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Instruments of spatial planning (Raumplanung)



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This article will first define the term instruments by distinguishing it from other, closely related spatial planning terms. This will be followed by a classification of the instruments of spatial planning. The article will then provide a detailed discussion of the recent innovations that have been made with regard to the instruments of spatial planning. Lastly, it will address the issue of auditing the instruments of spatial planning and take a look at future prospects.

1 Clarification of the term

The *Brockhaus* encyclopedia defines 'instrument' as a 'device or tool for the execution of certain scientific or technical tasks' and in scholarly terms as the 'means (person or thing) used (in the manner of a tool) to carry out something' (F.A. Brockhaus 1984). Within an objective/means relation, an instrument is distinguished from the objective as the means to implement a normative objective. This means, however, that it always depends on the context whether something should be designated as an instrument (of something). This lack of clarity of the term is also reflected in the term 'instruments of spatial planning'. In principle, these instruments are the means which are used to achieve something. But the what and wherewith are not always clearly distinguishable in the term: an objective of spatial planning also stands for a material goal that is to be achieved (what?). At the same time, the objectives of spatial planning are defined by law as instruments of spatial planning (wherewith?). The *objective* of spatial planning as an instrument is the material objective to be achieved at the subordinate municipal level. Likewise, the term *guiding principles* (> *Guiding principles for spatial development*; > *Guiding principles for urban development*) means both an instrument as well as the substance of what is to be achieved with it.

This means that a technical term can generally be described as an instrument of \triangleright *Spatial planning* if it relates to an aspect of the means in the specific context, and not to its purpose. Still, the distinction between the term *instruments* and closely related terms is blurred. Among them, the term 'methods' is particularly noteworthy, as it is so closely related to the term 'instruments' that the textbooks frequently do not even distinguish between them (cf. *ARL* 1998; Schönwandt/ Jung 2006). In general, the two terms can be distinguished in that an instrument refers to the superordinate means which steer the actions of stakeholders, while method is the subordinate means, i.e. the procedure when applying the instruments. Instruments are generally regulated more intensely than methods. The terms *process*, *legislation* and *strategy* are often used as synonyms of the term *instrument*. Here, too, the terms can be best distinguished by reference to the context. For example, the Strategic Environmental Assessment can be described as a key instrument of spatial planning, whose methodical core is the value benefit analysis, which, in turn, is elaborated through a defined process based on relevant legislation.

2 Classification of instruments of spatial planning

In the past, numerous classifications of spatial planning instruments have been proposed, some of which were based on sound theoretical considerations (e.g. regime and budget approach) (cf. Jung 2008). These proposals distinguished instruments i.a. according to the related purposes ('identifying locations', 'erecting facilities', 'aligning facilities', 'setting up organisations', 'steering behaviour') and areas of responsibility (steering areas, providing goods and services/ \triangleright *Technical infrastructure*, regulatory law, required actions and prohibitions; incentives, such as subsidies, write-offs; influencing stakeholders (through information), the nature and intensity of the intervention (by authorities), the resources required to this end and the envisaged target group (cf. Hübler 2005).

Table 1: Instruments of spatial planning, sectoral planning and other spatially relevant sectoral policies

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Instruments of spatially-	related sectoral	policies (examples)	Regional policy	Fiscal equalisation, Joint Task for the Improvement of Regional	Economic Structures (GRW) Framework Plan Higher Education Development	Regional development strategies, school	LE GO
Instruments	of sectoral planning	(examples)	Natura 2000, Trans- European Networks	Federal Transport Infrastructure Plan	Nature Conservation Act, landscape programme, nature conservation areas Planning approval	Landscape framework plan, water management plan, plan approval procedures, regional transport development plan	Planning of school locations, water management plan
	Method-based	instruments		Information instruments	Analytical methods Forecasting methods Assessment and decision-making methods,	evaluation/controlling Methods to shape processes, management methods	
	Safeguarding	instruments			Statement by the state on spatial planning, state coordination, occidination, coordination, coording in practical planning coordination, coordination, coordination in practical planning coordination in practical planning	apartat partiming, apartat partiming, apartat partiming orders, procedures for diverging from spatial planning objectives	
ching planning)	Procedural instruments	Informal		Model projects, competitions	Mediation	Regional management/marketing, regional conferences, land management	Mediation, round tables
Instruments of spatial planning (overarching planning)	Procedura	Formal	Strategic Environmental Assessment, public participation		Participation of agencies, spatial planning procedures, SEA	Participation of agencies and civic participation, regional plan, SEA	
its of spatial	Partially regulated	plan			Territorial categories, central places, principles and objectives, development axes	Central places, settlement axes, principles and objectives, priority and reserve areas	
Instrumer	Planning instruments	Informal	ESDP	Guiding principles for spatial development, model projects		Regional development strategies, energy strategies, territorial subarea reports	District development strategies
	Planning	Formal			Federal state development plans, SEA	Regional plans, regional preparatory land- use plans, SEA	
	Legal	instruments	Strategic Environmental Assessment (SEA) with environmental report and civic participation	Federal Building and Spatial Planning Act	Federal state and regional planning	laws, state building regulations	
	Spatial level		EU	Federal Government	Federal state	Region	District

Partially					:	of sectoral
Planning instruments regulated regulated regulated	Procedural instruments	instruments		Safeguarding	Method- based	planning
Formal plan Formal Informal Informal		nformal		instruments	instruments	(examples)
Preparatory land- development use plan strategies and over management/marketing, participation to coal Agenda 2.1 use preliminary urban processes, round strategies categories land-use plan, tables, land SEA management		City nanagemen Local Agend processes, rc ables, land nanagement	t/marketing, a 21 ound t			Sectoral urban development strategies, landscape plan, general transport plan
Regeneration areas, Neighbourhood areas, clesign and preservation Urban framework	Neighbourho management	Neighbourho		Urban development contract,	Urban development inventory and	Detailed plans for transport, technical
Binding land-use plans Categories agencies and civic for the type rarticipation of and density participation, and density binding land-use plans.	Participation of agencies and civic articipation, articipation, inding land-use alan, SEA			develophien freeze, building orders, right of pre-emption	Urban development draft	infrastructure, green areas plan

Source: The authors

The classification in Table 1 provides a practical overview and attempts to reflect the complex, multifaceted use of the term in practice. It sets out the interfaces of the specific spatial planning instruments with sectoral planning (\triangleright Spatially-relevant sectoral planning) and other spatially-relevant sectoral policies differentiated by spatial level. It also provides a distinction between legal instruments, methodical instruments and what can be described as the core instruments of spatial planning, i.e. the actual plans with their constitutive elements. Likewise, a distinction is made between formal and informal instruments.

Legal instruments (\triangleright Planning law): Depending on the level, they contain framework regulations of varying specificity for the substance of the planning instruments and processes; the Federal Building and Spatial Planning Act (Bau- und Raumordnungsgesetz, BauROG) (\triangleright Spatial planning law) should be mentioned in particular. At the local authority level, it includes the foundations of \triangleright Urban land-use planning (together with the Federal Land Utilisation Ordinance (Baunutzungsverordnung, BauNVO)) and \triangleright Urban regeneration; the latter is also in part shored up with financial instruments (\triangleright Urban development promotion; \triangleright Urban redevelopment; \triangleright Socially Integrative City).

Planning instruments: Plans can generally be classified according to their scope of validity, issue, ordinance level, type of directive, legal character, and/or binding nature, accuracy and the phase in the planning process.

- Formal planning instruments are largely regulated in legal instruments and are binding for authorities at least: they include spatial development plans at the state and regional level, the preliminary urban land-use plan and binding land-use plans at the local authority level according to General Urban Development Law (▷ Regional preparatory land-use plan; ▷ Preparatory land-use plan; ▷ Binding land-use plan) and the plans under Special Urban Planning Law (▷ Special Urban Development Law), such as ▷ Urban development measure and regeneration bye-laws as well as plans from sectoral planning law (e.g. landscape plans).
- On the other hand, there is
 Informal planning: The spectrum comprises strategies at the European level (European Spatial Development Perspective (ESDP);
 European spatial development policy) and at the federal level, regional development strategies, as well as sectoral development strategies, such as energy strategies and urban development strategies (
 Urban development planning) and framework development plans (
 Framework development plan). These strategies are not legally binding, they merely have a certain politically binding effect.

As a rule, planning instruments include drawings and textual descriptions. The practical use of the term suggests combining a number of the instruments into a separate group of 'partially regulated plan elements' (cf. Brösse 1995; Dietrichs 1986). In spatial planning there are also some instruments, sometimes referred to as \triangleright Concept of spatial planning (Raumordnung), with a tradition spanning decades, such as guiding principles, the central-place theory, \triangleright Territorial categories, \triangleright Objectives, principles and other requirements of spatial planning (Raumordnung), \triangleright Priority area, reserve area and suitable area for development, \triangleright Axis, \triangleright Green belt and categories for steering settlement development (\triangleright Settlement/settlement structure). However, their binding effect is solely derived from the fact that they are anchored in planning instruments.

Procedural instruments: Here, too, a distinction can be made again between formal and informal instruments.

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- Among the statutorily regulated procedural instruments, the strategic environmental impact
 assessment, including the required
 Public participation, is particularly noteworthy. This is
 anchored in EU law and is in principle applicable to formal plans at all spatial levels. Likewise,
 the participation of agencies is mandatory for all formal types of planning. Particularly
 noteworthy among the procedural instruments at the supra-local level is the
 Spatial impact
 assessment procedure (Raumordnungsverfahren), which falls mostly within the competence of
 the federal states.
- The catalogue of informal procedural instruments is diverse, and at times, the distinction between the terms *instrument* and organisation is blurred. Informal procedural instruments include model projects in federal spatial planning and mediation processes at the state level. At the regional level, *▷ Regional management*, regional marketing and regional conferences should be mentioned (*▷ Regional development*). At the local authority level, these instruments include regional, urban and neighbourhood management and/or urban marketing or 'Lokale Agenda 21' processes and round tables (*▷ Urban development*; *▷ Neighbourhood/neighbourhood development*). *▷ Land management* is aimed at the regional and city-wide level.

Safeguarding instruments: A further group of instruments relates to safeguarding and implementing the plan (\triangleright Planning safeguards in urban design; \triangleright Realisation of plans in urban design). This includes spatial planning contracts (\triangleright Spatial planning contract), advisory opinions by federal state planning bodies, state spatial planning coordination (\triangleright Federal state spatial planning, federal state development), \triangleright Prohibitions in spatial planning (Raumordnung), adaption and planning orders or procedures for derogating from spatial planning objectives. At the local level, planning law and \triangleright Building law also include such procedural instruments relating to planning safeguards and plan realisation, e.g. urban development contracts, verifications of the \triangleright Permissibility of projects in building law, freezes on development, building orders and rights of pre-emption.

Method-based instruments: this category addresses the blurred demarcation between the terms instruments and methods. In principle, most of these method-based instruments are applied at all spatial levels. They can be classified according to the stages of the planning process model: informational instruments include the European Spatial Planning Observation Network (ESPON), the continuous spatial observation by the Federal Government (▷ Reports on urban and spatial development, ▷ Spatial observation, ▷ Monitoring, indicators), land registers at the regional and city-wide level, as well as urban development inventories (> Urban design) at the territorial level. Deeper methods of spatial analysis result from these informational instruments, followed by forecasting instruments such as \triangleright Forecasting or \triangleright Future scenarios, from which specific planning needs are derived. An important group are \triangleright Evaluation and decision-making methods, which either serve to assist ex ante in choosing between plan alternatives (> Weighing of interests) (e.g. cost-benefit analyses, value benefit analyses) or to assess the consequences of a plan contemporaneously or ex post (> Evaluation and controlling). The extensive set of methods used to shape the process, such as *▶ Moderation, mediation* in a broad range of formats (e.g. Workshops on the Future), and process management are also relevant. At the neighbourhood and territorial level, the draft plan for urban development is another instrument.

The *instruments of spatially-relevant sectoral planning* are closely linked to spatial planning in the narrow sense: while these policy areas are able to support their sectoral planning with

considerable financial means in some respects, they rely on cross-sectional spatial planning for their legally binding effect. \triangleright *Landscape planning* with its legal instruments (\triangleright *Environmental law*) and planning and strategy types (landscape programme, landscape outline plan, landscape plan, green spaces plan, \triangleright *Environmental planning*, open space plans, \triangleright *Air pollution control and noise abatement planning*), some of which specify conservation areas, are particularly worth mentioning in this regard. Of great significance are also \triangleright *Transport planning* (\triangleright *Federal transport infrastructure planning*) as well as \triangleright *Water management* (\triangleright *Flood protection*). The most important procedural instrument of sectoral planning are the planning approval procedures (\triangleright *Planning approval*), which chronologically succeed the spatial planning processes. The method-based instruments of sectoral planning are very similar to those of spatial planning in the narrow sense.

Finally, the last group are the instruments of the other spatially-relevant *policy areas* such as \triangleright *Regional economic policy*, \triangleright *Local-authority economic development*, \triangleright *Labour market policy*, \triangleright *Educational infrastructure planning*, \triangleright *Social planning*, \triangleright *Energy policy*, \triangleright *Science policy*, innovation policy (\triangleright *Innovation, innovation policy*), \triangleright *Transport policy*, \triangleright *Housing policy*, \triangleright *Agricultural policy*, and at the European level, the \triangleright *European regional policy* in particular. They are distinct from those of spatial planning in that funding plays a greater role as a means of steering and that market-based economic incentives and fiscal instruments are much more prominent. This is where \triangleright *Fiscal equalisation at the level of local authorities* or \triangleright *Fiscal equalisation between the states* come into play. Additionally, innovative market-oriented instruments such as emissions trading certificates should also be mentioned here.

3 Formal vs informal instruments – the changing understanding of planning and recent innovations in instruments

When observing the development of spatial planning instruments over a longer period, it is remarkable just how stable the instruments are overall. Fundamental developments took place in the mid-1990s, e.g. in General Urban Development Law with the introduction of the urban development contract in relation to investors and the urban development measure. The classic form of tender planning was supplemented by a more flexible instrument (\triangleright *Privatisation*; \triangleright *Public private partnership*) oriented to the needs of the market.

This change in the understanding of the role of the state and of planning from a hierarchical, regulatory role to a cooperative role that considers itself to be merely one of many stakeholders within constellations of governance (\triangleright *Governance*) has been the general driving force behind the change in instruments in recent years, in particular the increase in informal planning instruments. With these informal instruments – which also serve to support stakeholder networks (\triangleright *Networks, social and organisational*) – spatial planning has shifted its focus from instruments based on law and funding as 'hard' means of steering, towards 'softer' means of steering, such as information, communication and cooperation. The significance of information instruments as planning instruments of persuasion has been given greater weight, in part due to the significant improvements in technology (internet). However, the means of steering that have become considerably more important in the wake of the 'communicative turn' of spatial planning

(▷ Cooperative planning) are mutual communication and cooperation. This change has been particularly evident in the move away from the state's traditional, more authoritarian approach to ▷ Spatial planning. In 1998, new instruments, such as informal regional development strategies, territorial subarea reports and city networks were added to the Federal Spatial Planning Act (Raumordnungsgesetz, ROG) to implement spatial development plans. Other approaches, such as regional management, regional marketing, regional conferences, regional development agencies and competitions also illustrate that the regulatory orientation of spatial planning has been expanded by elements focused on development policy. In sectoral planning's stead, spatial planning also in part assumes the role of preparing sectoral strategies, such as energy strategies (▷ Energy strategy). The Federal Government, in particular, used the instrument of Model Spatial Planning Projects (Modellvorhaben der Raumordnung, MORO) or Experimental Housing and Urban Development (Experimentelle Wohnungs- und Städtebau, ExWost) to stimulate regional innovations for spatial planning purposes.

In particular at the local authority level, a whole range of informal instruments for activating the public and \triangleright *Participation* have been initiated, e.g. round tables and *Lokale Agenda 21* processes, which aim to involve citizens on a broader scale. While these instruments rather focused on specific themes for which there was already a general consensus at the outset, mediation processes, which were mainly used during planning for major infrastructure projects, specifically served to defuse existing conflicts.

At the same time, the limits of these informal planning instruments became apparent. It can be assumed that these 'soft' instruments only have a lasting effect if they are sensibly combined with 'harder' instruments. Informal planning has the benefit of flexibility, but also the disadvantage of not having a legally binding effect or democratic legitimacy. Participation formats are confronted with the problem of high social selectivity and the seemingly insolvable participation paradox, according to which the interest of citizens in planning processes structurally increases over time in inverse proportion to the willingness of policymakers and administrative bodies to allow for participation. At the regional level, instruments such as city networks are often only viable to a limited extent. Despite the initially high expectations, the results of many of the mediation processes for conflict-prone infrastructure were in hindsight deemed to be inadequate. This was particularly true in cases where political decision-makers did not feel bound by the negotiated results or where it could not be avoided to go through every step of the formal processes after all.

But it was not only the changed understanding of planning that gave rise to new instruments. The range of formal and informal instruments has also been influenced by a number of specific spatial planning challenges:

• Since the 1990s, instruments to shape the ongoing processes of urban shrinking ▷ Shrinking cities have increasingly been developed, at first in the 'new' (Eastern German) federal states, but later also in the peripheral regions of the 'old' (Western German) federal states. First of all, this gave rise to the introduction of fundamentally new instruments, e.g. the urban redevelopment programme under ▷ Urban planning. At the same time, a shift in paradigms occurred within urban redevelopment, meaning that the extensive demolition of settlements was for the first time accepted as a part of the official planning agenda. Furthermore, the acceptance of the need for urban shrinking, but also the aim to ensure the ▷ Provision of public services, led to a modification of existing instruments, such as the notion of central places (▷ Central place) in spatial planning.

- The debate about new instruments is still ongoing as it regards the central topic of *climate change* (▷ *Climate, climate change*) (Frölich/Knieling/Schaerffer et al. 2011). In this context, the difficulty of forecasting both extreme events and the precise extent of climate change, the resulting need to adapt to climate change (▷ *Climate change adaptation*), as well as the ▷ *Vulnerability* and ▷ *Resilience/robustness* of the environment, economy and society have directed the focus of research towards the question of how to deal with uncertainties and ▷ *Risk management*. In addition to the modest evolution of the existing range of instruments (e.g. monitoring, modification of priority areas, reserve areas and suitable areas for development in spatial planning), fundamentally new method-based and procedural instruments, which require a legal foundation, have been proposed, e.g. 'climate proofing'.
- More intense discussions in recent years have also focused specifically on the increased use
 of market-oriented spatial planning instruments. Inspired by approaches like the trade in CO₂
 emissions which had been tried and tested in other policy areas, the debate primarily focused
 on instruments to reduce land take for settlements, e.g. tradeable rights to designate areas
 for land-use purposes. However, these innovative approaches, which have been successfully
 applied in model projects, have so far not seen further realisation in legislation or planning
 practice.

As far as method-based instruments are concerned, the further differentiation of the methods of participation should be mentioned. Regarding information and evaluation methods, developments in the field of \triangleright *Geoinformation / geoinformation systems (GIS)* have contributed to considerably improved options.

4 Auditing instruments of spatial planning – a neglected undertaking

Audits are firmly embedded as the final process step in all models of the ideal spatial planning process, just as in the policy cycle model. This means that planning processes are to be audited in view of their implementation status and effectiveness in order to draw the appropriate conclusions and to modify the planning objectives where necessary. While there always has been and continues to be a need to properly audit the instruments of spatial planning, as is the case with all spatiallyrelevant instruments, there are still considerable deficits in this regard. In the case of spatiallyrelevant instruments, which are based primarily on financial resources, i.e. the extensive use of funding such as regional policy or urban renewal policy, audits have a long-standing tradition and have gained considerable significance on all levels in the past years. At the level of EU regional policy, there is even what can be described as a proper audit system. A different picture emerges in regulatory-oriented spatial planning (Raumplanung), where the range of instruments to steer land use is based predominantly on law, in particular spatial planning (Raumordnung) and urban land-use planning. On the one hand, the Strategic Environmental Assessment requires by law an ex ante audit of the potential impact of all formal plans, which is conducted at a very high technical level and plays a significant role in the preparation of the plans. On the other hand, ex post audits, which retrospectively review the implementation and effectiveness of the plans, are quite rare in this area (Diller 2012). The SEA Directive (Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans

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and programmes on the environment) merely requires monitoring, not a differentiated audit, which would also include a root cause analysis. There is a series of reasons for this audit deficit in spatial planning, which has long been criticised.

From a political perspective, the arguments against audits include their unwieldiness, the high level of abstraction involved and the political risk associated with audits. In the context of spatial development plans and urban land-use plans, the use of land is managed solely through tender planning, apart from a few exceptions such as the project and local public infrastructure plan or the project-specific spatial development and planning approval procedure. It is even possible for land to be excluded from use. This makes them politically very unattractive, because the issue of whether a given area of land is actually used also depends on factors other than planning. In the political sphere, exclusionary planning deemed to be successful will often be considered as inhibitory planning, i.e. undertaken purely to impede certain types of development.

But even from a technical perspective, there are a number of concerns about audits. As in all spatially relevant audits, the question of the underlying causal relations in the impact models are particularly problematic. The bundles of factors that account for spatial developments are extraordinarily complex; spatial planning is merely one determinant. Every city or region is different, which precludes reliance on control group designs. In addition (unlike in the case of development programmes), it is often unclear for which period the plans are envisaged and, accordingly, for which period their impacts must be assessed.

The criticism of the classic form of audit, which established a relationship between impacts that are as quantifiable as possible on the one hand and the objectives pursued on the other, generally gave rise to a substantial shift in the understanding of the role of audits and the methods used; this in turn placed a greater focus on the process than on the result and increasingly also relied on qualitative methods. For spatial planning research, this also led to a differentiation in the understanding of audits in the 1980s, which were associated with the various theoretical positions within the > Theory of planning: the notion of 'conformance-based evaluation' follows the rational planning model. Here, it is evaluated to what extent the subsequent plans (implementation) or the actual development (impact analysis) conform to the superordinate plans. A high degree of conformity is considered to be successful. The 'performance-based approach', on the other hand, which is primarily associated with the 'Dutch school' of planning theory, does not consider the plan to be a 'blueprint' for implementation, but instead an orientation guideline for the planning process (> Incrementalism/perspective incrementalism; > Strategic planning) (Alexander/ Faludi 1989). Conformity between the substance of the plan and the result does not necessarily indicate that the plan was successful. The most important function of the plan is rather to initiate coordination processes. The criterion for success is the extent to which the plan was used for decision-making and how the stakeholder processes, which were advanced by means of the plan, were shaped. Hence, this approach is fairly consistent with the communicative planning model, which has gained significance in the past 20 years as part of the 'communicative turn' in spatial planning. These differing concepts of audits are not mutually exclusive; they can be relevant at various levels of the planning process and are presumably used for different types of plans. For legally binding plans, an 'implementation and impact check' type of audit in line with the conformance-based approach makes sense as long as it is not limited to merely identifying divergences, but also examines the grounds for them. The performance-based approach, on the other hand, is suitable especially for informal planning and strategic planning.

These methodological problems do not explain the rather poorly developed state of research on spatial audits in Germany, especially in the area of regulatory spatial planning instruments. A comparison with other countries, such as the US, which do not have a similarly established and elaborate system of spatial planning, but where the state of research on spatial audits has progressed much further, gives cause to suspect that the need for justification is so small within the German system of planning instruments that audits are hardly necessary as instruments to justify plans or to justify abstaining from plans.

5 Outlook

The range of instruments in German spatial planning is characterised by a remarkably high level of stability. The various legal instruments have seen very few fundamental changes in the past 20 years, and the developments that have taken place in relation to planning instruments have been evolutionary in nature rather than fundamental. In the case of method-based instruments, the use of computer-assisted information systems has given rise to the most significant changes. The increase both in the development and use of new method-based instruments for participation in planning processes is also remarkable. This is probably the area where advances can be expected in future, which will also have an impact on the range of legal instruments. Frequently discussed is, for example, the introduction of civic participation in the early stages of the planning approval procedure as it has successfully been done in urban land-use planning. After a period of largely unchecked euphoria regarding the use of informal instruments, a stocktake of their actual effectiveness and their more systematic linking with formal instruments appears to be the next logical step.

Notwithstanding the above, the major future issues of spatial planning will also shape the development of the instruments: the affordable adaptation of the infrastructure to ensure the \triangleright *Provision of public services* will continue to remain topical particularly in peripheral regions, which is also likely to lead to further development of the spatial planning instruments. It remains to be seen to what extent the new instruments proposed in connection with the debate on climate change adaptation will be used in practice. This is true in particular for the instruments which go beyond the traditional sphere of influence of spatial planning, but which could support its objectives, e.g. instruments relating to market incentives.

Finally, more extensive and critical research on audits should be stepped up alongside the processes of refining the instruments of spatial planning.

References

Alexander, E. R.; Faludi A. (1989): Planning and plan implementation: Notes on evaluation criteria. In: Environment and Planning B: Planning and Design 16 (2), 127-140.

ARL – Akademie für Raumforschung und Landesplanung / Academy for Territorial Development in the Leibniz Association (1998): Methoden und Instrumente räumlicher Planung. Hanover.

- Brösse, U. (1995): Instrumente. In: ARL Akademie für Raumforschung und Landesplanung / Academy for Territorial Development in the Leibniz Association: Handwörterbuch der Raumordnung. Hanover, 507-511.
- Dietrichs, B. (1986): Konzeptionen und Instrumente der Raumplanung: Eine Systematisierung. Hanover. = Abhandlungen der ARL 89.
- Diller, C. (2012): Evaluation in der regionalen Raumordnungsplanung Praxis, Forschung, Perspektiven. In: IzR Informationen zur Raumentwicklung 1/2.2012, 1-16.
- F. A. Brockhaus (Ed.) (1984): Der Große Brockhaus. Volume 10: Hock bis Japanische Musik. Wiesbaden.
- Frölich, J.; Knieling, J.; Schaerffer, M.; Zimmermann, T. (2011): Instrumente der regionalen Raumordnung und Raumentwicklung zur Anpassung an den Klimawandel. Hamburg. = Neopolis Working Papers: Urban and regional studies 10.
- Hübler, K.-H. (2005): Methoden und Instrumente räumlicher Planung. In: ARL Akademie für Raumforschung und Landesplanung / Academy for Territorial Development in the Leibniz Association (Ed.): Handwörterbuch der Raumordnung. Hanover, 635-641.
- Jung, W. (2008): Instrumente räumlicher Planung: Systematisierung und Wirkung auf die Regimes und Budgets der Adressaten. Hamburg. = Publication Series Studien zur Stadt- und Verkehrsplanung 7.
- Schönwandt, W.; Jung, W. (Ed.) (2006): Ausgewählte Methoden und Instrumente in der räumlichen Planung: Kritische Sondierung als Beitrag zur Diskussion zwischen Planungswissenschaften und -praxis. Hanover. = Arbeitsmaterial der ARL 326.

Additional literature

- Albers, G.; Wékel, J. (2016): Stadtplanung eine illustrierte Einführung. Darmstadt.
- Fürst, D. (2010): Raumplanung: Herausforderung für das deutsche Institutionensystem. Detmold. = Planungswissenschaftliche Studien zu Raumordnung und Regionalentwicklung 1.
- Fürst, D.; Scholles, F. (Eds) (2008): Handbuch Theorien und Methoden der Raum- und Umweltplanung.
- Höhnberg, U. (2005): Instrumente zur Verwirklichung von Raumordnung und Landesplanung. In: ARL Akademie für Raumforschung und Landesplanung / Academy for Territorial Development in the Leibniz Association (Ed.): Handwörterbuch der Raumordnung, Hanover, 483-488.

Langhagen-Rohrbach, C. (2005): Raumordnung und Raumplanung. Brunswick.

Priebs, A. (2013): Raumordnung in Deutschland. Brunswick.

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