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A process-based model to evaluate cooperation between a function-sharing city alliance: The example of the Harz planning region, Germany

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Abstract

Since 2005, there has been an increase in the sharing of functions between the central places of the federal states in Germany. Especially in light of the demographic and structural changes in rural regions, function-sharing city alliances are essential to secure the provision of services of general interest. As part of a central place system, function-sharing city alliances are subject to performance evaluation in some states, but the federal-state development plans do not define the type of evaluation, its function, form or criteria. There is currently no standardised evaluation approach. Using the example of three newly cooperating cities in the Harz planning region (Germany), this paper presents a holistic and tiered model for evaluating the shared provision of high-order services of general interest. The model considers the maturity of the cooperation by combining different forms of evaluation at different points in time. The scorecard technique enables the combination of various quantitative and qualitative criteria in one evaluation system. When developing the model, we applied the real-world lab approach as a research mode to ensure the evaluation model met scientific and practical requirements. The modular nature of the evaluation model enables a transfer to other function-sharing city alliances and can therefore form the basis of a standardised evaluation approach.

Keywords: Central place concept ▪ city alliance ▪ evaluation ▪ inter-municipal cooperation ▪ regional planning

Ein prozessbasiertes Evaluationsmodell der Zusammenarbeit zwischen funktionsteiligen Stadtverbünden am Beispiel der Planungsregion Harz, Deutschland

Zusammenfassung

Seit 2005 ist eine Zunahme von Funktionsteilungen in den Zentrale-Orte-Konzepten der deutschen Bundesländer zu erkennen. Insbesondere im Hinblick auf den demographischen und strukturellen Wandel in ländlichen Regionen sind funktionsteilige Städteverbünde unerlässlich, um die Daseinsvorsorge sichern zu können. Als Teil eines zentralörtlichen Systems unterliegen funktionsteilige Städteverbünde in einigen Bundesländern regelmäßig einer Überprüfung der tatsächlichen Funktionswahrnehmung. Die Art der Evaluation, ihre Funktion und Form sowie Kriterien werden in den Landesentwicklungsplänen der Bundesländer nicht definiert. Es fehlt bislang ein einheitliches Evaluationsverfahren. Am Beispiel dreier kooperierender Städte in der Planungsregion Harz präsentiert dieser Beitrag ein holistisches und gestuftes Modell zur Evaluation

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der geteilten Funktionswahrnehmung. Das Modell berücksichtigt den Reifegrad der Zusammenarbeit durch die Kombination verschiedener Evaluationsformen zu unterschiedlichen Zeitpunkten. Die verwendete Scorecard-Technik ermöglicht dabei die Verbindung verschiedener quantitativer und qualitativer Kriterien in einem Evaluationssystem. Bei der Entwicklung des Modells verwendeten wir den Reallaboransatz als Forschungsmodus, um die wissenschaftlichen und planungspraktischen Anforderungen an das Evaluationsmodell zu gewährleisten. Der Baustein-Charakter des Modells ermöglicht auch eine weitgehende Übertragung auf andere funktionsteilige Städteverbünde und kann so als Grundlage eines standardisierten Evaluationsansatzes dienen.

Schlüsselwörter: Zentrale-Orte-Konzept ▪ Städteverbünde ▪ Evaluation ▪ Interkommunale Kooperation ▪ Regionalplanung

1 Introduction

Spatial planning (*Raumordnung*) in Germany has a long tradition. It is a public-sector instrument for guiding spatial development at the federal, state and regional levels and is an important ingredient of decision-making processes. In the context of European spatial planning traditions, German spatial planning differs, for example, from the traditions of spatial planning in France (*aménagement du territoire*) and in the Netherlands (*ruimtelijk e ordeningen*) (Kunzmann 2001: 153). As a result of the federalism in Germany, the various states (*Länder*) have their own parliaments, legislative powers and budgets. The states have their own state spatial planning acts (*Landesplanungsgesetze*) that define the aims and procedural rules of state spatial planning (Kunzmann 2001: 157). They exercise spatial planning at the state level (*Landesplanung*) and create their own state development plans (*Landesentwicklungspläne*) and agendas (Kunzmann 2001: 157; Blotevogel/Danielzyk/Münter 2014).

In accordance with the European Union's key policy concept of territorial cohesion, one of the tasks of spatial planning is to spatially coordinate the provision of services of general interest (*Daseinsvorsorge*) to ensure equivalent living conditions in all sub-regions. The Federal Spatial Planning Act (*Raumordnungsgesetz*, ROG)[1] and the Basic Law (*Grundgesetz*, GG)[2] provide the German legislative framework for services of general interest. The obligation to provide services of general interest can be derived from the principle of the welfare state (Art. 20 para 1 GG) and the principle of equality (Art. 3 GG).

Services of general interest are services that the public authorities define "as being of general interest and, therefore, subject to specific public service obligations (PSO). The term covers both economic activities […] and non-economic services" (European Commission 2011: 3). These include, for example, educational and cultural institutions, hospitals, traffic and transport facilities, gas, water and electricity supply, refuse collection and sewage disposal (Pahl-Weber/Henckel 2008: 233).

In Germany, the central place system (explained in more detail in Section 2) plays a key role in the spatial coordination of services of general interest at the state level (Turowski 2002: 20–21; Greiving/Flex/Terfrüchte 2015: 286). The states designate so-called central places in their state development plans. By doing so, supply responsibilities and, in most cases, the necessary financial resources for the provision of services of general interest are transferred to these central places, i.e., the municipalities.

In recent years, several municipalities in Germany have increasingly adopted a shared supply approach in the form of city alliances (BBSR 2017: 41–42; see Table 1). A city alliance is a form of informal or formal inter-municipal cooperation – in this case, to jointly fulfil the functions of a central place, such as providing services of general interest. Particularly in shrinking and structurally weak regions, sharing functions helps to ensure the sustainable and resource-efficient provision of services of general interest and equal living conditions in all sub-regions. In combination with ongoing urbanisation processes, demographic change is leading to shrinkage in many rural regions. The provision and capacities of public and private services of general interest are thus increasingly under pressure due to population decline. To secure these supplies and strengthen the development capacities of such regions, a paradigm-shift is needed, moving from municipal towards inter-municipal approaches to the functional and structural sharing of resources and supply responsibilities.

However, the effects of function-sharing city alliances depend on the coordination of planning and service provision by the cooperating cities. In this context, the evaluation of inter-municipal cooperation comes into play. Due to its practical orientation, evaluation has always been an essential part of complex planning processes (Einig 2012; Grădinaru/Iojă/Pătru-Stupariu et al. 2017). Its task is to review

[1] Spatial Planing Act of 22 December 2008 (BGBl. I S. 2986), as last amended by Article 1 of the Act of 22 March 2023 (BGBl. 2023 I No. 88).

[2] Basic Law for the Federal Republic of Germany in the revised version published in the Federal Law Gazette Part III, classification number 100-1, as last amended by the Act of 19 December 2022 (Federal Law Gazette I p. 2478).

Table 1 Municipalities with function sharing by state in 2005 and 2022

	High-order central place		Middle-order central place		Low-order central place	
	2005	2022	2005	2022	2005	2022
Baden-Wuerttemberg	44.4	44,4	20.0	20.0	27.9	17.1
Bavaria	23.1	45.0	30.3	39.9	19.7	18.7
Brandenburg	–	–	18.2	33.3	–	–
Hesse	20.0	20.0	7.1	25.5	8.1	–
Mecklenburg-Western Pomerania	40.0	40.0	–	–	8.9	5.2
Lower Saxony	30.0	63.6	–	2.4	3.7	4.0
North Rhine-Westphalia	–	–	–	–	–	–
Rhineland-Palatinate	–	–	16.4	64.2	12.7	30.3
Saarland	–	–	–	–	–	–
Saxony	37.5	37.5	27.1	25.5	18.1	34.3
Saxony-Anhalt	–	–	–	–	2.2	7.2
Schleswig-Holstein	–	–	10.5	22.7	11.8	9.4
Thuringia	–	–	28.9	28.9	17.8	11.4
Federal Republic of Germany	*20.5*	*35.5*	*12.7*	*22.7*	*10.4*	*12.3*

The table shows the proportion of municipalities with function-sharing across all central places of the respective state in percent
Source: Authors' compilation based on BBSR (2017: 41) and ongoing spatial observation by the BBSR (INKAR, https://www.inkar.de (02.10.2024))

the level of performance and the degree of target achievement at certain periods (Fürst 2010: 168). It enables spatial planning to assess the success of spatial planning functions and, if necessary, to readjust objectives (Kellaghan 2010: 150; Döring/Bortz 2016: 987; Grădinaru/Iojă/Pătru-Stupariu et al. 2017). In the political and planning context, evaluations serve as a basis for legitimisation and can increase acceptance for the financing of projects and measures, provided the evaluation is based on clear and measurable assessment criteria (Döring/Bortz 2016: 983, 987).

Despite the increasing number of function-sharing city alliances in Germany and the importance of evaluating the performance of such alliances, this aspect is rarely included in the state development plans and, if so, only in a mere evaluation clause. There is also a lack of suitable and reliable evaluation models. Our paper is based on a case study of a newly initiated city alliance in the state of Saxony-Anhalt. This alliance was initiated between the cities of Halberstadt, Wernigerode and Quedlinburg after the three cities expressed a willingness to cooperate in the provision of services of general interest. This was the first step towards a formal recognition by state spatial planning of the sharing of functions between the three cities in the state development plan. In this sense, the desired formalisation is not a prerequisite, but rather the consequence of coordinated inter-municipal action.

As part of a research project funded by the Federal Ministry of Education and Research, we developed a tailor-made evaluation model for this alliance in an iterative process with feedback from local and regional stakeholders as a real-world lab. In this context, the paper addresses the following research questions:

- What are the key quality assessment criteria for an evaluation of city alliances?
- How should a formative evaluation be designed to take the maturity of the city alliance into account?
- What are the main success factors and barriers for the applicability of an evaluation of city alliances?
- To what extent is the evaluation model transferable to other function-sharing city alliances?

The following sections explain the central place concept and the fundamentals of evaluation research. We then provide an overview of evaluations of function-sharing city alliances in current spatial planning practice in Germany. Afterwards, we describe the case study region and our research design, including the methods used. The subsequent section is dedicated to the content and organisation of cooperation within the case study, followed by a description and discussion of the evaluation model for the city alliance. The paper concludes with the study findings and an outlook on the need for further research.

2 Central place concept and the role of function-sharing alliances

The central place concept, originating from Walter Christaller's central place theory of 1933, revolutionised urban location theory by emphasising centrality (or 'nodality'). Preceding analyses by Reynaud (1841), Galpin (1915) and Bobek (1927) set the stage for Christaller's innovative approach. According to Christaller's theory, regions and states distribute infrastructure, services and land uses across territories. At the federal state level in Germany, spatial planning identifies high-order central places (*Oberzentren*), middle-order central places (*Mittelzentren*), as well as development nodes and axes within the system's hierarchy. While regional planning usually designates low-order central places (*Grundzentren*), these are depicted along with high-order and middle-order centres in the state

development plan. The central place status of a town or city depends on factors such as population size, job count and the availability of public and private services like schools, retail, healthcare and transportation links (Christaller 1933).

When establishing new facilities (e.g., a regional court), allocation adheres to the central place system. In some states, the central place system influences intergovernmental transfers, with higher-ranked places receiving more funding due to their service provision to surrounding areas. This system thereby aims to design optimal settlement and market systems that maximise providers and service locations while minimising transportation costs, ensuring optimal supplies for the population (Blotevogel 1996: 14).

In contrast to the English-speaking world, the central place concept has been integral to spatial planning in (West) Germany and Austria since its inception (Kroner 1964; Dietrichs 1966; Parr 2017: 152). Therefore, it is enshrined in the *Raumordnungsgesetz*. This legislation:

- concentrates settlement activity in central places (Section 2 para 2 no 2 ROG),
- prioritises the location of social infrastructure in these places,
- creates the spatial conditions to preserve city centres and (intermediate) catchment areas (*Versorgungsbereiche*), and
- adjusts accessibility criteria (*Erreichbarkeitskriterien*) and capacity criteria (*Tragfähigkeitskriterien*) of central-place facilities to the regional conditions (Section 2 para 2 no 3 ROG).

The Standing Inter-Ministerial Conference of Spatial Planning has reaffirmed the goal of securing the provision of services of general interest. Their guiding principles recommend consistent application of the central place system and expanding inter-municipal cooperation to strengthen regional development and the provision of services of general interest (MKRO 2016: 10–11).

Cooperation between central places is a kind of flexibilisation and modification of the central place concept that German spatial planning has increasing applied in recent years (see Table 1). Function-sharing city alliances are a spatial planning category in which a central place function depends on the actual or politically desired sharing of functions between municipalities. This means that the principles of the function-sharing city alliances are linked to active or intended cooperation between the municipalities. Such cooperation is often not initially recognised by spatial planning policy. This is the case in the Harz planning region (bottom-up variant). Alternatively, the shared central place function is the result of recognition of a need for action by spatial planning policy to ensure equal living conditions and acceptable conditions of accessibility. This occurs when no single central place can fulfil the necessary functions alone, leading to cooperation being triggered by the allocation of shared functions (top-down variant).

In both cases, the existence of mutually complementary central infrastructure facilities in the cooperating municipalities is of major importance. A successfully functioning alliance can only be achieved if the potentials of the municipalities are mutually complementary, the facilities are mutually accessible and meet the relevant state threshold values, and there are genuine interactions between the participating cities in the sense that goods and services are used reciprocally (BMVBS/BBR 2008: 12–13).

There are no standardised legal requirements for function-sharing city alliances in Germany. The requirements and even the terminology vary between the different states. What they have in common is a basic understanding of cooperation between two or more municipalities that are located near to each other to jointly perform the functions of a central place. As above, we use the term "function-sharing city alliances" as an umbrella term.

Overall, although designated cooperations exist, superior planning authorities of the federal states often do not sufficiently evaluate the cooperating parties. In some cases, designations concerning cooperation in the function-sharing city alliances only exist on paper in the development plans of the federal states but the cities themselves have no formalised cooperation agreement or real sharing of functions. We consider an evaluation model indispensable for being able to evaluate the implementation of the designated sharing of functions.

3 Evaluation in spatial research: methods, approaches and purposes

Since the beginning of evaluation research in the 1930s in the USA and its increasing international use to evaluate large infrastructure, education and health programmes, significant progress has been made with evaluation research becoming more professional and new evaluation standards being developed (Wiechmann/Beier 2004: 388). During this process, politicians, planners and researchers have established evaluations in state and regional development, structural policy and other areas in Germany (Wiechmann/Beier 2004: 388). However, compared to North America and other European countries, Germany still lags far behind in the institutionalisation of evaluation in the political system (Diller 2023: 19).

Today, many spatial research disciplines and fields of action use evaluation studies. A variety of qualitative and quantitative methods, forms and types are thus used by

evaluators, depending on the objective and function of the evaluation, for instance, to gather information for legitimising decisions or to optimise the impact of programmes or projects. There is a basic distinction between two evaluation approaches: summative and formative evaluation. Summative evaluation is a classic variant that summarises the results and assesses the impact of a measure or project after its completion. This approach traditionally uses a baseline-endline logic or looks for counterfactual evidence of effectiveness (Apgar/Snijder/Higdon et al. 2023: 244). Formative evaluation accompanies the process during the implementation phase of the project or measure. It allows for interim assessments and adjustments to the project or measure (Wiechmann/Beier 2004: 388).

Each evaluation focuses on an object of evaluation known as an evaluand. A typical evaluand might be individual intervention measures (such as urban development measures) or larger programmes (such as inter-municipal development concepts) aimed at specific individual and collective changes. Evaluators can evaluate an evaluand in different ways (Döring/Bortz 2016: 984). Döring and Bortz (2016: 984) distinguish between concept evaluation, process evaluation and outcome evaluation. A concept evaluation assesses an evaluand before implementation, focusing on criteria such as expected costs, benefits, personnel requirements and technical feasibility. Process evaluation assesses the implementation, considering criteria such as intensity and type of use, and cost expenditure. Outcome evaluation focuses on the effects of the evaluand and thus the direct benefits, impacts and consequences, using criteria such as effectiveness, sustainability and efficiency.

According to Wiechmann and Beier (2004: 388–390), evaluation assesses four main purposes: implementation, impact, target achievement and efficiency. Implementation evaluation examines the extent to which planned measures or projects have been realised, while impact evaluation assesses the effects of measures or projects. While implementation evaluation is straightforward, impact evaluation can be challenging, as determining causal relationships between the intervention and outcomes is often complex (Wiechmann/Mörl/Vock 2012: 81; Döring/Bortz 2016: 998–999). Impact evaluation seeks to assess whether the observed effects are actually caused by the intervention and what the scenario would have been without it. For this reason, impact evaluation is often omitted. Target-achievement evaluation assesses the extent to which the defined targets of a measure or programme have been met. Methodologically, target-achievement evaluation, like impact evaluation, is not always feasible, as the desired targets are often not sufficiently operationalised within the framework of projects and measures. Efficiency evaluation assesses the relationship between the resources used and the results achieved (Wiechmann/Beier 2004: 389–390).

4 Evaluation of function-sharing city alliances in state spatial planning practice

As indicated in the previous section, evaluation plays an important role in planning cycles in general (Grădinaru/Iojă/Pătru-Stupariu et al. 2017). It helps improve planning processes by providing information for decision-making and policymaking (Kellaghan 2010: 150; Grădinaru/Iojă/Pătru-Stupariu et al. 2017). The regular spatial planning reports of the Federal Institute for Research on Building, Urban Affairs and Spatial Development (BBSR) are key in evaluating and monitoring various spatial development processes (Diller 2012: 2). The 2011 Spatial Planning Report (BBSR 2011) introduced a nationwide evaluation of state development plans. It comprehensively recorded the cartographic designations in regional plans for various thematic areas based on the BBSR's Spatial Plan Monitor (ROPLAMO). Through INKAR, the BBSR provides a platform of statistical data including data on existing and available public and private central-place facilities from ongoing spatial monitoring, enabling comparative analyses of the effect of state development and regional plans.[3]

Overall, current spatial planning practice generally analyses the effects of a plan or project (Diller 2012: 2). Although the *Raumordnungsgesetz* aims to efficiently exercise spatial planning, which includes supporting the cooperation of municipalities, it lacks references to monitoring and evaluation as key components of an efficient management system (Jacoby 2009: 3). This also applies to evaluation of the performance and cooperation of function-sharing city alliances.

As part of the central place system, these city alliances are regularly subject to an evaluation of the actual performance of functions, at least in some states (see Figure 1; BMVBS/BBR 2008). The evaluation results help state spatial planning to determine whether the function-sharing alliances should continue or if a new central location classification is required. The evaluation enhances the accountability of public institutions and reinforces public trust in decisions related to spatial planning (Guyadeen/Seasons 2018: 104). In addition, it encourages greater inter-municipal cooperation within the city alliance and fosters self-critical reflection on previous weaknesses (BMVBS/BBR 2008: 61). Politicians and planners should therefore not underestimate

[3] https://www.inkar.de (02.10.2024).

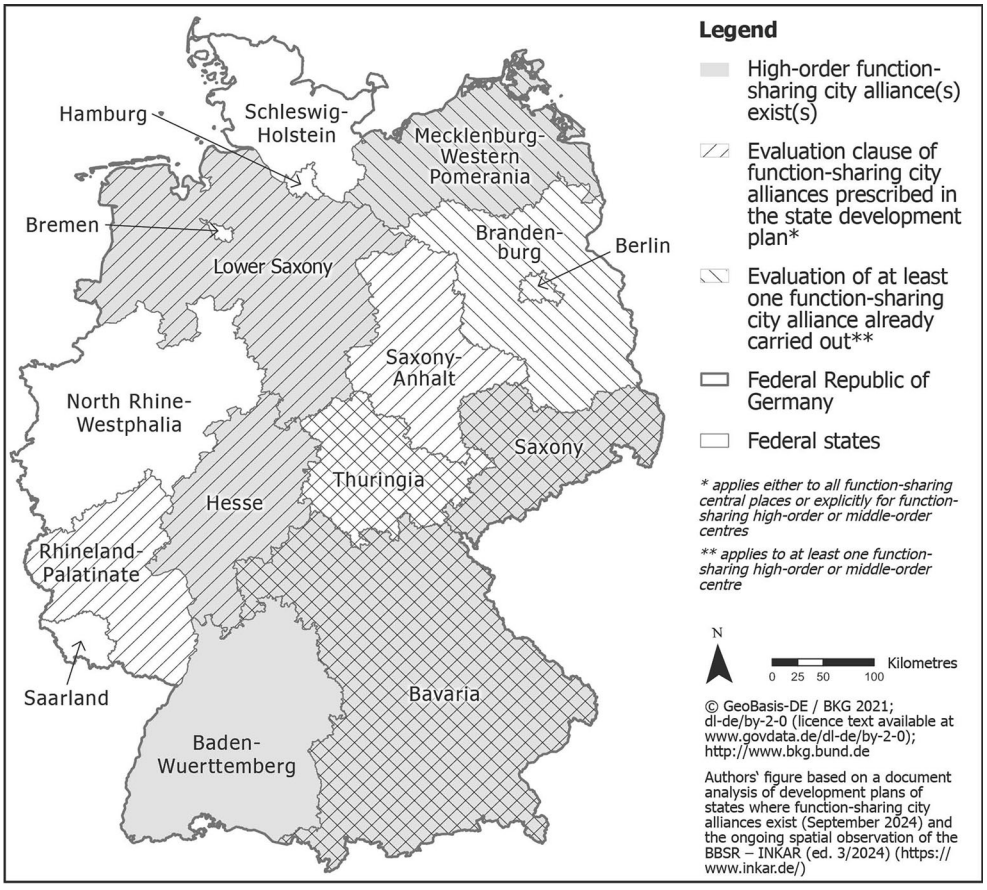

Figure 1 State of the evaluation of high-order and middle-order city alliances in Germany

the importance of evaluation for the long-term success of the function-sharing alliances.

The authority responsible for designating functions evaluates function-sharing city alliances: state spatial planning for high-order and middle-order centres and regional planning for low-order centres (BMVBS/BBR 2008: 62). These authorities have the competence to determine the functions and topics of the evaluation (BMVBS/BBR 2008: 62). So far, they have not yet sufficiently utilised the potential benefits and functions of the evaluation. Currently, seven out of 12 states (excluding the city states of Bremen and Hamburg, which have no state development plans, and states with no function-sharing city alliances) prescribe evaluations of the performance of function-sharing city alliances (see Figure 1). In Hesse and Saxony-Anhalt, state spatial planning stipulates evaluation in their goals, the remaining five states mention it only in the explanatory memorandum to a goal. As mentioned above, no states go beyond a mere evaluation clause in their state development plan. Thuringia initially included some criteria for various monitoring topics (e.g., population development, unemployment rate, accessibility criteria) in its state development plan, but removed them from the new draft. To date, only six states have at least once evaluated a functional city alliance (see Figure 1; Greiving 2006; Regionomica 2012). So far, no standardised, coherent evaluation concept exists for spatial planning.

The state development plan of Saxony-Anhalt, where our case study is located, only provides a general clause in Goal 32, stating the aim of evaluating a defined division of central place functions after ten years. However, this 'one-size-fits-all' regulation does not meet the conditions of individual cases. BBSR (2017: 48–49) recommends implementing a mandatory evaluation with more specific guidance regarding the organisational and thematic design of the city alliance. The evaluation should consider the degree of maturity of a cooperation and include the intended effects and intentions of the actors (BMVBS/BBR 2008).

5 Case study area and methods

The Harz planning region, which is in the south-west of the German state of Saxony-Anhalt, forms the governance set-

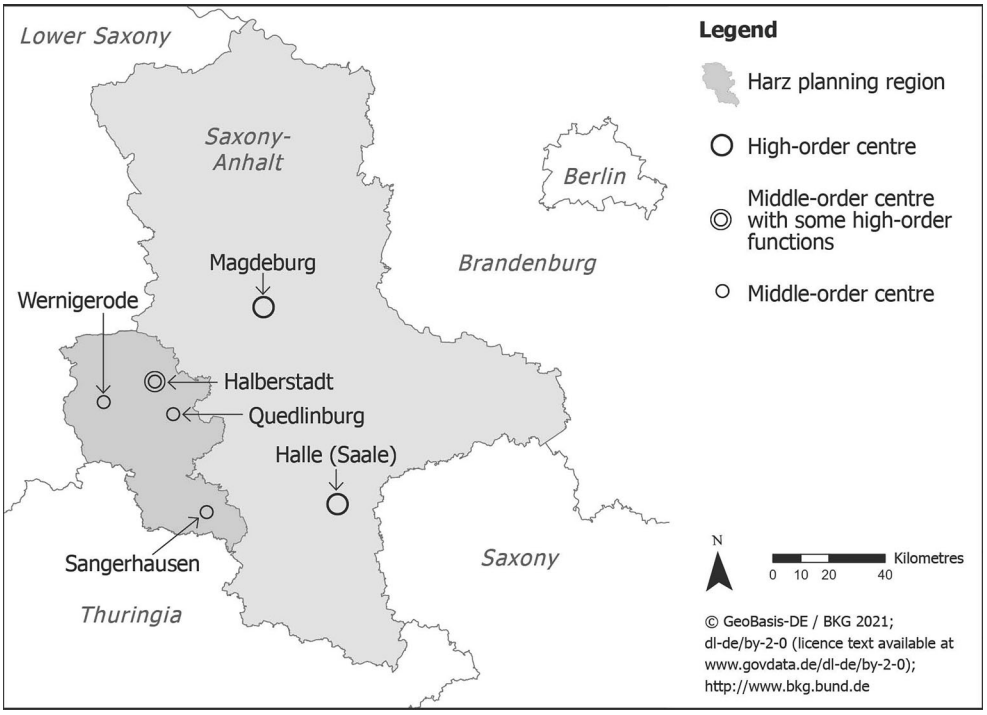

Figure 2 Harz planning region and its middle-order and high-order centres

ting of our case study. Overall, the region is one of the structurally weak and rural regions in Germany. It is affected by demographic and structural changes. By 2035, the population in the Harz planning region will probably have decreased by around 16 % (Bertelsmann Stiftung 2019).[4] Currently, around 260,000 inhabitants living in the Harz planning region, with more than 90,000 of them residing in the three cities of Halberstadt, Quedlinburg and Wernigerode. According to the state development plan of Saxony-Anhalt, these cities meet the periodic needs and some of the specialised needs of the population in the intermediate catchment area as middle-order centres and as a middle-order centre with some high-order functions (see Figure 2). They are easily and mutually accessible by road and rail, and also accessible from all parts of the common catchment area in under 60 minutes (see Figure 3).

The nearest high-order centres of Halle and Magdeburg, which are supposed to provide the Harz planning region with high-quality services of general interest (e.g., main hospitals, universities), are not tolerably accessible from large parts of the region. As a result, the Harz planning region lacks sufficient high-quality services of general interest. This leads to further problems, such as a lack of development foci for the labour market or the siting of high-quality supply infrastructure.

In our study, the Harz planning region also forms the setting of a real-world lab, which is the research framework we applied in the case study. Real-world lab research is in the tradition of action and intervention research and relies on iterative processes and continuous reflection (Parodi/Beecroft/Albiez et al. 2017: 74–75). The term ‘lab’ reflects the place and infrastructure created for the transdisciplinary generation of knowledge and the innovative-creative character of this study (see e.g., Parodi/Beecroft/Albiez et al. 2017). Therefore, and because scientific and practical experts are equally important parts of this real-world lab, this research mode offers ideal conditions for developing an evaluation model that meets both scientific and real-world requirements.

In this real-world lab, we used various methodological approaches to develop the evaluation model. Through document analysis, we first reviewed which assessment criteria states have already used in similar evaluations in Germany. This allowed us to build on practical insights and align with established practices. Based on these findings and the blueprint published by the German Federal Ministry of Transport, Building and Urban Development and the German Federal Office for Building and Regional Planning (BMVBS/BBR 2008), we co-created a tailor-made evaluation model through an iterative process involving contin-

[4] https://www.wegweiser-kommune.de (04.10.2024).

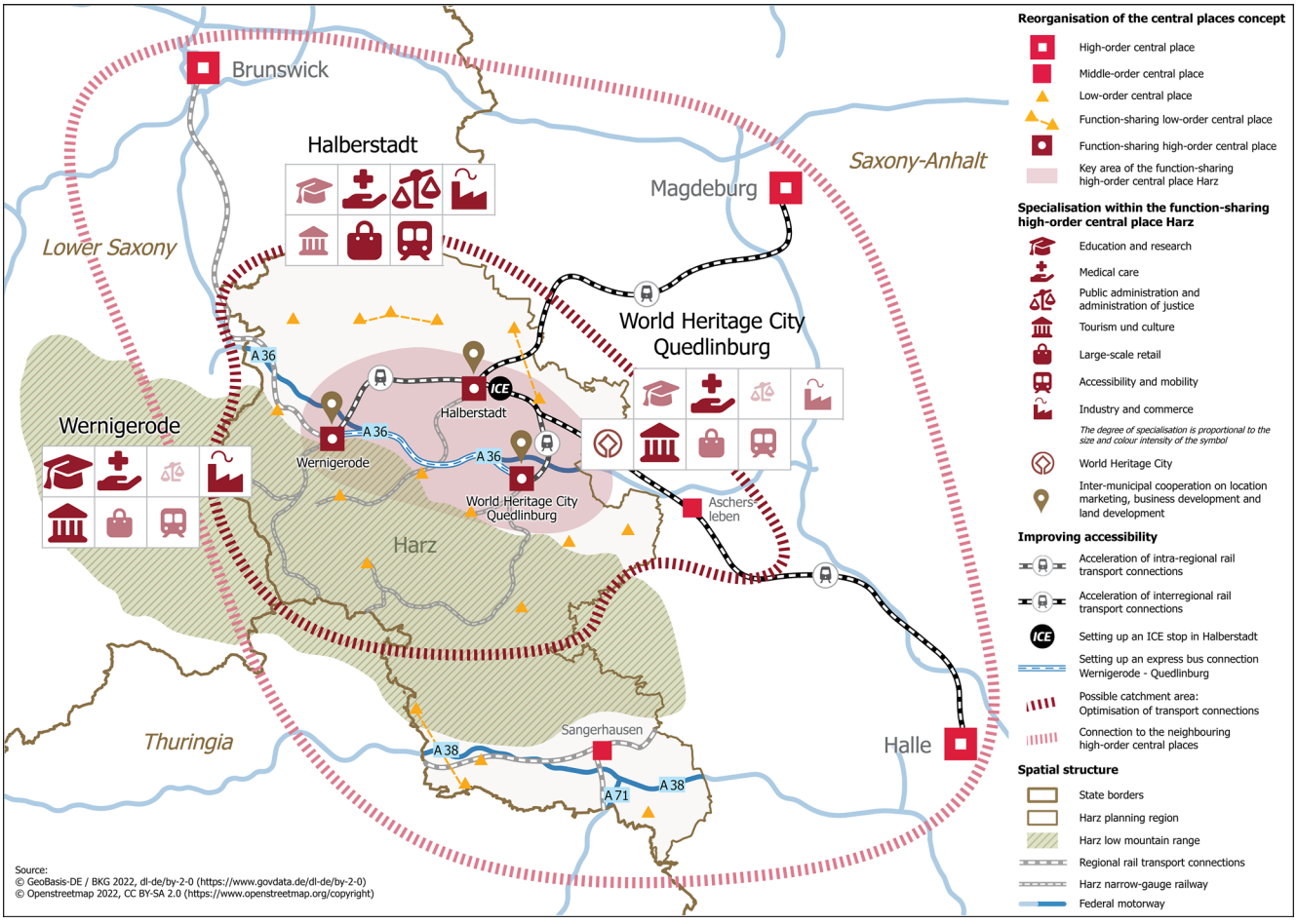

Figure 3 Guiding principles of the city alliance Harz Source: Authors' compilation, designed by agl Hartz • Saad • Wendl

uous feedback from the practical stakeholders of the real-world lab. These feedback loops were critical for integrating both scientific rigor and practical relevance into criteria development, ensuring the model meets key requirements such as utility, feasibility and accuracy.

By using the scorecard as an evaluation and management system (see e.g., Kaplan/Norton 1992), we co-developed evaluation standards in a transdisciplinary manner. Additionally, open questions provide deeper insights into specific criteria where further explanation is needed. The development of our evaluation model serves as a pilot to test the transferability and applicability of the blueprint to a real-world context, offering valuable insights for adaptations and implementations.

6 Outlines of the agreements on function-sharing by the case-study city alliance Harz

An expert report that analysed the central place system in Saxony-Anhalt formed the basis of the city alliance and presented recommendations for its further development (Greiving/Terfrüchte 2020). The experts recommended the establishment of function-sharing in the Harz planning region to ensure equal living conditions. As a follow-up, a group of scientists and local practitioners initiated a research project in 2021 dedicated to establishing this sharing of functions. The result was a public-law contract between these cities and a regional development concept with guiding principles, as shown in Figure 3.

The cooperation within the city alliance Harz includes various elements of function-sharing based on the municipalities' potential to supplement functions. In addition to strategies aimed at improving the accessibility of services of general interest, another element involves the comple-

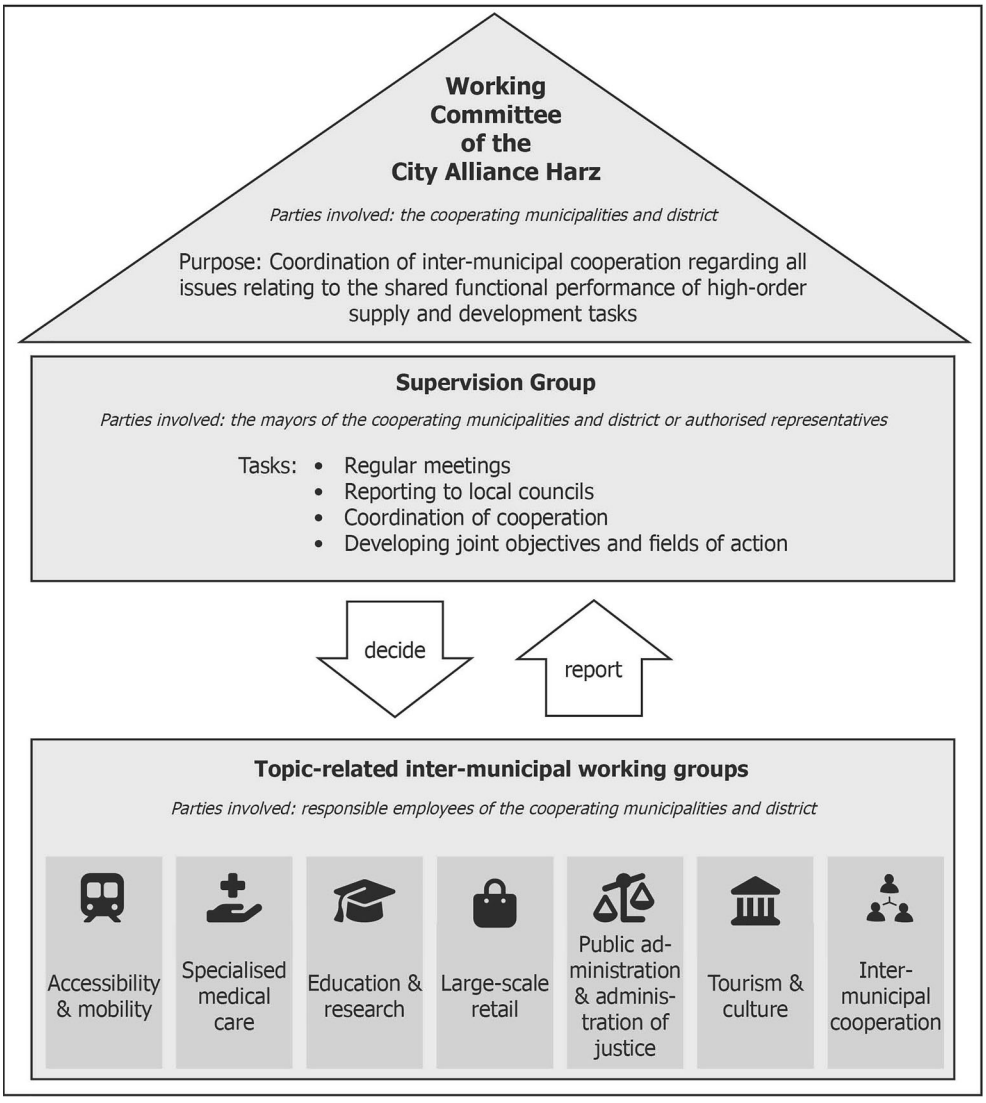

Figure 4 Cooperation model of the city alliance Harz

mentary specialisation of services of general interest based on reciprocal provision. This is particularly applicable during expansions or when the capacity of facilities providing services of general interest is at risk. Consequently, the city alliance has agreed upon degrees of specialisation regarding the provision of services of general interest, which are outlined in the guiding principles, among other goals (see Figure 3). The guiding principles serve as the foundation for a jointly developed regional development concept that includes more detailed impact and process objectives for prioritised functional areas. Alongside other criteria, these objectives are utilised to evaluate the success of cooperation in the city alliance.

To further long-term and active cooperation in the sharing of functions, the city alliance has agreed on a cooperation model (see Figure 4), which is based on establishing a Standing Working Committee under Section 2 para 2 of the State Act on Municipal Cooperation.[5] All the mayors signed the cooperation agreement as a contract under public law on 7 March 2024.

The Working Committee provides for a Supervision Group that meets regularly to coordinate the fundamentals of inter-municipal cooperation, set priorities for action and discuss further developments, challenges and status of work. The Supervision Group consists of the mayors of the cooperating municipalities and the district (which provides supra-local services of general interest) to ensure decision-

[5] Law on Municipal Cooperation (GKG-LSA) in the version published on 26 February 1998, last amended by Article 1 of the Law of 16 May 2024 (GVBl. LSA S. 128).

Table 2 Evaluands of the evaluation model

No.	Evaluand	Description
1	Spatial planning contract and a regional development concept	Evaluand 1 comprises a spatial planning contract and a (supplementary) informal regional development concept, and all agreements documented therein between the three cities of Halberstadt, Quedlinburg and Wernigerode, as well as other contracting parties.
2	Cooperation within the city alliance	Evaluand 2 comprises the existence and organisation of the cooperation to share functional tasks between the cities of Halberstadt, Quedlinburg and Wernigerode, and the existence and organisation of other targeted collaborations (vertical and horizontal, including collaborations with external actors). The focus is on the processes of the cooperation committee of the function-sharing central place. Evaluand 2 does not consider cooperation processes in projects or for individual measures; only the cooperation processes with the committee are included.
3	Projects / function-sharing	Evaluand 3 examines the implementation status of the projects and measures developed within the cooperation process and fixed in the spatial planning contract or regional development concept.

making competences. The Supervision Group does not engage in the operational work of the city alliance. For this purpose, the cooperating partners establish topic-related inter-municipal working groups that regularly report to the Supervision Group on the status of work and relevant developments in the field at hand.

In addition to the signed inter-municipal contract, the city alliance Harz could use a spatial planning contract (*Raumordnerischer Vertrag*) to further formalise cooperation on the sharing of functions, in agreement with the responsible State Ministry of Infrastructure and Digital Affairs. By doing so, the city alliance would fulfil a legal obligation to define a high-order centre, under Section 14 ROG in conjunction with goal 32 of the respective state development plan: "The fulfilment of shared functions must be defined and guaranteed through a spatial planning contract between the partners" (translated by authors).

7 Evaluation model for the city alliance Harz

The evaluation model of the city alliance Harz focuses on formative evaluation. To date, the evaluation model is merely a concept that state spatial planning can implement once the sharing of functions is formally recognised in the state development plan of Saxony-Anhalt. Due to the role played by the evaluation in decision-making and legitimisation, it has to be conducted externally, either by the state planning authority itself or by a commissioned external expert. The state planning authority is also in charge of the final decision on the evaluation results. The model does not prescribe any rigid weighting or aggregation of the criteria. The omission of fixed weighting ensures the necessary flexibility for local specificities, unforeseen circumstances and dynamic developments during the execution of functions. The absence of criteria aggregation serves to enhance transparency and comprehensibility.

The evaluation of the city alliance's performance follows a broad understanding of outcomes: it focuses on spatially explicit evidence as well as processes, cooperation and shared arrangements in particular. Therefore, it encompasses three distinct evaluands, broadly aligned with the forms of concept, process and outcome evaluation according to Döring and Bortz (2016: 984) (see Table 2).

The evaluation model integrates a three-stage phase model. This considers the degree of maturity of the cooperation for function sharing. The phases are divided into implementation evaluation, target-achievement evaluation and impact evaluation (see Figure 5).

In the first stage, the evaluators examine the spatial planning contract and cooperation committee, as well as the joint definition of objectives and fields of action. They also assess the extent to which the cooperation partners have agreed on implementing the shared functions and the level of detail. Therefore, the primary focus of the first evaluation phase is on evaluand 1. The model schedules this stage around three years after the city alliance is established. We consider three years to be sufficient time to meet the requirements of the first evaluation phase without risking a slowdown in progress.

The second stage of the evaluation focuses on evaluating the achievement of targets and cooperation performance, thus primarily on evaluands 2 and 3. This involves checking whether the city alliance actually provides the supply functions. The second stage of the evaluation takes place in the phase of stabilised cooperation and is therefore to be carried out around six years after the first evaluation stage. We consider six years to be an appropriate timeframe for measuring the targets and performance of the cooperation. It encourages those responsible to work proactively to achieve their targets and allows sufficient time to resolve any challenges along the way.

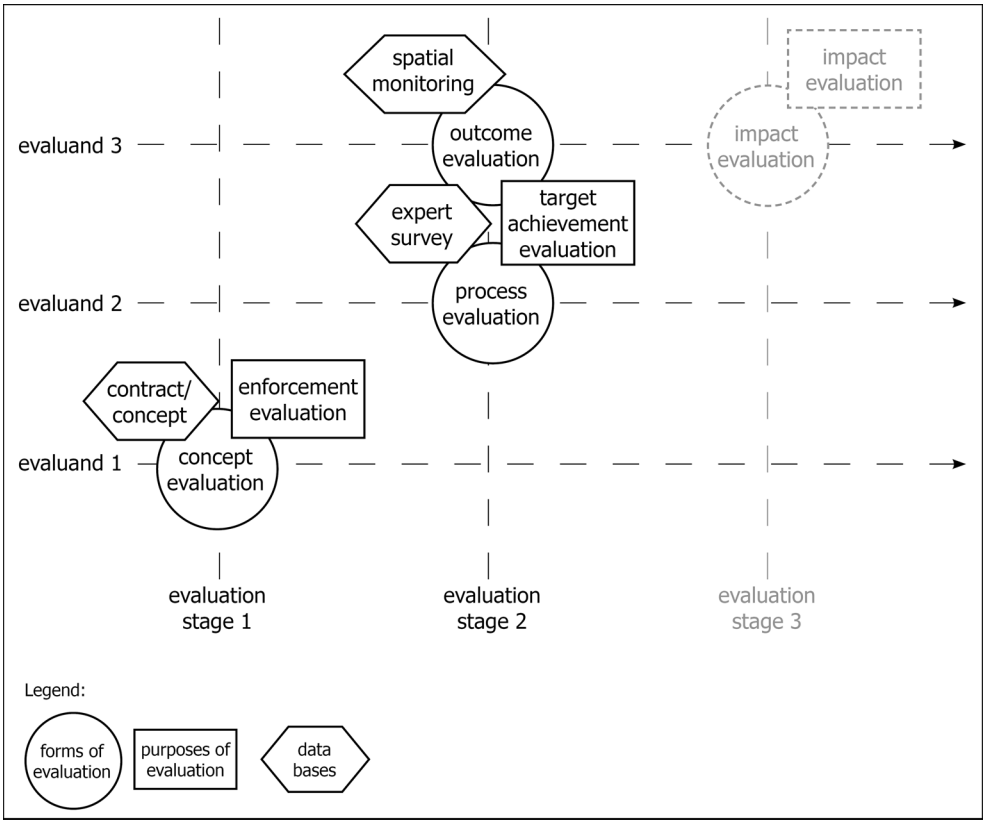

Figure 5 Elements of the evaluation model of the city alliance Harz

Table 3 Evaluation criteria of evaluand 1 in the first evaluation stage

No.	Criterion	red	orange	yellow	green	blue
Evaluand 1: Spatial planning contract / development concept in general						
1	Has a spatial planning contract been concluded in accordance with Section 14 ROG?	A contract has not (yet) been concluded.	The basic principles of cooperation and the possible path to a contract are being developed.	A draft version of the contract is available.	The contract is ready to be signed.	The contract has been signed.
8	Are there sanctions in case of non-compliance with the terms of the contract? What sanctions apply in case(s) of non-compliance with the terms of the contract?	There are no sanctions in any case of non-compliance with the terms of the contract.		There are sanctions in some cases of non-compliance with the terms of the contract.		There are sanctions in every case of non-compliance with the terms of the contract.
Evaluand 1: Contents of the spatial planning contract / development concept						
9	Are common fields of action defined?	No common fields of action are defined.		Common fields of action are roughly defined.		Common fields of action are defined.
11	Are specific targets (not fields of action) defined in the contract / development concept?	No targets have been defined.		Rough targets have been defined.		Specific targets have been defined.

Source: Authors' compilation based on BMVBS/BBR (2008)

Table 4 Evaluation criteria of evaluand 2 in the second evaluation stage

No.	Criterion	red	orange	yellow	green	blue
Evaluand 2: Degree of formalisation/organisational structure within the city alliance						
22	Is an organisational structure discernible (e.g., a distinction between supervision and working groups)?	An organisational structure is not discernible.		The establishment of an organisational structure is discernible.		An organisational structure is clearly discernible.
Evaluand 2: Vertical cooperation within the city alliance						
36	Is a vertical exchange of information between the contracting parties (i.e., state spatial planning, regional planning and municipalities) guaranteed?	There is no vertical exchange of information between the parties involved.		There is some vertical exchange of information between the parties involved.		A complete vertical exchange of information between the parties involved is guaranteed.

Source: Authors' compilation based on BMVBS/BBR (2008)

Table 5 Main evaluation criteria of evaluand 3 in the second evaluation stage

No.	Criterion	red	orange	yellow	green	blue
Evaluand 3: Projects/function-sharing in general						
39	Are specific projects defined in the fields of action?	No specific projects are defined in any of the fields of action.		Specific projects are defined in some fields of action.		Specific projects are defined in all fields of action.
42	Which projects have been realised or which project results have been achieved to date?					
Evaluand 3: Projects/function-sharing in the field of 'Municipal/regional administration and administration of justice'						
47	Are other high-order authorities and courts located in the planning region?	There is no new high-order authority or court.		There is one new high-order authority or court.		There is more than one new high-order authority and/or court.
Evaluand 3: Projects/function-sharing in the field of 'Education and Research'						
52	Have highly skilled workers been recruited?	No highly skilled workers could be recruited for any of the areas of work.		Some of the necessary highly skilled workers have been recruited for some areas of work.		All the necessary highly skilled workers have been recruited in all areas of work.
Evaluand 3: Projects/function-sharing in the field of 'Large-scale retail'						
54	Has a joint retail concept been drawn up for the high-order centre?	No joint retail concept has been created.		A joint retail concept is currently being prepared.		A joint retail concept has been finalised and adopted.
Evaluand 3: Projects/function-sharing in the field of 'Accessibility and mobility'						
57	Has public transport between the cities and the region been improved (regarding frequency, speed, routes, quality of vehicles)?	Public transport has deteriorated in terms of all indicators.	Public transport has deteriorated in terms of some of the indicators.	Public transport has not changed.	Public transport has improved in terms of some of the indicators.	Public transport has improved in terms of all indicators.
Evaluand 3: Projects/function-sharing in the field of 'Medical care'						
59	Is the planning region a separate region within ambulatory health care planning?	It was not possible to persuade those responsible to establish a separate region.		The establishment of a separate region has been initiated.		The planning region is a separate region within ambulatory health care planning.

Source: Authors' compilation based on BMVBS/BBR (2008)

In a third stage, it is useful to examine the intended and unintended effects, which tend to occur in the long term. We therefore consider ten years after the second stage to be an appropriate time. The evaluators assess whether the intended effects occurred or not when the city alliance achieved its objectives. Depending on the results, it may be necessary to change or add spatial planning objectives to the contract. Overall, each phase within the tiered evaluation model places higher demands on the city alliance's performance.

The evaluation model contains suitable and meaningful criteria for a reliable evaluation. They provide benchmarks for identifying a good performance of city alliances. The full catalogue of evaluation criteria and assessment standards for the different evaluands and stages is available as supplementary material (see Tables in the online supplementary material). At this point, we would like to present some criteria and assessment standards as examples. The colour scale from 'red' to 'blue' represents the different levels used (see Tables 3, 4 and 5).

The evaluators can use the following two open questions as additional questions to gain a deeper understanding of target-achievement evaluation in the fields of action as part of an expert survey:

- What are the reasons for not (fully) achieving the targets in the field of action?
- What contribution have the projects in the field of action made to achieve the objectives of the field of action?

Since the city alliance Harz is still in the early stages of its now formalised cooperation, the state planning authority would apply the first evaluation stage. This is the implementation evaluation of evaluand 1. Currently, the city alliance has not yet concluded a spatial planning contract with the state planning authority, which is why the evaluation criteria for the spatial planning contract would currently be negated or go unanswered. However, the regional development concept of the city alliance (see IMPULS 2024) could soon be evaluated in the first evaluation stage.

8 Discussion

The evaluation model presented in this study adds value to state spatial planning practice in three respects. First, it combines the benefits of different evaluation elements in one single evaluation model for function-sharing city alliances. Second, the model provides robust, measurable and application-oriented evaluation criteria and assessment standards. Third, the model offers a certain degree of transferability to other function-sharing city alliances. We discuss and explain these points in more detail below.

8.1 Reflection on the evaluation model

The evaluation model integrates the principles, norms and standards of the Independent Evaluation Office of the United Nations Development Programme (UNDP 2021: 5–7), including credibility, transparency and impartiality. It addresses gaps in both science and practice regarding the definition of suitable evaluation criteria and indicators that meet scientific requirements – even though the blueprint of BMVBS/BBR (2008) also proposes a good initial set of criteria. Our model offers a holistic evaluation approach in different stages, using elements of concept, process and outcome evaluation (see e.g., Döring/Bortz 2016: 984; see Figure 5) to shape the respective evaluation criteria. This approach reflects the individual development process of the cooperation and the complexity of the political and planning environment, as well as the variety of the stakeholders involved.

Concept evaluation is the focus of the first evaluation phase, largely serving the function of assessing implementation. In the second stage, the focus shifts to process, outcomes and target achievements, combining conformance evaluation with process performance evaluation (see e.g., Guyadeen/Seasons 2016). Barnett and Eager (2022: 134–135), as well as Apgar, Snijder, Higdon et al. (2023: 252), emphasise that evaluating the process, i.e., how and why outcomes are emerging, is particularly suitable for evaluating outcomes/achievements.

8.2 Reflection on the methodological approach

The evaluation model employs both qualitative and quantitative criteria. The model uses quantifiable criteria based on spatial monitoring and expert survey, in particular for evaluand 3, to measure the achievement of targets. The remaining criteria – especially those related to process and cooperation performance – are assessed qualitatively through the narrative knowledge of experts. Although narrative knowledge is valuable, a major issue is the subjectivity inherent in its acquisition and evaluation, which largely depends on the person who is asked. However, experience with evaluations or related forms of assessment shows that practitioners often perceive qualitative approaches as particularly resource-efficient and practical (see e.g., Fuchs/Schnittfinke/Ohlmeyer et al. 2020).

Overall, the evaluation criteria cover the evaluands, although some elements of the evaluands are assessed in more detail, i.e., with more criteria, than others. The com-

plexity of the evaluands and their elements necessitates this approach. Since the evaluation model does not prioritise specific criteria, it omits the aggregation of criteria with weighting.

The development of our assessment standards was transdisciplinary and also helped to close the gap caused by the frequent lack of normative assessment standards for spatial functions (see Terfrüchte/Greiving/Flex 2017). Since evaluation is a highly politicised activity, the participation of practical experts allowed us to explore the extent to which criteria values are assessed as positive, sufficient or negative. The scorecard technique proved particularly practical in this context. Aside from a few open questions, it allows a single evaluation system to use different scales appropriate to the criteria of interest. For example, we use ordinal scales for the baseline and defined minimum standards.

Furthermore, involving politicians and practitioners affected by the evaluation results (i.e., the cooperating municipalities) in the development of the evaluation model was beneficial (see UNDP 2021: 5–7). This involvement, rooted in the real-world lab approach, aligns with Kellaghan's (2010: 154) suggestion, who sees this as an opportunity to give those affected a certain degree of control over the evaluation. This has the advantage of considering and reflecting their perspectives and values, while also increasing the likelihood that the cooperating actors pursue and implement the results.

8.3 Transferability of the evaluation model to other function-sharing city alliances

With the development of the evaluation model, the BMVBS/BBR (2008) blueprint also proved to be transferable and applicable. We used the basic framework of the blueprint and supplemented it with our own evaluation criteria and assessment standards to enable real-case application. Under certain conditions, elements of this evaluation model may be applied to other function-sharing city alliances, both in Saxony-Anhalt and in other federal states in Germany. The model serves as a framework that can be adapted or expanded to the individual territorial division, state regional planning acts, cooperation objectives, implementation status and other relevant factors.

From a planning policy perspective, a key success factor – if not an indispensable prerequisite – for transferring the evaluation model is a formal, legally binding evaluation requirement for city alliances, laid down in the spatial development plan of the responsible state. Without this external requirement, cooperating cities will hardly be willing to regularly evaluate the success of their cooperation. As shown in Figure 1, this is not the case in Baden-Wuerttemberg.

If a state development plan mandates evaluation, the evaluators can use essential elements of the evaluation model, including the stages of the phase model. The city alliance can start at the appropriate level depending on the maturity of their cooperation. This ensures the principle of equal treatment, because a single-stage evaluation model, such as that currently practised, effectively applies the same success criteria to cooperations with completely different degrees of maturity and thus treats unequal situations in the same way. This calls into question the legal footing of the procedure used in current practice. Binding designations in state development plans must be formulated for their addressees factually and spatially or at least be determinable.[6] This will not succeed without a transparent evaluation model that provides the municipalities concerned with information on what is evaluated, when and how, by whom, and for what purpose. This aspect further underlines that this evaluation model helps ensure that the federal states can formulate their evaluation clauses in a legally secure manner.

Furthermore, other city alliances can use the evaluands themselves – even if they need to adapt individual criteria and assessment standards to fit a city alliance's specific conditions in terms of the spatial characteristics of the common service area, the features of the shared functions and the institutional arrangements between the members of the alliance. All three evaluands reflect basic cooperation requirements, principles and purposes that apply to all function-sharing city alliances. The formal definition of a division of functions between self-governing regional authorities should always be linked to the condition that the city alliance agrees on the objectives and contents of cooperation, with regular reviews of its performance, progress and the achievement of objectives.

9 Conclusion and outlook

The city alliance Harz is now equipped with a holistic evaluation model, which has been approved by the political and spatial planning practitioners in the Harz planning region. Together with the inter-municipal contract under public law, this model is of considerable value for the political debate at state level and the negotiations with the state planning authority to officially recognise the sharing of functions in the state development plan of Saxony-Anhalt. Therefore, our case is a good example for the aforementioned bottom-up variant of city alliances.

The three evaluands and the combination of various eva-

[6] Decision of the Federal Administrative Court (4 C 8.10) from 16.12.2010.

luation types in a tiered model with different time periods appropriately reflects the specific maturity of a city alliance's cooperation as well as the complexity of providing high-level functions in the planning policy environment. At the same time, the tiered approach demonstrates that each level places higher demands on the performance of a city alliance.

The scorecard proves a useful evaluation system, as it can depict both quantitative and qualitative assessments. In addition, it also enables the use of different scale levels and can use both narrative and quantitative information. In comparison to a purely verbal-qualitative evaluation, its standardisation guarantees a certain level of reliability and is less dependent from the subjective view of the evaluator. These features are ideal for a holistic and practical evaluation model.

The involvement of regional and local actors who will be affected by the findings of the evaluation proved very useful. Their involvement in developing the evaluation criteria and assessment standards ensured the requirements of both science and practice were met. Furthermore, involving the relevant practitioners helps to increase the likelihood that results will be acted on.

However, there is still a need for further research, particularly regarding impact monitoring as the third evaluation stage. From our point of view, further research is required to overcome the methodological challenges associated with proving causality since there is a general lack of independent control variables in spatial development (see Wiechmann/Mörl/Vock 2012; Döring/Bortz 2016). In addition, planning objectives are usually open to interpretation and not very specific, so a lack of operationalisation of objectives means that impact analyses are only possible to a limited extent (Wiechmann/Mörl/Vock 2012: 81). Therefore, future research should focus on suitable impact evaluation in spatial planning that fulfils scientific, practical and political requirements. We believe the real-world lab to be a useful research mode for such an endeavour.

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