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ORIGINAL PAPER

How practitioners negotiate and balance their goals for regional sustainability transformation in collaborations with universities

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Abstract Complex regional sustainability problems require the engagement and collaboration of diverse actor groups, introducing their specific competencies and resources. In this context, transdisciplinary regional partnerships between universities and non-academic stakeholders can play a crucial role for co-producing adequate solutions. However, the perspectives and needs of practitioners—non-academic stakeholders from business, politics, and civil society—in such partnerships remain underexplored. This study therefore shifts the focus to practitioners, addressing two core questions: (1) What do practitioners aspire to and require when they cooperate with universities to promote sustainable regional development? (2) What is their view on sustainable regional development and how does that relate to the

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views of university researchers? Using Eberswalde University for Sustainable Development as a case study, we analyse two transdisciplinary regional transfer projects to explore the motivations and expectations of practitioners as well as the dynamics in these collaborations. The findings reveal that practitioners value trust, clear communication, and immediate outcomes and benefits as well as long-term institutionalised cooperation. The study shows that practitioners are willing to negotiate with university partners the conception of regional sustainable development and to contribute to the regional common good, if the cooperation takes their interests and the regional context into account. Key success factors identified include: (1) fostering trust through bottom-up, locally embedded initiatives, even if they require adapting sustainability goals; (2) using organisational structures such as advisory boards to separate operational decision making from substantive negotiations; and (3) establishing long-term intermediary structures to sustain partnerships beyond single projects.

Keywords Sustainable regional development · North-East Germany · Sustainability transfer · Engaged university · University of applied sciences · Transformative science

Classification code (JEL) O18 · O30 · Q01 · R11

1 Introduction

Sustainability challenges encompass social, economic, environmental, technological, political, and cultural dimensions, often surpassing the problem-solving capacities of single institutions such as governments (Myers and Kent 2008). In response, many universities have adopted what Trencher et al. (2014) describe as 'co-creation for sustainability', which involves collaborating with diverse social actors to drive societal transformations. This approach emphasises the university's role as a facilitator of change, actively engaging with external stakeholders to address complex, real-world problems.

The different sectoral logics mentioned above converge spatially in regional settings that reflect global sustainability challenges in specific contexts. Therefore, the 'region' seems to be an adequate realm within which universities can engage with their third mission activities and where they can contribute meaningfully to innovation networks and institutional settings, efficiently utilising their resources and competencies (Çınar 2022; Çınar and Coenen 2023; Nieth and Radinger-Peer 2023). The contributions of universities to regional sustainable development have increasingly become a focus of research over the last decade (Pflitsch and Radinger-Peer 2018; Pflitsch and Strambach 2018; Schiller et al. 2020). Such university activities are in line with the principles of transdisciplinarity, which advocate for equitable collaboration among academic and non-academic partners, jointly framing problems, formulating questions, co-designing projects, and co-producing knowledge (Defila and Giulio 2016; Lang et al. 2012).

Despite growing recognition of university–practitioner partnerships, existing research often prioritises the university perspective, with only a few exceptions considering the practitioners' perspectives (Compagnucci and Spigarelli 2020; Prantl et al. 2023; Vizenor et al. 2017). This emphasis on academic viewpoints leaves a significant gap in understanding the practical realities, motivations, and expectations of non-academic actors who play pivotal roles in these partnerships. Moreover, empirical knowledge and a systematic conceptualisation of practitioners' perceptions of cooperation with universities and their perspectives on the related interfaces is a prerequisite for developing and implementing productive transdisciplinary collaboration for regional sustainable development.

This study shifts the focus to practitioners—defined here as non-academic stakeholders from business, politics, administration, municipalities, and civil society—who collaborate with universities on sustainable regional development. It explores the motivations, needs, and normative goals of these actors, addressing the following questions:

- What do practitioners aspire to and require when they cooperate with universities to promote sustainable regional development?
- What is their view on sustainable regional development and how does that relate to the views of university researchers?

These questions target the practitioners' goals, motives, and capacities and also explore how they perceive the structure, organisation, and quality of their interactions with universities. These aspects shape the partnership dynamics and the overall success of collaborative efforts. Understanding this practitioner-oriented perspective better is crucial for recognising and understanding the wishes and needs of regional stakeholders in order to design responsive university–practitioner partnerships navigating the tensions between the individual interests of the involved partners and productive regional cooperation. Blind spots regarding the logic underlying practitioners' actions hamper efforts to align goals and effectively harness stakeholders' resources for regional sustainability.

In the following section, we review the literature on the perspectives of practitioners collaborating with universities. Section 3 outlines our research method. Section 4 provides context for our case study, describing the regional setting, Eberswalde University for Sustainable Development (Hochschule für nachhaltige Entwicklung Eberswalde, HNEE), and the two regional transfer projects analysed. The results, presented in Sect. 5, highlight stakeholders' views on the collaboration and differing perspectives on sustainable regional development. In Sect. 6, we discuss the challenges and factors that contribute to the success of practitioner–university partnerships from the perspective of practice partners, despite conflicting views on sustainability. Finally, Sect. 7 draws conclusions on requirements for productive partnerships and on how to organise responsive collaboration for regional sustainability transformations in peripheral regions.

2 Literature review and conceptual approach

Practitioner–university partnerships generally aim to tackle societal problems, and encompass a wide range of collaborative endeavours and formats, such as knowledge and technology transfer, community-based research and projects, science–policy interfaces and policy advice, service-learning, or citizen science (Strier 2014; Nölting 2024). Such partnerships involve diverse non-academic stakeholders, including the business sector, policy, administration, civil society, and individual practitioners as well as university members, and are embedded in a broad range of regional settings. In order to structure our research approach, we first make our understanding of (regional) sustainable development transparent, and then review the prior research concerning practitioners' perspectives on partnerships with universities, and finally reflect on the challenges and possibilities for defining common goals and interests between practitioners and universities.

2.1 Conceptualising regional sustainable development

As the reference to sustainable regional development is a central aspect of the analysis, we make our notion of sustainability for this paper explicit. Sustainability is a broad, normative concept that is socially contested (Hopwood et al. 2005). The Brundtland Commission defines sustainable development as "... development that meets the needs of the present without compromising the ability of future generations to meet their own needs" while emphasising "in particular the essential needs of the world's poor" (WCED 1987, p. 41). This definition highlights the inherent value of inter- and intragenerational justice and, moreover, that social and economic needs have to be met within planetary boundaries (Richardson et al. 2023). This definition provides an orientation framework for a pluralistic understanding of sustainability, within which cooperation partners can and must jointly negotiate what they specifically understand by sustainable regional development in their context of action (Vogt and Weber 2020).

Achieving sustainability requires aligning diverse stakeholder goals, fostering long-term thinking, and co-creating solutions that promote ecological integrity, economic resilience, and social equity (Wittmayer et al. 2018). With focus on the regional level, Schiller et al. (2020, pp. 132–136) operationalise regional sustainable development along the four *substantive elements* of durability, integration, participation, and distributive justice. This reflects the complexity of regional sustainability within a specific context and actor constellation, resulting in conflicting institutional demands for regional actors such as universities (Çınar and Coenen 2023).

In order to deal with the complexity of a holistic understanding of regional sustainability and to conceptualise it for our investigation on practitioner–university partnerships, we refer to the quintuple helix framework (Carayannis and Campbell 2010). It extends the traditional triple helix—university, government, industry cooperation (Etzkowitz and Leydesdorff 1997)—towards a quadruple helix including the "media-based and culture-based public" referring to civil society and including different value systems (Carayannis and Campbell 2010, p. 51). In line with the concept of sustainability the "Quintuple Helix finally embeds the Quadruple Helix

(and the Triple Helix) in context of the environment" (Carayannis and Campbell 2010, p. 61–62).

While the commercialisation of academic knowledge plays a central role in the triple helix, the quintuple helix embeds economic, socio-cultural and environmental activities and collaboration of universities in an overarching societal and ecological context. This model frames practitioners and academic partners of such collaboration as knowledge producers and knowledge users "enabling a mutual cross-learning of different *'knowledges'*" (Carayannis and Campbell 2010, p. 57). Even though we focus in our empirical survey (expert interviews) on stakeholders of the triple helix—university, government, business—we conceptually broaden our research perspective to depict different understandings of sustainability for which the triple helix would be less suitable (e.g. Eberswalde University understanding of sustainability described in Sect. 4.2). Also, by referring to the quintuple helix "as a frame of reference [...] in connection to knowledge, innovation and the (natural) environment" (Carayannis and Campbell 2010, p. 62), we incorporate the common good and a comprehensive perspective on regional sustainability transformation beyond the public and economic sphere which is reflected in our codebook (see Sect. 3 methods). Further, we include intermediaries as interviewees who act as knowledge brokers and foster mutual learning processes in regional actor constellations and, in addition to their organisational and sectoral interests also take into account the interests of the regional common good as a pick-up context for knowledge users (Nagy et al. 2020).

2.2 Stakeholders' perspectives on facilitators, barriers, and supporting mechanisms

Few empirical studies have analysed the practitioner perspective of practice–university cooperation (Compagnucci and Spigarelli 2020; Prantl et al. 2023; Vizenor et al. 2017). Existing research often focuses on service-learning partnerships characterised by short-term (student) projects with local partners integrated in teaching (Prantl et al. 2023), whereas the present study investigates long-term collaborations in transdisciplinary research and development projects, i.e. research activities that focus on a community-generated concern or need (Karasik 2020).

The research literature points to several organisational and operational aspects that are relevant for practitioners in their cooperation with universities. Practice partners benefit economically and socially from collaborations with universities, gaining access to scientific expertise, additional human resources, innovative methods, new perspectives, motivation, and enhanced visibility and impact (Gazley et al. 2012; Karasik 2020; Preiser-Houy and Navarrete 2006; Vizenor et al. 2017). For instance, Vizenor et al. (2017) report that more than 95% of community partners implemented some student-provided recommendations, with 39% citing completely new insights, and 80% indicating significant impacts on their organisations. Practitioners use collaboration outcomes to develop strategies, create marketing plans, or improve internal operations. McReynolds (2014) and Souza (2007) similarly highlight mutual benefits in community–university partnerships, though communication challenges are noted. Free services and enhanced visibility are additional benefits

frequently identified (Preiser-Houy and Navarrete 2006; Bell and Carlson 2009). In one of the very few quantitative studies, Prantl et al. (2023) find that practitioners often view partnerships with universities positively, describing academic partners as competent, benevolent, and trustworthy. However, there is a large variety in their data, indicating that some practitioners have reported less positive experiences.

Barriers to such collaborations are also reported, such as misaligned goals and interests, differences in working cultures and time horizons, as well as power imbalances (Christopher et al. 2008; Davey et al. 2018). For example, practitioners tend to seek immediate, practical solutions, while universities may prioritise theoretical contributions and academic rigor (Riger 2001). Community partners may feel pressured to participate or powerless to address issues (Karasik 2020) risking their relationships and reputation with their constituencies (Afshar 2005). Partnerships lacking shared understanding or clear sustainability goals can exacerbate these tensions, particularly in rural and peripheral regions where institutional capacity, economic constraints, and scientific resources are limited (Çınar 2022; Schiller et al. 2020). Prantl et al. (2023) find that some practitioners report limited knowledge gains and no financial benefits, highlighting the heterogeneous nature of such collaborations.

Trust and mutual respect are critical in overcoming these barriers (Frerichs et al. 2017; Hoinle et al. 2021). Long-term relationships built on trust facilitate deeper engagement and meaningful collaboration. Trust-building and relationship development require transparency, consistent communication, and fair distribution of costs and burdens with respect to revenues and benefits (Schäfer et al. 2019). Effective partnerships often feature clearly defined roles, ongoing communication, flexibility, and co-planning (Sandy and Holland 2006). Practitioners acknowledge power imbalances but may accept these if universities lead processes effectively, expecting sufficient reciprocity (Alcantara et al. 2015; Karasik 2020).

Co-design and co-production can enhance partnership effectiveness through the integration of practical knowledge, 'tacit knowledge', and the positions of those affected. These approaches foster equitable involvement of practitioners, allowing them to contribute their contextual knowledge and ensure that collaborative projects address their specific needs and aspirations (Alcantara et al. 2015; Christopher et al. 2008). Practitioner–university partnerships can make tangible contributions to sustainable development, such as prototypes, projects, technologies, or concepts, as well as strengthening key competences among all participants, through joint learning processes (Nölting 2024).

2.3 Alignment of goals between practitioners and universities

A key concern in practitioner–university partnerships is the alignment of goals between the actors. This has both conceptual and strategic implications, particularly in the context of normative objectives such as sustainable regional development. While both practitioners and universities generally seek reciprocal benefits—such as enhanced competencies, visibility, and access to resources (Prantl et al. 2023)—deeper normative differences can emerge, particularly when defining and prioritising sustainability outcomes for the regional (pick-up) context (Nagy et al. 2020). For example, an EU study finds "the willingness to impact society through collaboration

is not considered as a motivation by German businesses" (Davey et al. 2018, p. 5). In order to make the strategic orientation of practitioner–university partnerships transparent, cooperation partners can describe explicit sustainability goals for their concrete transfer activities and their desired sustainability impact (Nölting 2024). Understanding how partners negotiate these goals is essential for managing partnership dynamics.

One approach to analysing this negotiation of goals involves the various roles that universities can adopt in regional development processes and in sustainability transfer activities, or that are ascribed to them by practitioners. In this regard, Gunasekara (2006) and Fonseca (2019) highlight the potential of universities as "honest brokers". Since practitioners do not view universities as rivals or competitors in their field of activity, universities are uniquely positioned to promote networking and collaborative approaches grounded in mutual trust, and monitor progress in regional development. Trencher et al. (2013) identify six roles universities can assume in the co-creation of sustainable solutions:

1. inventor/innovator,
2. revitaliser/retrofitter,
3. builder/developer,
4. director/linker,
5. scientific advisor/communicator, and
6. facilitator/empowerer.

These roles underscore the diverse ways in which universities can contribute to sustainability efforts beyond traditional academic functions.

This study aims to bridge the research gap described above by examining the specific expectations, motivations, and aspirations of practitioners. By focusing on the perspectives of regional stakeholders, it seeks to uncover the connectivity issues and goal alignment challenges inherent in practitioner–university partnerships for sustainable regional development. Based on the current state of research, we derived analytical categories for the empirical research that address organisational and operational aspects such as benefits for the partners, expectations and success factors, and challenges and problems on the one hand, and content-related categories such as the understanding of sustainability on the other (see Codebook in the Online Supplementary Material). This approach not only brings the often-overlooked practitioner perspective to the forefront but also provides valuable insights for strategic engagement for regional development. For sustainability-oriented organisations, understanding these dynamics is crucial for enhancing their ability to effectively collaborate with diverse partners and institutional demands as well as advance their mission to foster regional sustainability.

3 Material and methods

To address our research questions, we conducted a case study that is initially descriptive, to shed more light on the perspectives of practice partners. Following Marshall and Rossman (2016) we also explored the complex dynamics of practi-

tioner–university cooperation, focussing on the motivations and aspirations of practitioners.

We focused on the project level, where exchanges and negotiations between practitioners and university take place. Regional stakeholders—such as intermediaries, development agencies, coordinators of innovation networks and regional policymakers, as well as the university's management—typically provide a framework but do not directly implement transfer projects. Our study examined two large transdisciplinary projects involving Eberswalde University in northern Brandenburg: "Region 4.0" and "InNoWest" (see Sect. 4).

We conducted twelve semi-structured interviews in October/November 2023 and September/October 2024 with nine practitioners and three university researchers, guided by our interview protocols (see Table 2 in the Appendix). Participant details are provided in Table 1 in the Appendix. Data saturation was reached with the eleventh interview, in line with Hennink and Kaiser's (2022, p. 6) concept of "code frequency counts", where successive transcripts yield diminishing new codes until "few or no more codes are identified." As Bryant and Charmaz (2007, p. 611) point out, saturation occurs when further data gathering provides no new theoretical insights or properties. The interviews, lasting 15–68 min, were conducted via video calls by two researchers and then transcribed and manually coded using MAXQDA 2020 software. All interviews were conducted in German, and quoted passages presented herein were translated by the authors. We triangulated data through document analysis (e.g., research proposals) and insights from colleagues involved in the projects, although time and staffing constraints limited further triangulation.

Our analysis employed a combined deductive–inductive coding approach, integrating elements of both conventional and directed content analysis (Hsieh and Shannon 2005). Deductive categories were derived from theoretical frameworks and relevant literature (Sect. 2), while inductive categories emerged from the interview data (see Codebook in the Online Supplementary Material). Consistent with Gläser-Zikuda et al.'s methodology (2020), coding was conducted collaboratively by pairs of coders to ensure inter-subjectivity and to enhance the stability, replicability and accuracy of the coding process.

4 Regional and university context of the case study

We will address the two research questions through an empirical case study of Eberswalde University for Sustainable Development (HNEE), a small university of applied sciences located in a peripheral and predominantly rural region of northeastern Germany. In order to contextualise the case study, we delineate the regional setting of northern Brandenburg's rural peripheral region and portray the HNEE operating within this context. Within this setting we then describe the two case study projects.

4.1 Northern Brandenburg: a peripheral rural region in transition

In sharp contrast to the metropolitan region of the "capital region Berlin–Brandenburg", northern Brandenburg is classified as a peripheral rural region, marked by distinctive characteristics such as low population density, demographic decline, limited public infrastructure, economic fragility, and a deficiency in innovation networks (Senatsverwaltung für Stadtentwicklung et al. 2023). Brandenburg and the other regions of the former East Germany (GDR) have witnessed profound structural changes since German reunification in 1990, which, coupled with global economic shifts and European integration, have led to fragmented development (Landesregierung Brandenburg 2023). The region's economy is characterised by SMEs, with a few large companies significantly impacting the region's economic development, including electric vehicle production (Tesla) at Grünheide, and petrochemical refinery (PCK) at Schwedt, which now aims to reinvent its' core business, shifting to biofuels and hydrogen.

To address these challenges, regional economic policies aim to foster regional innovation systems (RIS), clusters, research and development, and knowledge transfer (WFBB 2023). Together with the state of Berlin, Brandenburg has set up innovation axes and regional nodes for growth to attract investors and support innovation and collaboration with knowledge institutions (see Fig. 1) (Der regierende Bürgermeister von Berlin and Landesregierung Brandenburg 2024; Ministerium für Wirtschaft and Arbeit and Energie (MWAE) 2024).

The lack of knowledge institutions in northern Brandenburg is a challenge for regional development, especially in comparison and competition with Berlin as an attractive centre of science. Efforts are being made to bridge this gap through the establishment of local bureaus ("Präsenzstellen") by Brandenburg's universities, fostering education, innovation, and collaboration with participatory networks and the implementation of a transfer strategy by the Brandenburg Ministry of Science, Research and Culture (Ministerium für Wissenschaft and Forschung and Kultur des Landes Brandenburg (MWFK) 2017). In conclusion, regional innovation initiatives in northern Brandenburg face challenges due to its peripheral rural nature, structural economic weakness, and the limited number of stakeholders. What, then, in this context, could be the role of a university for regional sustainable development?

4.2 Eberswalde University for Sustainable Development as engaged university

Eberswalde University for Sustainable Development has approximately 2300 students and 65 professors and is situated in Brandenburg about 60 kilometres north of Berlin. Originally founded in 1830 as forestry academy, the state of Brandenburg re-founded Eberswalde University for Applied Sciences in 1992 (following German reunification) with a focus on forestry, land management, and organic agriculture to contribute to rural economic development. In 2010, the university was renamed Eberswalde University for Sustainable Development (HNEE). HNEE has consistently developed its profile (HNEE 2021), and is one of Germany's pioneering universities in the field of sustainability (Azizi et al. 2018; Wissenschaftsrat 2024).

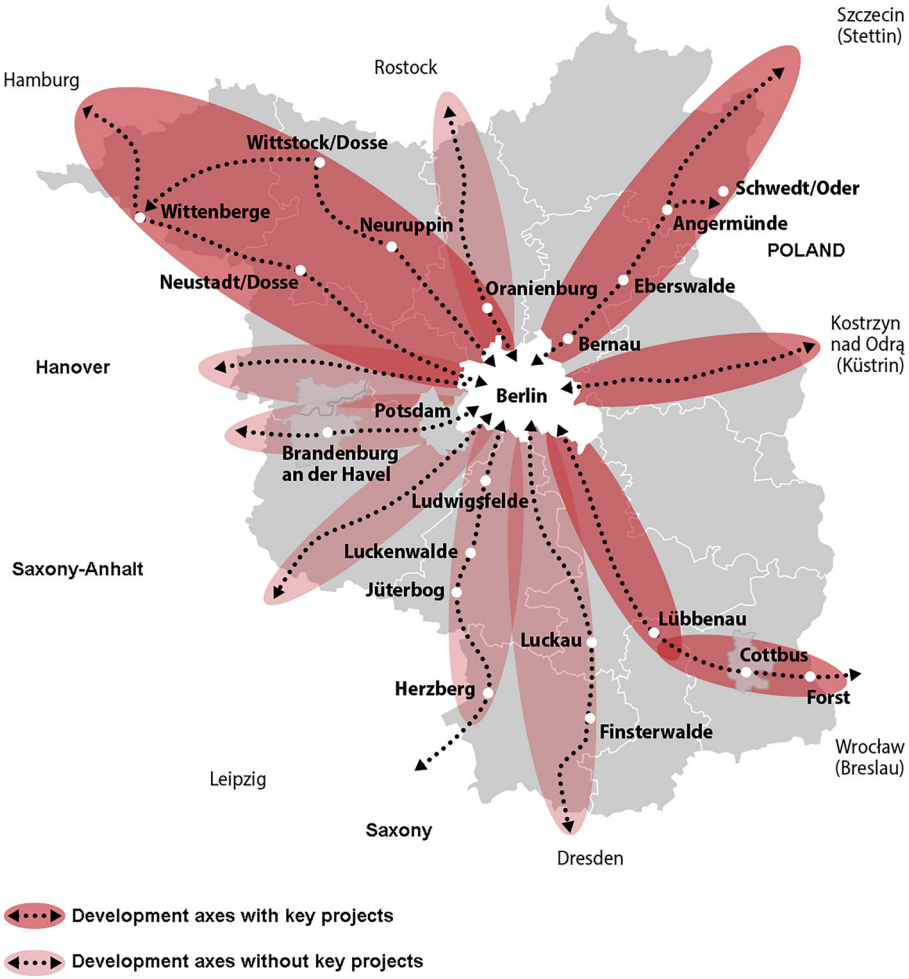

Fig. 1 Development and innovation axes in the Berlin–Brandenburg metropolitan region. (Der regierende Bürgermeister von Berlin and Landesregierung Brandenburg 2024; map legend translated by the authors)

HNEE's mission is to contribute to sustainability transformations in society and science (HNEE 2021). It focusses on application-oriented, transdisciplinary sustainability research approaches ranging from large international research networks to small regional transfer projects. HNEE has a systemic understanding of sustainability where sustainable ecosystems build the base for sustainable societies and economies (HNEE 2021). It emphasises the role of sustainability transfer in its transfer strategy and has developed transfer structures and support units such as a local office in the region in Schwedt ("Präsenzstelle") as well as a 'Technology and Innovation Consulting Office' (InnoSupport) that focusses on enabling effective knowledge transfer (HNEE 2020). Sustainability transfer is implemented via a wide range of formats in teaching, research, and third mission, driven by intrinsic motivation. Central to HNEE's sustainability transfer approach is the engagement of

practice partners from the full societal spectrum because dealing with sustainability problems requires diverse actor groups, beyond companies (Demele et al. 2021).

HNEE has initially cooperated preferentially with sustainability frontrunners nationwide, such as associations for organic agriculture or nature conservation, as well as enterprises with focus on sustainability often operating in market niches. However, regional policy urges HNEE to shift its focus more towards regional development and associated transfer activities (Ministerium für Wissenschaft and Forschung and Kultur des Landes Brandenburg (MWFK) 2017), cooperating with regional stakeholders such as (small and medium-sized) companies and municipalities for whom sustainability is not (yet) a high priority.

Against this background, HNEE is challenged to respond to regional actors' and stakeholders' motivations and aspirations in order to establish fruitful interactions at the regional level. Therefore, it must consider adapting its strategy—linking up with new partners and cooperating with a given set of regional stakeholders, intermediaries, and innovation networks that might be principally interested in cooperation with a scientific partner but do not necessarily share the university's mission orientation towards sustainability transformation. Such a change in strategy emphasises the importance of regional stakeholders and exemplifies the need to close the research gap described above.

4.3 Case study projects

The first project, "Region 4.0", is part of the Federal Ministry of Education and Research's funding programme "Innovation and Structural Change" under the "WIR! Alliance"; it will run from 2018 to 2025 and receive approximately eight million euros in public funding. This project focuses on enhancing regional identity and quality of life through innovative business and financing models as well as through participation and communication. It operates in the districts of Barnim and Uckermark in Brandenburg, as well as Uecker-Randow in the neighbouring state of Mecklenburg-Western Pomerania. Led by HNEE, the project involves multiple universities and practical partners, and focuses on three fields of action: agriculture and nutrition, services for the public and infrastructure, and nature-friendly tourism. One notable outcome of the project is the 'House with a Future' (Haus mit Zukunft) in the town of Angermünde, serving as a social hub for various civil organisations and connecting them to different university projects.

The second project, "InNoWest—Just do it!", is led by HNEE in collaboration with two other Brandenburg universities for applied sciences. It is funded by the federal-state initiative "Innovative Hochschule" (amounting to almost 15 million euros) and will run from 2023–2027. InNoWest supports transfer activities, and aims to foster sustainable development and digitalisation in north-west Brandenburg in cooperation with municipalities, SMEs, and civil society actors. Through research-based transfer activities, interdisciplinary teams develop prototypes for local sustainability solutions on the themes of digitalisation, rebuilding with wood, as well as education for sustainable development and participation, with a focus on scalability within the project region. While sustainable regional development is central to the project, no specific definition of the term is given.

Both projects use university support structures for transfer such as stakeholder management, and benefit from spaces for reflection and discussions between researchers on concepts, methods, and on how to deal with practitioners. The projects also develop their own transfer structures, including local offices, advisory boards, and overall coordination. In the Region 4.0 project, coordinators act as intermediaries between local governments. The institutionalised interfaces of the universities are perceived positively; however, researchers express a need for greater participation and involvement of practice partners during the application and initial phases (08_WIR_university, pos. 74, 77). Conversely, local authorities, companies, and civil organisations have their own networks. Mayors often initiate cooperation with universities. Researchers see inter-municipal networks as beneficial, with local companies serving as multipliers and intermediaries, facilitating university access to the region (04_In_university, pos. 22). Summing up, we detect several well-functioning networks, mostly at the municipal level, that provide benefits as an entry point, facilitator, and multiplier to university transfer activities.

5 Results: practitioners' motivations for collaboration, and divergence on regional sustainable development

This section examines practitioners' motivations for collaboration, their perspectives on benefits, expectations, success factors, and challenges, as well as their conceptualisation of regional development and sustainability.

5.1 Practitioners' motivations for collaboration

Practitioners cited access to additional economic and social resources, greater impact, new approaches, and innovative solutions as *motivations and benefits of cooperation*. The collaborations enabled the implementation of projects that would have otherwise lacked the necessary resources or skills (01_ In_municipality, pos. 29–30). Several interviewees emphasised the ability to secure funding through cooperation, with one practitioner suggesting that project budgets should directly benefit local partners (09_In, pos 28).

Practice partners gained knowledge and fresh ideas on how to tackle challenges. They argued that science can provide impetus for both concrete short-term projects and long-term regional development strategies. For example, one interviewee highlighted severe staff shortages in the public sector and expressed a need for external expertise, ideas, and suggestions to prevent projects becoming stuck in their own rut (10_In_county, pos. 37). Another practitioner shared how university collaboration has broadened their perspective: "*We had to learn that even the hard topic of technology has a social and civic dimension*" (05_WIR_municipality, pos. 13). Practitioners also valued the potential for increased visibility and influence, particularly through developing transferable models that could be implemented beyond their localities: "*The main task of universities is transferability. It should not be isolated to district X, but also applied in other parts of the country*." (02_In_economy, pos. 35).

Three interviewees stated that their organisations also collaborate as a means of enhancing graduate competences: "*There are a lot of young graduates in urban and regional development, who have a completely wrong idea of the practical work*" (01_In_municipality, pos. 35). The interviewees hoped that cooperation would help to update teaching content and instil an understanding of locally evolved behaviour among students. Additionally, one practitioner hoped collaboration could influence policy and legislation, citing declining reliance on expert knowledge in political decision making (02_In_economy, pos. 45).

5.2 Success factors

The interview partners identified common *success factors* in practice–university transfer, such as trust, clear and reliable communication, shared objectives, and the engagement of universities within the region. Successful Region 4.0 sub-projects exemplified trust-building through bottom-up initiatives or smaller interventions, which then evolved during project collaboration. A researcher also working for a civic organisation in the project enthusiastically described how the process fostered "*a shared culture of communication, values, collaboration, and so on*" (06_WIR_university_inter, pos. 63).

Trust often develops through personal relationships, with practitioners stressing the importance of having one consistent university contact to ensure continuity and understanding. This would enable projects to move on quickly, "*because you don't have to check and match each other*" (04_In_university, pos. 46). However, these relationships can be fragile, especially when they rely on individual actors rather than institutional structures.

Flexibility was also regarded as crucial for adapting to the evolving needs of projects, though this can be challenging due to the rigid structures of public funding. Practitioners appreciated responsiveness but recognised universities' challenges in overcoming bureaucratic constraints. One partner suggested that HNEE should establish an affiliated institute or a private entity to enable quicker and more flexible collaboration with industry partners on technological development (12_WIR_economy, pos. 21–23).

Preferences regarding the timing of collaboration varied. Practitioners generally prefer long-term partnerships. Some prefer early involvement in order to shape projects, while others favour joining after key decisions have been made, thereby avoiding lengthy coordination processes. Several interviewees expressed a preference for concrete project ideas from the university rather than being involved in open explorations, which they found resource-intensive (09_In_economy_inter, pos. 22). They even encouraged university partners to take a proactive approach in proposing ideas and solutions for regional challenges (09_In_economy_inter, pos. 41; 10_In_municipality; 11_In_economy, pos. 31).

5.3 Challenges in collaboration

Despite the mentioned benefits, practitioners acknowledge challenges in working with universities. One major issue was perceived power imbalances. Because univer-

sities often initiate the projects, they receive the funding and fill the project positions with their staff, while the practice partners have to contribute their own human resources. Practitioners sometimes feel that their expertise is undervalued or exploited, with one partner remarking that their knowledge had been "used up" in previous collaborations without sufficient recognition or reciprocity (09_In_economy_inter, pos. 22). Others raise concerns about time commitments and the difficulty of synchronising processes across institutions with different operational rhythms and priorities. Further, an interviewee highlighted that limited project funding hindered long-term cooperation and strategic planning for joint regional development efforts (10_In_municipality, pos. 43).

There are also divergent expectations concerning leadership. While some practitioners preferred universities to take a neutral, research-focused role, others wanted them to act as facilitators or even leaders. Frustration arose when universities were perceived as overly controlling, leading to conflicts. One interviewee recounted: "*There was quite a clash at the beginning ... Some appreciated our guidance, while others wanted more autonomy. We eventually organised ourselves more sociocratically*" (06_WIR_university_inter, pos. 24). Typical challenges, such as power dynamics partly addressed in the previous example, resource constraints, process synchronisation, and time commitments, are acknowledged although less frequently discussed, potentially due to the projects' pragmatic focus on transfer.

5.4 Contributions to regional development and negotiating the direction of sustainable development

The two transfer projects provide tangible and intangible contributions to regional (sustainable) development. A telling example is the 'House with a Future' initiative, which became a hub for community engagement and civic self-organisation, hosting activities such as a repair café and aikido classes. While the town only charged nominal rent for the building, it gained symbolic and cultural capital, reinforcing its identity as an innovative, open community: "*Town X gains a lot more from being known as an innovative, open place by having the 'House with a Future', which you can't put a monetary value on*." (06_WIR _university_inter, pos. 43–44).

Specific contributions include establishing a 'Town with a Future' (Stadt mit Zukunft) club, a start-up laboratory, and the creation of new value chains to foster innovation and resilience (08_WIR_university, pos. 29).

As explained in Sect. 2, a broad range of notions and ideas about *regional sustainable development* exist due to diverging—sometimes even conflicting—interests, values, and contexts. In the interviews, we identified five areas in which practice partners and scientists had different ideas and perceptions of sustainable regional development. We describe thematic discussions and content-related conflicts between practitioners and university actors and the attempts to negotiate them.

a) *Durability vs. socio-ecological transformation:* Both practitioners and researchers agree on the importance of durability and long-term orientation in regional development; however, their interpretations of sustainability differ. Practitioners prioritised financial and institutional durability, such as stable financing and knowl-

edge management systems: "*Sustainability means that something can be financed long-term and used continuously*" (01_In_municipality, pos. 70f.). In contrast, HNEE researchers advocated for broader socio-ecological transformation of the region, seeking to empower actors and foster environmental resilience in the region (08_WIR_university, pos. 10), in line with the university's ambitious mission statement (HNEE 2021).

b) *Technological vs. social innovation*: The project partners from both sides are challenged by reconciling diverging conceptions and strategies for providing sustainable solutions. Practitioners tended to emphasise technical solutions to climate and economic challenges, while researchers focused on social innovation and alternative economic models. However, one practitioner also mentioned the importance of social innovation for regional sustainable development (05 _WIR_municipality, pos. 35).
c) *Local heritage and embeddedness*: Both groups acknowledged the importance of local context and history in shaping regional development. Practitioners highlighted maintaining local traditions as a crucial element of sustainability, while university actors saw the region's historical development and status as a starting point for transformative action (10_ InNoWest_municipality, pos. 11).
d) *Role-specific perspectives*: Practitioners framed sustainability based on their professional roles—with public sector actors focusing on affordable housing and ecological infrastructure (01_In_municipality; 05_WIR_municipality), whereas business representatives emphasised workforce and circular economy (02_In_economy, pos. 42) or technical solutions for climate protection (12_WIR_economy, pos. 16–18). Intermediaries were more interested in experimenting with post-growth economic models (06_WIR_university_inter, pos. 18; 09_In_economy_inter, pos. 14).
e) *Conceptual flexibility:* University-based project coordinators—who are required to balance the divergent perspectives and interests of practitioners, funding institutions, and the university—remain intentionally vague about the sustainability concept: "*I find it very difficult to summarise what sustainability is (...) And since we haven't found the right answers yet, we are definitely contributing through our projects*" (08_WIR_university, pos. 20). They prioritise adaptability to gain practitioners' trust and emphasise collaboration over strict adherence to a specific sustainability concept (04_In_university, pos. 30). Despite differing views, both sides recognised the value of collaboration in addressing regional challenges.

6 Discussion

This study addresses a research gap by focusing on practitioners' perspectives of university partnerships as part of transfer projects for sustainable regional development. This is particularly relevant in rural and peripheral regions, where institutional resources are limited (Çınar 2022).

With regard to *operational and organisational aspects* as well as the motivations of practitioners involved in university–practice partnerships, our findings align with the existing literature. They confirm prior studies by recognising that collaborations

offer benefits for practitioners such as capacity building, mutual learning and reflexivity, knowledge exchange, and increased visibility (Preiser-Houy and Navarrete 2006; Prantl et al. 2023). However, a notable departure is the emphasis that practitioners place on achieving direct social impacts and gaining access to financial resources. In contrast, previous reports (Davey et al. 2018) have downplayed the importance of societal outcomes. It is worth noting that our case study projects explicitly prioritise transfer and practical solutions over research outcomes.

A critical gap in the literature concerns the process and context of co-designing solutions. Our findings emphasise practitioners' preference for actor-specific and context-sensitive approaches, which they believe lead to 'robust' solutions for a specific context, rather than (scientifically) 'optimal' solutions. This preference for practical, context-driven outcomes contrasts with the broader academic focus on generating generalisable knowledge, thereby underscoring the need for negotiated, equitable processes between academia and practice. Additionally, practitioners highly value partnerships where universities leverage established regional networks. Such networks facilitate trust-building, reduce the costs associated with establishing new relationships, and enhance the dissemination of solutions. These findings refer to the concept of sustainability transfer that strives for practical solutions to societal problems by providing concepts, projects, prototypes, technologies, or discourses as well as mutual learning (Nölting 2024).

Our study also highlights role ambiguity in university–practitioner partnerships. Practitioners trust university partners for their expertise and dedication to regional development but hold mixed views on the university's role in these collaborations. Gunasekara (2006) describes universities as 'honest brokers' in regional networks; our findings reveal roles that extend beyond this framing. Following the terminology of Trencher et al. (2013), Eberswalde University acted as a director, inventor, and facilitator in our case study. As a director, the university set strategic agendas and promoted alliances, as seen in the 'House with a Future' project. As an inventor, it co-developed context-specific solutions through transdisciplinary processes. Lastly, in its facilitator role, the university fostered dialogue, reflection, and capacity building, helping practitioners diagnose problems and envision sustainability solutions. This multifaceted role refers to the diverse perspectives of academic and non-academic partners concerning regional sustainability and aligns with the quintuple helix model of socially embedded knowledge production and its relation to the (natural) environment (Carayannis and Campbell 2010). It also reveals the limits of university engagement, especially during early project design. Here, administrative constraints and limited resources hinder practitioners' active participation, reflecting persistent structural barriers (Christopher et al. 2008). Additionally, while practitioners eager for sustainability transitions view universities as transformative allies, those sceptical of such approaches remain hesitant to engage, highlighting the need for tailored outreach and communication strategies. This reflects the societal diversity and diversity in knowledge production according to the quintuple helix.

This leads to the critical point of how practice partners and universities *negotiate the goals* and strategic-normative orientation of collaborations. The findings show that sustainability goals in university–practitioner partnerships are context-sensitive and negotiable. While both parties broadly agree on the goal of sustainable regional

development, they differ in prioritising specific objectives (Riger 2001; Schiller and Radinger-Peer 2021). We identified five themes, ranging from rather structural and/or tactical topics, such as:

1. organising long-term cooperation,
2. addressing the profession-related sustainability narratives, or
3. maintaining flexibility for action, to others with clear thematic and strategic implications, such as
4. local embeddedness of sustainability ideas, and
5. tensions between technological and social innovation.

These themes reflect and expand on the four substantive elements operationalising regional sustainable development—durability, integration, participation, and distributive justice—outlined by Schiller et al. (2020).

These five topics define a space for negotiation—from concrete interventions and small projects to long-term strategic goals and network formation. Under the given and described organisational framework conditions, practitioners consciously decide which content, interests, and normative objectives they want to negotiate with the university in order to create the conditions for productive interactions. Small projects often serve as a basis for building trust and exploring common ground, which can later evolve into larger, more ambitious initiatives without jeopardising potentially beneficial cooperation at an early stage through confrontational topics.

In this context, we identified at least three ways in which HNEE researchers respond to the needs and expectations of practice partners in order to enable productive joint transfer projects despite diverging understanding of sustainability:

1. In line with transdisciplinary research (Defila and Giulio 2016; Lang et al. 2012), they prioritise addressing problems originating in society over scientific inquiry, adopting a service- and problem-oriented approach embedded in the local context.
2. Researchers maintain flexibility in their definition of sustainability and remain open to diverse project ideas, using initial collaboration phases to develop shared understanding. Later on, they gradually develop and qualify negotiation processes and joint learning.
3. They focus on trust-building in the early stages, even compromising on normative sustainability orientations. Once trust is established, more ambitious sustainability projects can be introduced.

Despite these efforts, limitations remain. While HNEE aims to produce sustainable knowledge reflecting "on the performance and quality of the environment" (Carayannis and Campbell 2010, p. 62) and effectively cooperates with partners eager for sustainability changes, it lacks strategies to engage those sceptical of sustainability approaches. The university must balance its ambitions with the capacities and interests of its partners, ensuring not to overwhelm them.

The present study has several limitations. First, the sample size is relatively small, which may limit the generalisability of the findings. While our study focuses on the specific context of regional partnerships with HNEE, other universities and regions may exhibit different dynamics and priorities. Additionally, the data may

reflect social desirability bias, as interviewees might emphasise positive aspects of the partnerships due to the normative appeal of sustainability. Finally, our case study focuses on transfer activities. Future research could explore partnerships that emphasise research over transfer, to compare their dynamics and outcomes.

7 Conclusions

This study focuses on the perspectives of practitioners in university–practitioner partnerships in the context of regional sustainability transformation. Our findings highlight that successful partnerships are shaped by specific regional contexts and depend on mutual trust, clear communication, and flexibility in adapting to evolving project needs. Practitioners see collaborations as opportunities to access financial resources, acquire new knowledge, and enhance their social and political influence.

A key insight from this study is the divergence in how practitioners and university researchers understand sustainability and conceptualise it for regional development. Practitioners tend to prioritise immediate, institutionally sustainable solutions, whereas researchers emphasise broader socio-ecological transformation. The study underscores the importance of co-created, context-sensitive solutions that integrate local knowledge into regional development.

Practitioners ascribe Eberswalde University different roles, acting as director, inventor, and facilitator/empowerer (Trencher et al. 2013), translating academic insights into practical solutions through co-production. A notable conclusion is that both practitioners and university researchers carefully balance their ambitions to avoid jeopardising early-stage collaborations. Difficult thematic negotiations typically emerge in later phases, when trust has grown, allowing for robust and conflicting discussions without risking the cooperation as a whole.

We identified three key success factors for these partnerships:

1. Building trust through smaller, bottom-up interventions that address local needs and prioritise embeddedness, even if this requires modifying initial sustainability concepts.
2. Operational decision-making needed separated from substantive and potentially conflicting negotiations about goals through structures such as advisory boards, which help mitigate conflicts without disrupting day-to-day operations.
3. Establishing long-term intermediary transfer structures to ensure relationships extend beyond single projects, in order to make use of established trustful partnerships.

Despite these success factors, the case study highlights several operational, structural, and normative barriers to cooperation from the practitioners' perspective. Partnerships only materialise when both sides perceive them as mutually beneficial and meaningful. Significantly, this means that there are also many constellations and problems that do not result in cooperation, even if both sides have a potential strategic interest in doing so. Overcoming these barriers to collaboration might be even

more important (e.g., for future research directions) than reporting on the factors that we now know lead to success.

Eberswalde University, through its scientific expertise and reputation for neutrality, plays a pivotal role as a regional developer, mediating local needs and broader sustainability goals. Despite differing interpretations of sustainability, all transfer partners carefully negotiate to balance their normative and strategic interests. The HNEE is endeavouring to adopt a responsive attitude towards regional stakeholders in order to be able to make a broader offer to them when exploring opportunities for cooperation, highlighting the multifaceted roles that universities must play in promoting sustainable regional development.

8 Appendix

The interview guide for university researchers mirrored the guide for practitioners. In addition, the following question was asked there: How did the collaboration between HNEE and its partners come about?

Table 1 List of interviewees

Project	Interviewee	Position/function
InNoWest	01_In_municipality	Public administration manager
InNoWest	02_In_economy	Manager of regional business association
InNoWest	04_In_university	University researcher
WIR!	05_WIR_municipality	Public administration manager
WIR!	06_WIR_university_inter	University researcher and intermediary to civic society
WIR!	07_WIR_economy	Manager of regional economic development agency (business)
WIR!	08_WIR_university	University researcher
InNoWest	09_In_economy_inter	Self-employed and intermediary to civic society
InNoWest	10_In_municipality	Public administration manager
InNoWest	11_In_economy	Managing director of a non-profit GmBH
WIR!	12_WIR_economy	Managing director of a major production company

Table 2 Interview guide for practitioners

Phase	Primary question	Follow-up questions/points that should be addressed
Intro	What is your task in your organisation and what are your tasks at the InNoWest/WIR project?	–
Main part	Why do you think HNEE has chosen your organisation for partnership?	–
	What do you understand by sustainable regional development?	–
	What contribution do you think the partnership can make to sustainable regional development?	–
	What did you expect from HNEE in the partnership?	–
	What works well in the partnership?	Communication? Benefit for your organisation?
	What difficulties are there in the partnership?	Communication? Benefit for your organisation? Availability of resources?
	Did it become apparent during the process that adjustments were necessary compared to the original project planning?	Were the adjustments implemented? How did HNEE deal with requests for adjustments?
Closing	In your opinion, what would be needed to improve collaboration in the project?	–
	Is there anything else that is important to you in terms of collaboration and partnerships that we haven't talked about yet?	–

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