funding, it almost doubled in size.

6.2. Aims and strategy

The LSP cluster studies how modifications of landscapes contribute to the quality of life of those inhabiting the landscapes. It focuses on the interactions between different types of land use and landforms, the interplay with the abiotic context, the spatial behaviour of species and the plurality of stakeholders. The cluster aims to devise sound and creative solutions for optimal land use, based on empirical analyses, model-based simulations and ethical and esthetical considerations. In doing so, it addresses some of the most urgent societal problems of our time, such as climate change, biodiversity decline and loss of environmental quality.

The LSP research covers all three Grand Environmental Challenges identified by WIMEK: Climate action, Managing our future biosphere and Advancing circular systems.

LSP focusses on three main research themes:

- Climate action in terms of mitigation and adaptation measures that influence landscapes;
- Transitions in the countryside related to agricultural and nature policies, market developments and demography;
- Urban developments and mobility related to economic activities, housing, public space and infrastructure.

Since its start in 2018, the cluster has developed its own 'landscape approach'. The core quality of this is that it collects and integrates knowledge from various disciplines (such as hydrology, meteorology, soil science, economy and environmental psychology) and translates this knowledge into solutions for current and future landscape problems. To make such solutions practical and feasible, the cluster integrates scientific knowledge with more specific, sometimes tacit, knowledge of local situations. Methods used by the LSP cluster include landscape analysis, discussion of value systems, and generation of transformative knowledge about instruments that can bring about landscape change. The cluster employs researchers with varying scientific backgrounds: landscape architects, spatial planners, ecologists, geographers, sociologists, public administration scientists, urban designers, engineers and environmental economists.

The committee finds the LSP cluster's mission well-articulated, unique and addressing topics of high scientific and societal relevance. In the period under review, the LSP cluster has acquired substantial research funding. This has been an unprecedented success in the history of the two groups, that has brought about substantial growth in and

rejuvenation of staff. The committee fully agrees with the cluster that after this renaissance and period of fast growth it would now be a good idea to consolidate. In the committee's view, the cluster should identify its unique selling points and develop new strategies to reach its goals. Taking a step back like this will safeguard group coherence, keep the cluster resilient and help it retain control. Growing at too high a pace may subject it to external dynamics and prevent it from charting its own course.

As with other landscape architecture and spatial planning schools, the LSP cluster has originated from a tradition of educators of landscape architects and spatial planners. It is therefore rooted in a holistic, practice-oriented approach, strongly connected to landscape professionals. Such an approach can be very innovative and may generate solutions to societal challenges, and inspire trained professionals. At the same time, academics with a wide, interdisciplinary and practice-oriented portfolio have difficulties attracting research funding. In addition, interdisciplinary research is time-consuming and risky, since more effort is required for researchers to find a shared language and epistemology of their field. The committee recommends to redirect funding from the separate chair groups towards a more centralised mechanism within the cluster, to stimulate collaboration across clusters, sharing best practices on how to actually do interdisciplinary research, organising seminars and instituting advisory roles to stimulate interdisciplinarity in research projects.

6.3. Research Quality

The committee observed that research quality of the cluster has improved significantly in the past couple of years, and that the size and strength has been increasing with the hiring of many PhD students, postdocs and tenure track researchers, leading to a doubling of research output in recent years. The Landscape Architecture chair group is currently considered to be a top school in its field, with a high-quality output. Topics addressed are highly relevant and published in international journals that are respected by researchers in the field. They are often used by peers, as demonstrated in citation metrics provided by the cluster.

The Land Use Planning chair group successfully repositioned itself towards the many environmental challenges and the fierce competition for space in the Dutch countryside. It is now reaping the fruits of that move, being the only large Dutch planning group that is equipped to address these challenges. The committee is impressed by these recent achievements, that bear witness to ample talent and high energy within the cluster. Besides successful project acquisitions the cluster has recently also brought up methodological innovation and novel solutions to present landscape and land.

In its self-evaluation report, the LSP cluster mentions that due to its special profile as an applied science, it does not solely focus on research publications as output. According to the committee, the publications that the cluster does produce are however often of pivotal character: directed towards theory building, outlining applied approaches and new positions on transdisciplinary research. Examples are the papers 'Design makes you understand - Mapping the contributions of designing to regional planning and development' and 'Assessing the influences of ecological restoration on perceptions of cultural ecosystem services by residents of agricultural landscapes of western China'. The cluster is also internationally leading in the application of the methods 'research through design' and 'agent-based modelling'.

The cluster's transdisciplinary approach – which integrates knowledge from multiple disciplines into research that contributes to transformations in real-world situations – is well-timed and essential in order to deal with the urgent challenges to land use and landscape architecture. Research on experimental virtual environments and agent-based modelling are particularly promising routes for the future, in the committee's view. The integration of landscape analyses, value systems and knowledge of instruments that can bring about actual landscape change (such as landscape designs, spatial plans and spatial policy instruments) is an equally important route. In this context, ethical issues and issues related to cultural values such as heritage are of particular significance.

In conclusion, the committee finds that recent developments at the cluster are very promising. It sees many opportunities for further scholarly work that is conceptually as well as methodologically trendsetting in an international context. LSP is already highly recognised in the field and successful in acquiring EU funding. The committee is optimistic about the cluster's ambition of gaining more academic recognition. To this end, the cluster might consider collaborating with other research clusters within WIMEK, such as CWS and Soil, that both adopt a landscape approach in some research lines. In particular, the collaboration with CWS could be very interesting. Integrated management of water requires a nexus approach and, in the end, an integrated management of landscapes. The LSP cluster could take the leadership in defining new collaborative research lines, as knowledge integrators and process designers, promoting the landscape approach as key to sustainability and resilience.

LSP mentions in its self-evaluation report that it could strengthen the methodological side of the research. The committee agrees with this observation. Such strengthening could involve more use of predictive modelling, parametric design and agent-based modelling, artist research and the use of the WUR visualization lab.

In order to capitalize on its strength and identity as a 'projecting and transforming' research cluster in competition with other disciplines, the committee further recommends that LSP should document its work in at least two key publications: one on conceptual foundations and another on the methodological mixed methods approach. The paper on conceptual foundations should review the concepts on which quantitative and on which qualitative assessment of landscapes are built and develop a framework how such concepts can be integrated in a mixed methods approach to combine the strengths of both aspects. Both papers should include a review of the state of the art and highlight why and how the LSP approach is at the forefront of an emerging research domain and practice of landscape research and management. Such papers could provide foundations for further scholarly work in which applications are documented and analyzed and the effectiveness of different methods is compared. Thus far, a more systematic comparative case study analysis has often been lacking in the field on learning and transformative change in social-ecological systems. It remains unclear why certain tools or process designs have proven to be successful, and others remained unsuccessful. The LSP cluster could make a difference here. Furthermore, it could increase its visibility in the Netherlands and outside by organizing international conferences on selected topics that are at the heart of its expertise.

6.4. Societal Relevance

The strongest evidence of the LSP cluster's societal relevance – as put forward in its self-evaluation – is the fact that it brings about actual landscape transformations. Examples are the codesign of a community garden in Arnhem in 2015, the Green Quays in Breda, that are currently built as a pilot, and the implementation of three energy gardens in Assen, Montfoort and Wijhe. Another example is that the current government-formation process in the Netherlands is informed by a formal policy advice about reinforced spatial planning in the Netherlands, of which one of the cluster's staff members was a prominent author. Evidence of the strong collaboration with various societal partners can also be seen in the cluster's project portfolio. The committee finds this evidence of high relevance quite convincing. It adds that the cluster's participation in the international, European and national organisations also makes it impactful, as does the output for professional and societal target groups, policy support and advice to practitioners.

Given the strong applicational focus of its work, it seems legitimate to the committee that the LSP cluster may strive to become agenda setting in policy communities, both national and international. It recommends analyzing ongoing processes and networks carefully, as a base for identifying the cluster's unique selling points, setting priorities and selecting a few key opportunities to maximize societal impact.

The committee recommends putting further emphasis on the use of the agent-based models, since this seems a promising approach to acquire relevant information on societal interactions when real-life experiments are not

possible or suitable. The cluster could consider collaboration with computer scientists and statisticians to develop the method further, or any alternative innovative research approach with potentially high policy impacts.

Open science
It is clear to the committee that the LSP cluster puts a strong emphasis on transdisciplinary projects, with broad participation of citizens, local authorities, politicians, NGOs, farmers and other local commercial parties; and that it embraces the cooperation of academia, government, companies and civil society. Most of its projects are conducted in co-creation and embedded in real-life environments or living labs. In addition, the cluster set up learning communities that extend beyond the projects' core teams. It also embraces the training of PhD's in cooperation with practice partners in the context of industrial doctorates, as a way to disseminate its scientific approach. The committee finds these practices exemplary, to the extent that they could inspire other research units.

The committee found that there is a good level of engagement with the public within the LSP cluster. Its research output gets a lot of attention in social media, news outlets, policy documents, etc. Putting in effort to intensify this media outreach even further seems worth the energy. The problems and solutions the LSP work on are not very tangible. Being able to explain in crystal clear terms what a landscape approach is and why it is needed, is therefore key.

The share of open access publications by the LSP cluster has increased from 23 % in 2015 to 77 % in 2020. This is a remarkable achievement. The committee encourages LSP to keep investing in open science, with the aim of making all publications open access. It also recommends to keep investing in FAIR data sharing whenever possible.

6.5. Viability

Future outlook
Development of innovative concepts and methods concerning landscapes is currently in high demand, both from the scientific and the policy communities. It is often advocated but hardly ever accomplished. In this context, the committee is of the opinion that integrating functional aspects of landscapes with aesthetic and ethical dimensions in transdisciplinary processes – LSP's core business – is a promising approach to developing transformative knowledge. The cluster is therefore in an excellent position to do innovative and internationally highly visible research. As WUR now in general is moving away from a purely quantitative research evaluation system this will be in favour for the LSP and increase its recognition within the university.

Academic culture
The remarkable success in recent years suggests an open and collaborative environment. Indeed, during its discussions with the staff – and in particular with the PhD's and postdocs – the committee perceived a strong cluster identity, that transcends chair group identity. Bearing in mind that many of the LSP researchers are relatively new to the cluster and in spite of the COVID situation that has limited physical meetings in the recent past, this is truly worthy of a compliment.

The committee did not find any information on research integrity. Setting clear goals in this area for the training of junior as well as senior scientists might help ensure that research integrity is achieved in all domains of research.

Talent management
The open and collaborative atmosphere that the committee encountered at LSP indicates good talent management. The cluster describes that overall growth in the number of PhD students and postdocs has given rise to new dynamics. Now that there is a group of about 25 PhD students and postdocs, they started organizing meetings and forums to actively exchange ideas and challenge and motivate each other in their daily work. The cluster is perfectly right in cherishing this coherence and prioritizing the building of social capital over further expansion of the cluster, in the committee's view.

Developing a system of mentoring and setting out clear career policies could well be a future priority. Postdocs noted towards the committee that they do a lot of educational work, which is not properly considered while their progress is being evaluated. Improving the evaluation criteria was one of their recommendations. The new system of performance assessment that is currently in the making at the WUR will suit the cluster quite well and should feed into the tenure track targets as soon as possible.

Diversity
The LSP cluster is a diverse community in terms of gender as well as age, nationality and scientific background. This diversity is essential for fulfilling its complex tasks.

6.6. PhD training and education

All PhD students at LSP are members of a graduate school (WIMEK, Wageningen School of Social Sciences or the graduate school for Production Ecology & Resource Conservation) and follow the corresponding training and supervision plans. All supervisors are requested to follow a course on PhD supervision. All PhD students are invited to present on a regular basis in the monthly cluster meetings. Otherwise, the committee found no evidence of quality assurance, so that may be a point for future development.

In their discussions with the committee, the PhD candidates gave the impression of being satisfied with the supervision and support they received and sharing a positive 'group feeling'. It is commendable, in the committee's view, that supervisors at LSP see it as their task to guard that PhD students do not do too much work, so that they stay on track. In line with these comments, the WIMEK-wide issue of long PhD trajectories seems not to be an issue at LSP and was not recognized as such by the interviewed PhDs and postdocs.