INTRODUCTION TO THE GERMAN SPATIAL PLANNING SYSTEM

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1. Spatial planning in a federal state

Competences of spatial planning authorities differ according to their position within the German administrative system. Government and administration in Germany are organized in a federal structure consisting of the national level, the states and local authorities. This has led to a somewhat complicated, but in itself logical distribution of competences within the field of spatial planning which is presented here in an overview:

Figure 1: System of Spatial Planning in Germany (source: ARL 2008, p. 39)

2. The national (federal) level

The federal government defines basic goals and principles of the country's spatial organisation (*Raumordnung)*. Guiding principle of German spatial planning is the desire to promote an economically, ecologically and socially sustainable distribution of functions within the German territory.

The goal of establishing equal living conditions in all parts of Germany has come under criticism lately and is currently revised. At the same time the coordination of spatial development according to concepts agreed on at the European level is gaining support. These goals and principles are spelled out into planning policies and infrastructure projects of national importance which are enacted and have binding character of varying degree.

Federal Level *(Legislation)*

- Planning authority: Federal Ministry of Transport and Digital Infrastructure (BMVI)
- Basic principles and objectives of spatial planning in Germany
- Regional development plans for the federal territory (not implemented) and exclusive economic zones (e.g. North Sea and Baltic Sea)
- Spatial Planning Act (ROG), Regional Planning Regulation (RoV), Building Code (BauGB), Federal Land Utilisation Ordinance (BauNVO)

Figure 2: Spatial planning at the federal level in Germany (source: own design)

The federal government also legislates regulations affecting local spatial planning: types of plans, possible contents, procedures for the establishment of plans including citizen participation etc.

The spatial planning policy of the Federal Government and of the federal states supports the objective of limiting global warming to 2° C by the turn of the century and, for this purpose, to reduce the greenhouse gas emissions in order to alleviate the risks of climate change in the long run. It is, however, not possible to avoid all nuisances. It is necessary to make adaptations to climate change at regional level.

From the national perspective, main principles and aims of integrating climate change needs into spatial planning are included in the *"Concepts and Strategies for Spatial Development in Germany"* of 9 March 2016.

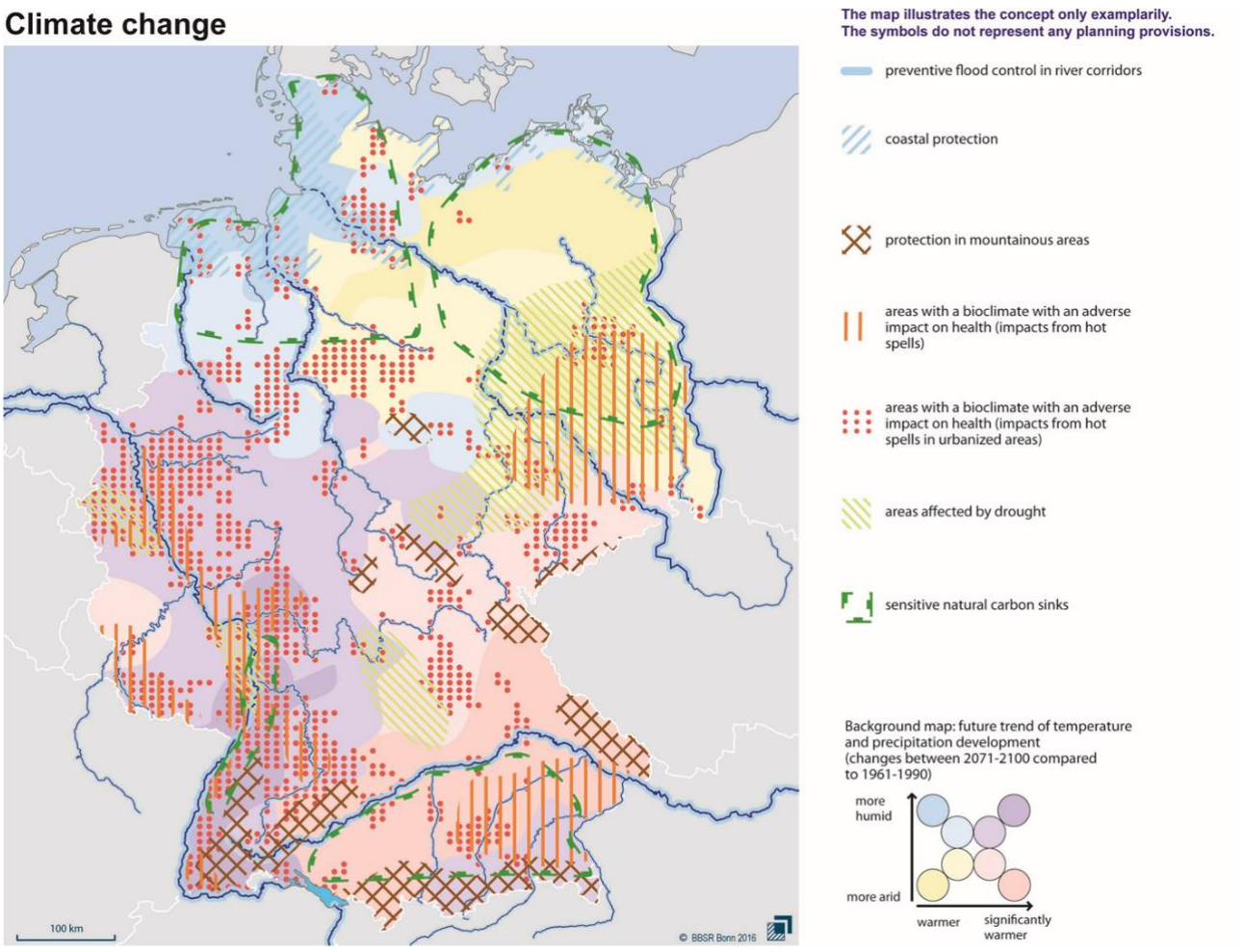

Figure 3: Concepts and strategies for spatial development in Germany – concept climate change (source: BMVI 2016)

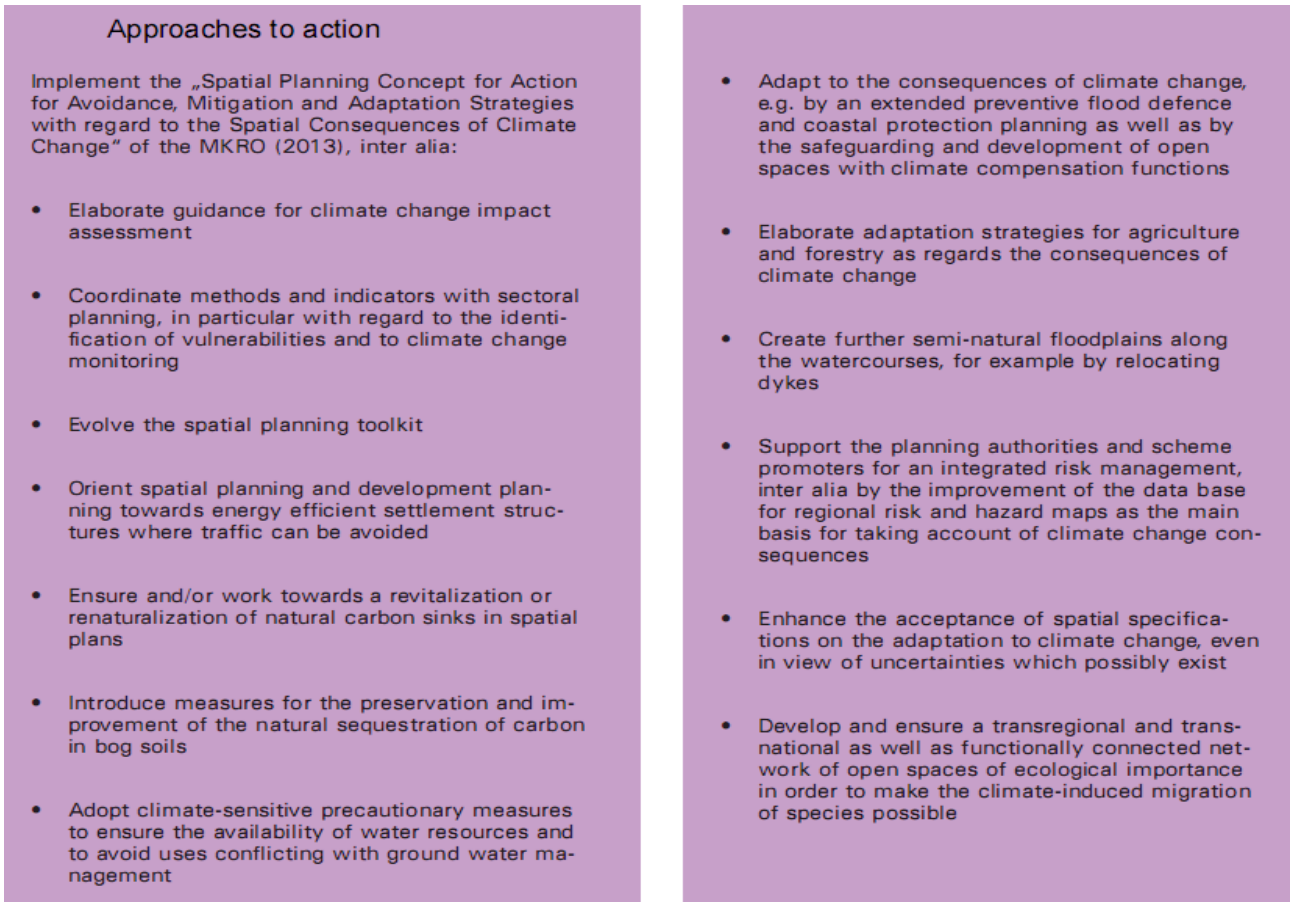

Figure 4: Concepts and strategies for spatial development in Germany – approaches to action climate change (BMVI 2016)

An essential contribution to tackle climate change are energy conservation and the transformation of the current energy supply system towards a safe, economically efficient and environmentally acceptable energy supply. In particular, the development or renewable energy is also a task of and a challenge for spatial planning policy. The envisaged increase of the share of renewable energy

- in the gross final energy consumption from 12.0 % (2013) via 18 % (2020), 30 % (2030) to 60 % (2050)
- in the gross electricity consumption from 25.3 % (2013) via at least 35 % (2020), at least 50 % (2030) to at least 80 % (2050)

will affect the regions to varying degrees by additional land take and the increasing land use conflicts thus resulting. The growing disintegration of the existing sites of conventional energy generation, the sites of renewable energy generation and the high-demand areas makes it necessary to adapt the transfer and distribution infrastructure. For this reason, the conversion of the energy supply system is of high and long-term spatial relevance, affecting all planning levels and all regions. The reorganization of the energy supply towards a system based on renewable energy offers opportunities for the economic development, technological progress and regional value creation. Structural change in those regions where the conventional energy generation is still a decisive sector of the economy is to be used as early as possible to set the course for a sustainable regional development.

Climate change with its various forms and possible impacts – including heavy rain risks - as well as the related requirements and avoidance and adaptation measures remains a permanent and dynamic task of spatial planning. It is mainly influenced by the regional and local circumstances and covers all land uses.

On the basis of spatial analyses to determine the susceptibility of the spatial structures and uses to the impacts of climate change, the current objectives and policy decisions as well as the spatial forms of the specifications laid down in plans and programmes are to be reviewed, if necessary, newly assessed and extended or differentiated accordingly from the technical and spatial perspective (climate proofing/climate change impact assessment). The focus will be on the following fields of action:

As a consequence of climate change, the incidence of both fluvial and pluvial flooding and the discharge regime may also be subject to changes in those areas which are affected by snow and glaciers and an increase in precipitation and changes of its temporal distribution and even intense rainfall events have be expected.

The focus of the planned precautionary flood control measures are the protection of existing and the reclamation of flood zones as natural flood storage areas as well as the improvement of the water retention in the catchment areas of the rivers, risk prevention in potential floodplains and the securing of potential sites for flood protection.

Therefore, a cross-border coordination in close partnership between upstream and downstream parties is inevitable in river catchment areas on the basis of national and international flood defence programmes.

3. Spatial development plans at the state level (*Länder*)

The goals and principles defined by the federal level constitute a framework for the 16 states which in turn specify spatial development aims for state and regional planning. These in turn obtain a legally binding status as well. To ensure the compliance of local plans, state administration and dependent regional authorities have the prerogative to approve land use plans drawn up by local authorities. The states also engage in the coordination and approval of public and private infrastructure of some spatial relevance.

Federal State Level *scale: 1:100 000 - 1:500 000*

- Planning authority: Federal States
- Concrete specifications (principles and objectives) for the development, order and security of the respective federal state
- Federal State Spatial development plans (e. g. Saxony) or programmes (e.g. Lower Saxony) / Land-use plan (Berlin, Hamburg, Bremen)

Figure 5: Spatial planning at the federal state level in Germany (source: own design)

The spatial planning plans have a large range of regulations for flood prevention, in particular also to heavy rain risk prevention.

In particular with regard to the type and scope of regulation we see big differences in the (German) federal states. The variety of contents of the examined plans can be i.a. due to country-specific legal requirements (e.g. double regulation ban in Bavaria) or by the time of the declaration into force of the plans. Overall, difficult conceptual variety and changing references to legal basics make the interpretability of spatial planning statements in the context of the analysis very difficult.

It should be noted that the action priorities are mainly dealt with in the textual specifications. Half of the spatial planning plans also apply cartographic statements on individual action areas; about one third has priority / reserved areas out. Significant differences exist in the scope of the regulation:

The content of the core activities in most of the state spatial planning plans is taken up, albeit partially only in the summary or few goals / principles are declared. Exceptions are here for examples of Saarland and Bavaria. Partially only exclusive principles (*Thuringia, Bavaria*) or goals (*Saarland*) are used; but most

spatial area plans use a combination of goals and principles. A supplementary or more detailed contentual discussion mostly takes place in the explanatory sections of these plans.

Some (newer) spatial plans are dedicated to deepening and in detail flood prevention, for example the spatial development plans from *Saxony-Anhalt (LEP Sachsen-Anhalt 2010), Saxony (LEP Sachsen 2013), Thuringia (Thüringen 2014), North Rhine-Westphalia (Nordrhein-Westfalen 2017/2019) and Hesse (Hessen 2017).*

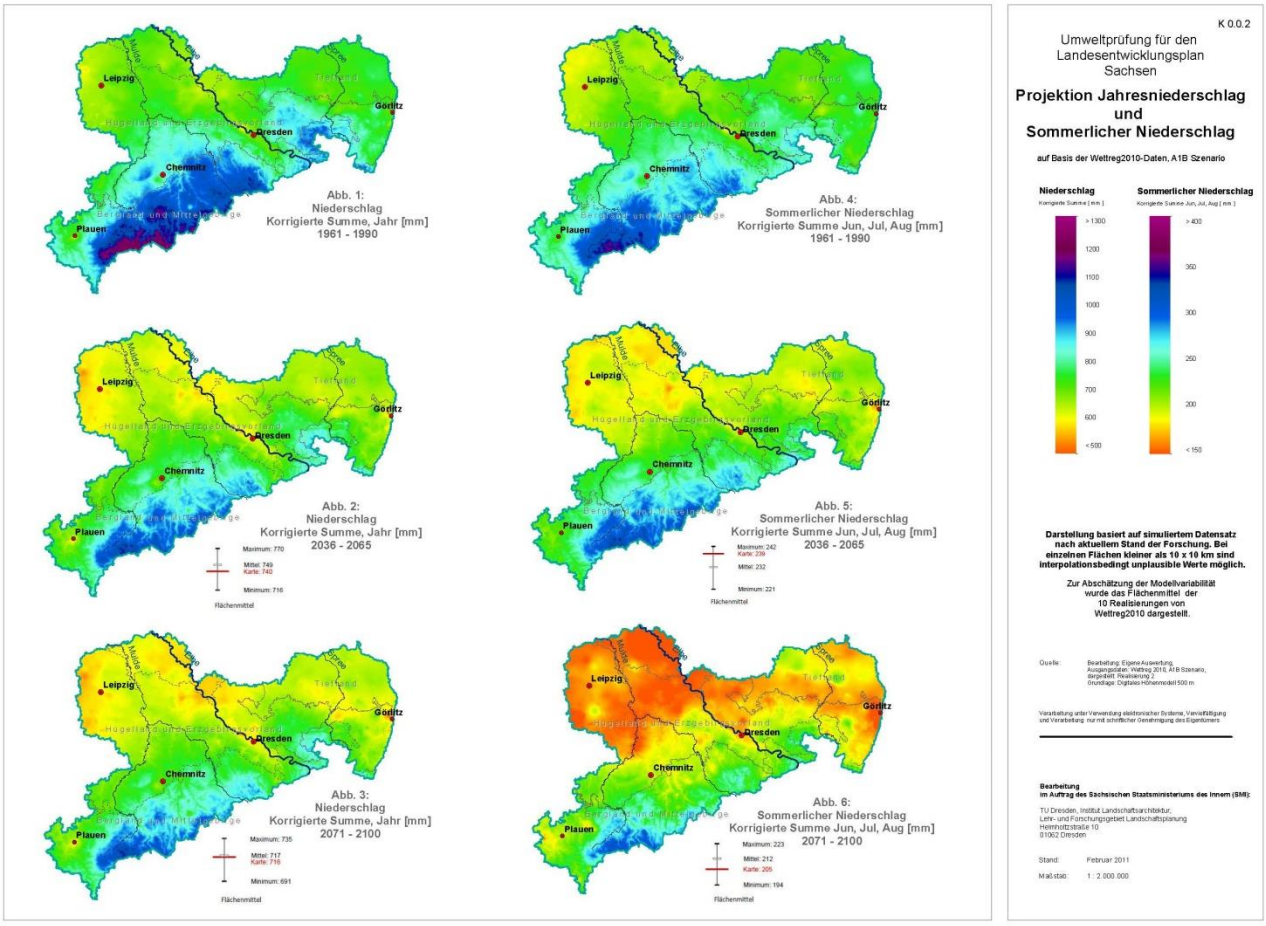

Figure 6: Projection annual precipitation and summer precipitation in Saxony (source: LEP Sachsen 2013, Chart K 0.0.2)

A regulatory focus of the state level is on securing existing flood areas as retention area. For these all, spatial plans of the Länder meet statements; many put far-reaching textual as well partially geographic contents and connect them with orders to the regional planning level. However, only few plans differentiate the protection goals related to the hazard or the sensitivity of the protected goods against inland floods.

Flood prevention is usually a separate topic also often in the context of open space protection (eg. *Berlin-Brandenburg*), nature and landscape water protection (eg. *Rhineland-Palatinate*) embedded.

However, this often opens only in the justifications. The opening of priority or reserved areas for flood prevention for other uses and intermediate uses, the redemption of unrealized construction areas in flood areas or the overlay of priority come sporadically into the focus. Climate change is only addressed in the newer plans, without this resulting in a concrete approach to the effects of climate change. Few plans deal with cross-border and inter-sectoral issues in more detailed coordination of flood prevention tasks.

An evaluation of spatial planning plans at the state level reiterates the importance of flood prevention at the higher-level planning level. This has been included into the plans and programs found and can be seen therefore as an important aspect of the future development in the German *Länder*. This applies in particular for the *"new generation"* of the state spatial plans, after the big fluvial and pluvial flood disasters implemented or updated in the 2000s.

However, all plans offer - more or less – only starting points for a follow-up regarding the goals and principles, especially with regard to climate change and the projected increase of extreme weather events. A transnational view of the river basins, which reflects in agreed spatial planning specifications, is not to be seen yet. Also a systematic and coordinated processing by the actors of water management – mainly on the instruments of flood risk management - and spatial planning is up to date not to be seen.

4. Regional planning

There are exactly 111 regional plans in force in the 16 Federal States in Germany; 90 of them are evaluated here. Most regional plans rely on interaction of principles and goals, only few regions set exclusively principles or goals. In many regional plans, the contents of the action focuses only in the explanatory parts factually and spatially determined.

Regional Level *scale: 1:50 000 - 1:100 000*

- Planning authority: varies (e.g. municipal association, administrative district, county)
- Concretization of the principles and objectives of the state-wide spatial development plans for sub-regions of the respective state territory
- Regional spatial development plans

Figure 7: Spatial planning at the regional level in Germany (source: own design)

A regulatory focus, as well as at the state level, is on the protection of existing flood areas. This action line contains 83 out of 90 examined plans textual and 69 plans with spatial arrangements. The majority submit the contents of this action area as goal, as well as the recovery of fluvial and – some times also - pluvial flood areas as retention space or securing potential sites for flood control measures, which is themed in each of 64 of the 90 plans examined. The improvement of water retention in the area is included in 72 regional plans in the respective textual specification, but only in 38 plans we find it as a graphic specification fixed. In addition, the majority of textual stipulations are formulated as principles. Also the provision for risks in potential flooding areas is mainly defined in form as principle in only the half of all the regional plans proved. Settlement withdrawal takes place only in three of the 90 regional plans, load balancing in any of the plans mentioned.

In comparison to other Länder (states), i.a. *Saxony, Saxony-Anhalt* and *Thuringia* are to be highlighted as their regional plans include specifications for almost all mentioned action managements, only with the exception of the action focus *"securing potential locations for flood protection measures"* for example in *Saxony* and as well as the action lines *"recovery of flood areas as retention area"* and *"risk prevention in potential flooding areas"*. The regional plans in most of the other states content covers almost half of the main action management lines.

Good examples from *Saxony* are to find i.a. in the regions *"Oberelbe/Osterzgebirge"* and *"Oberlausitz-Niederschlesien"*, respectively.

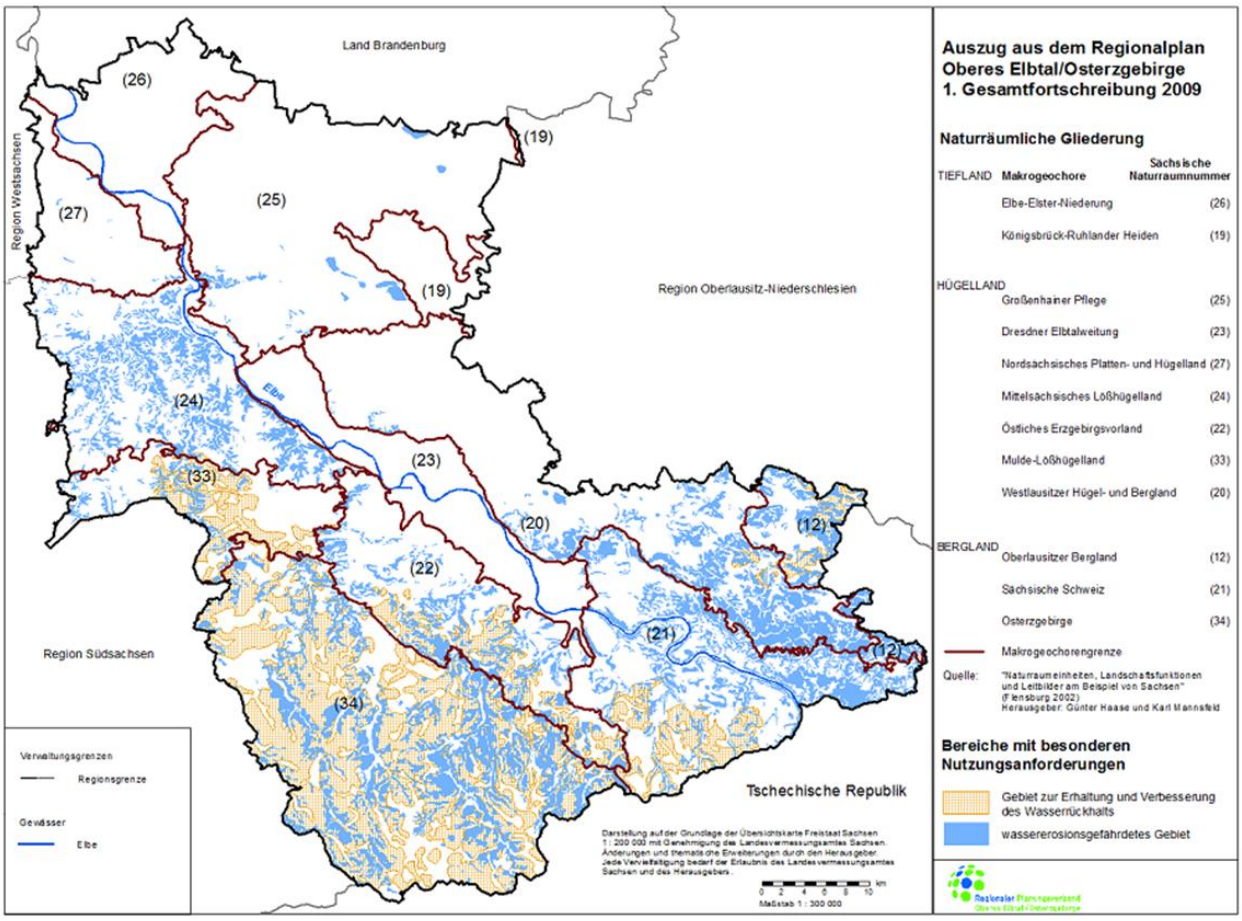

Figure 8: Example regional planning in Saxony – water erosion protection areas in Oberelbe-Osterzgebirge (Upper Elbe/East Ore Mountain) region (Regionalplan Oberelbe-Osterzgebirge 2009)

30 of the 90 evaluated regional plans in Germany contain at least one sheet set that is considered *"innovative"* or far-reaching. Some regions are thus significantly beyond the usual scope of the planning practice in Germany. They assume a model function for sustainable handling of flood and risk prevention in the spatial planning. Especially the analysis of innovative or far-reaching plan sets presented in the framework can be seen as an important starting point for the formulation of the recommendations for action in the respective manuals published by the German federal ministry responsible for spatial planning and management (BBSR 2018).

For the majority of the regional plans, in conclusion it is to be determined that a coherent comprehensive and nationwide penetration of the regional planning regulations according to the action lines in the action fields both *"preventive flood protection in river areas"* and *"heavy rain risk management"* can not to be find yet.

5. Local planning

Central planning competences in Germany, though lie with the over 16,000 municipalities. On the local level several kinds and tiers of planning exist. Although there is no legal obligation, most municipalities engage in strategic planning concerning the spatial and functional development of the town or village. As a means to establish political consensus on general spatial development goals for a time span of 10 to 30 years a wide discussion process is launched with actors form the political arena, the civil society and the business community. While a general urban development plan covers the whole city, corresponding plans

address certain urban quarters; especially the later tye offers a scale which seems to be the most suited for enlisting active citizens' participation. The resulting document serves as strategic orientation for all actors concerned with spatial development and land use within the community.

Local Level *scale: FNP 1:5 000 - 1:50 000, B-Plan: 1:1 500 / 1:5 000*

- Planning authority: City or municipality
- Preparation of structural and other use of land in a municipality in accordance with the building law code
- FNP: Land use plan with description of the type of land use for the entire municipality
- B-Plan: development plan with legally mandatory regulations for sub-areas of the municipality

Figure 9: Spatial planning at the local level in Germany (source: own design)

Although the strategic development plan more often than not is ratified by the local council it is legally non-binding and therefore cannot serve as reliable planning base.

Therefore municipalities are obliged to formulate two types of statutory land use plans – legally binding instruments: The preparatory land use plan (*FNP*, *Flächennutzungsplan*) constitutes a framework instrument, while the public binding land-use plan (*B-Plan*, *Bebauungsplan*) serves as a regulatory instrument.

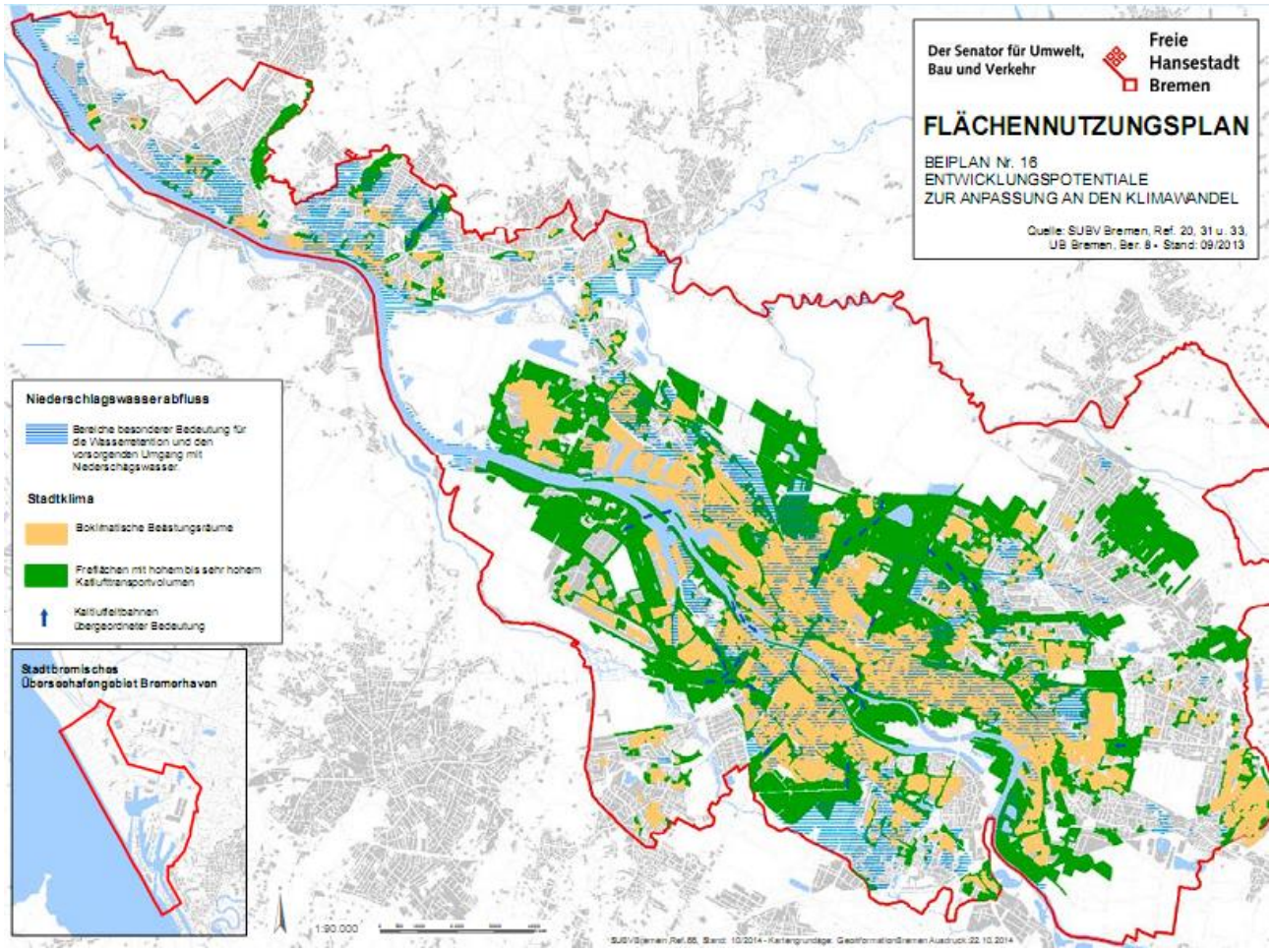

Figure 10: Example preparatory land-use plan (FNP) of the Free Hanseatic Town of Bremen (Germany) (source: Metropolregion Nordwest 2016, p. 27)

The preparatory land-use plan covers the entire area of the municipality and indicates the intended development of the community. It is legally binding for all public institutions, private actors are neither bound by it nor can they deduce any claims for building permissions on its grounds.

The binding land-use (B-Plan) plan is much more detailed, defining functions and intensity of use, basic urban design principles and the allocation of public infrastructure. Environmental aspects are becoming increasingly important in recent years especially through legislation by the European Union. This binding land-use plan is to be "evolved" from the preparatory land-use plan - which means that it need not be an enlarged copy, but may not contain major deviations. If these are deemed necessary, the preparatory land-use plan has to be changed in a parallel procedure.

For both types of plans there are corresponding landscape plans and green disposition plans referring to natural features, planting and green elements.

Federal law obliges municipalities to address a considerable number of concerns (like socially just housing provision, economic development, environmental protection, interests of the public and private landowners etc.) when engaging in statutory land use planning. The law states that public and private concerns are to be justly weighed among each other and against each other. For fulfilling this demand, the local planning authorities may use a considerable range of discretion, as long as a just and intelligeable procedure of "weighing the concerns" is observed and the plans conform to the goals of federal and state planning.

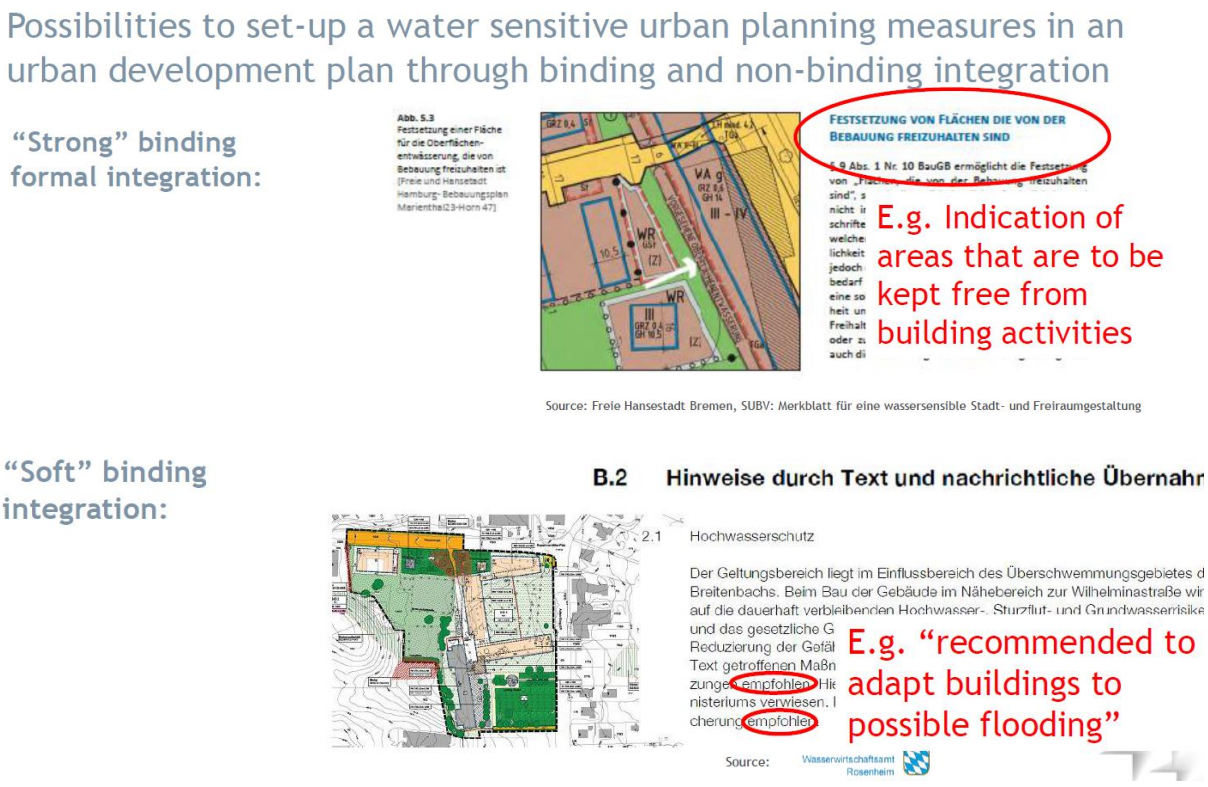

Figure 11: Binding local building plan (B-Plan) – example from Bavaria: possible arrangements in local building plans (= urban land-use plans) (source: Wasserwirtschaftsamt Rosenheim 2017, p. 11)

6. Informal Instruments: Citizen Participation, Communication & Information

Information is an essential element for all levels of spatial planning in Germany. In recent years, a number of broshueres, information packages and online tools have been published by ministries, regional agencies and municipalities from all over the country. The following examples can give an impression, how both, the public and planners were kept informed:

- federal level – see BBSR 2018 and BBSR 2015
- state level and regional Planning: see Metropolregion Nordwest (2016) and Ministerium für Bauen, Wohnen, Stadtentwicklung und Verkehr und Ministerium für Klimaschutz, Umwelt, Landwirtschaft, Natur-und Verbraucherschutz des Landes Nordrhein-Westfalen (2016)

A very comprehensive overview on heavy rain risk management has been published in the Free Hanseatic of Town of Hamburg within the project "RISA – Strukturplan Regenwasser 2030" (= RISA – Structural Plan Rain Water 2030):

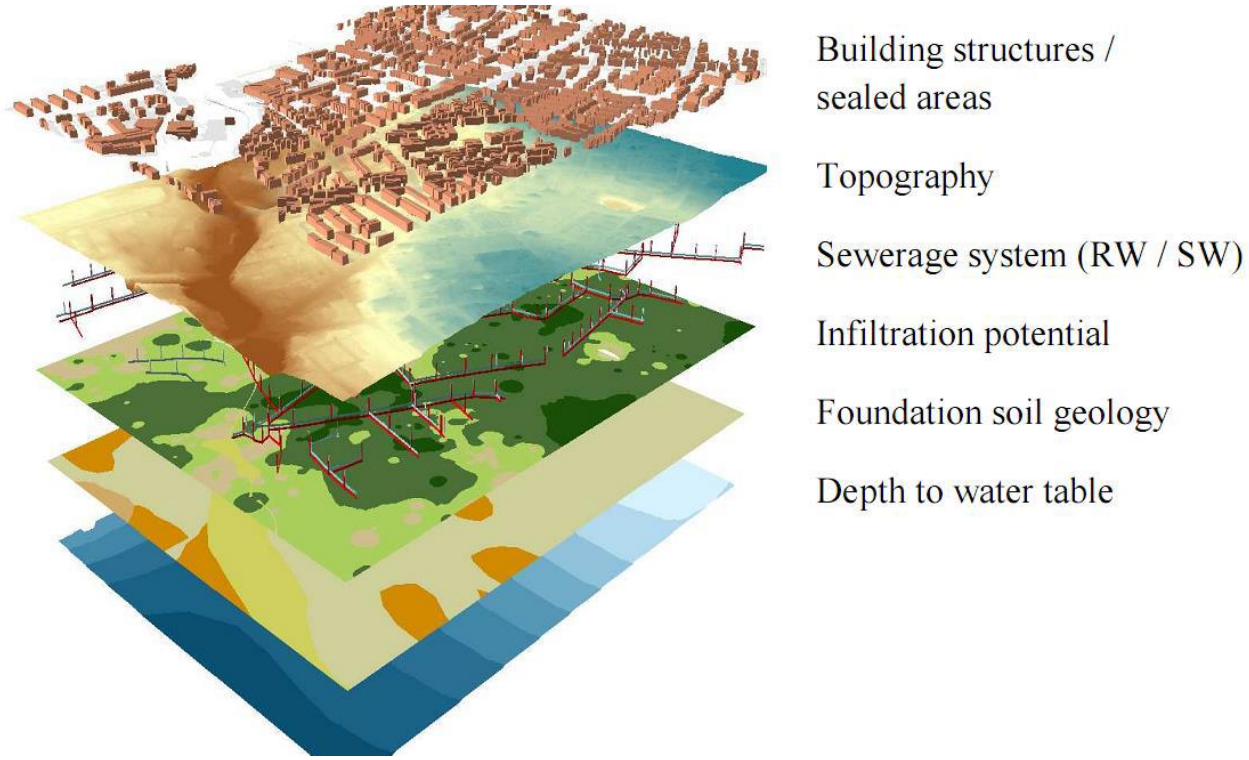

Figure 12: Example: Mapping in the Free Hanseatic Town of Hamburg („RISA 2030) (HSE & BUE 2015)

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