Collection of good practices for growth and shrinking strategies

Contribution to IP_SP1_1b of the Alpine Climate Target System

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Spatial Planning and Sustainable Development Working Group of the Alpine Convention

Mandate 2021-2022

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IMPRINT

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TABLE OF CONTENTS

1. BACKGROUND

As part of its 2021/2022 mandate, the Spatial Planning and Sustainable Development Working Group contributed to the Alpine Climate Target System. This collection implements Step 1b of the Spatial Planning Implementation Pathway 1 “Alpine wide concept “Spatial Planning for Climate Action”” in the form of collection of good practices for growth and shrinking strategies.

The purpose of this collection is to serve as a basis for the moderated discussion in the next step of the implementation pathway. The issue of climate-sensitive growth and shrinking is one additional aspect to be considered in the discussion on sustainable spatial development and closely connected to the issue of quality of life (QoL), e.g. in regard to public transport or services of general interest.

2. STRATEGIES AND DOCUMENTS

2.1 European Union

Comprehensive Strategy: Green Deal

The European proposes a strategy that seeks to decouple economic growth from the use of resources and achieve carbon neutrality. As a consequence, this means to decouple land take from economic and population growth. In terms of growth, it means qualitative growth instead of quantitative growth.

Territorial Agenda 2030

Inequal (spatial) development in Europe between the different types of places is increasing in many fields such as quality of life, services of general interest, demographic and societal imbalances or employment and economic development. This is accompanied by increasing pressure through climate change. Therefore, increased concerted action at all geographical and governance levels is needed to ensure positive future perspectives for all people, communities and places in Europe. The TA 2030 seeks to strengthen the territorial dimension of sector policies at all governance levels.

ESCAPE – European Shrinking Rural Areas: Challenges, Actions and Perspectives for Territorial Governance (2019 - 2020)

This project is not mentioned here as an example of a growth or shrinkage strategy, but only plays an informative role. The project presents from the European perspective where rural areas are subject to shrinkage processes, which different challenges they are exposed to and which consequences can be derived from this for cohesion policy after 2020.

ESCAPE focused on European rural regions experiencing or threatened by demographic decline. The central objectives were to understand the process(es) driving shrinkage, map the heterogeneity within this group of regions, and devise intervention logic(s) for more appropriate integrated policy approaches.

Source/Further reading: www.espon.eu/escape and Indicators and maps[1]

ESPON POLICY BRIEF: Shrinking rural regions in Europe (2017)

The Policy brief analyses depopulation and marginalisation in Europe. Besides facts and figures about shrinkage it highlights policy responds to that phenomenon. To address depopulation and marginalisation *"… policy-makers have essentially two policy levers: (1) 'going for growth' – reverse shrinking trends and stimulate population growth; (2) 'coping with decline' – accept shrinkage and adapt to its economic and social consequences. […] Accepting shrinkage can help to reorient rural policies and investment decisions to re-grow greener, smaller and provide new openings to be innovative, modernise governance and public services through more holistic, pro-active and place-based strategies consistent with 21st Century realities."* (ESPON 2017: 2)
Source/Further reading: Shrinking rural regions in Europe

European New Bauhaus

Building culture (Baukultur, European New Bauhaus[2]) is a significant aspect of the discussion in regard to climate change adaptation and land management. The public sector plays a central role in setting an example and giving impulses within its own infrastructure stock (schools, police stations, etc.).

"We want to create a design movement integrating three dimensions: sustainability (including circularity), quality of experience (including aesthetics) and inclusion (including affordability). Showing that creativity is in finding affordable, inclusive and attractive solutions for our climate challenges."
Source/Further reading: https://europa.eu/new-european-bauhaus/index_de

2.2 Austria

Legislation of spatial planning is the remit of the provinces. They have passed their own planning laws which set the framework for regional spatial planning (überörtliche Raumplanung) and local spatial planning (örtliche Raumplanung).[3]

The Austrian Conference on Spatial Planning (ÖROK) takes within the federal planning system the role of a coordinating body with representatives of the federal government and the Land governments as well as representatives of towns and municipalities. It prepares every ten years the Austrian Spatial Development Concept (ÖREK). ÖROK's tasks include creating basic planning materials for Austria's spatial development policy (e.g. "ÖROK Forecasts"). The ÖREK analyses and monitors spatial development and publishes recommendations for different thematic issues.

Austrian Spatial development concept 2030 (ÖREK 2030 – Raum für Wandel[4])

ÖREK 2030 is the most recent document of the Conference of Spatial Planning, which was developed consensual in a process with broad participation. It represents the status-quo of the spatial planning/spatial development discussion in Austria.

[1] Note: The links to the documents were last accessed in November / December 2021.

[2] https://europa.eu/new-european-bauhaus/index_en

[3] www.oerok.gv.at

[4] Refers to the 6th draft from July 2021

The ÖREK action programme is structured in four pillars:

(1) Using spatial resources sparingly and carefully;
(2) Strengthening spatial and social cohesion;
(3) Developing economic areas and systems in a climate-friendly and sustainable manner;
(4) Developing vertical and horizontal governance.

For each pillar, targets and action mandates are set. Due to the federal structure the ÖROK the concept serves as a preparation and offers support to the spatial planning authorities.

While almost all targets and action mandates of the ÖREK 2030 have a strong reference to climate change, shrinkage is not specifically addressed. But the spatial typology distinguishes between five spatial types[5], including one named "rural areas with low population density and population decline" – a description which can be interpreted as “shrinking region”. Many of the mandates refer to all types of areas, but in some mandates the "shrinking" areas are specifically addressed. These are:

- 1.3.a: Preserve agricultural land and quality of soil functions for food production.
- 2.2.a Improve the accessibility of centres with sustainable transport modes.
- 2.2.b The further development and strengthening of polycentric structures against the background of climate change as a central planning objective.
- 2.3.a Use and adapt the offers and infrastructures for children and young people.
- 2.3.b: Actively counter the consequences of the ageing of society.
- 3.2.b Expand digital infrastructure and services away from areas and locations that are well served by the market.
- 3.4.c Strengthen regional centres and their functional areas as knowledge-based service and education locations.
- 3.7.b Create an attractive living environment for employees in general, for women in particular and especially in business- and knowledge-based services in regions with population decline.
- 4.1.a: Further expand inter-municipal cooperation in spatial development and spatial planning.

Source/Further reading: Austrian Spatial development concept 2030

16th ÖROK Monitoring Report (16. Raumordnungsbericht 2018 - 2020)

Economical and sparing use of spatial resources is already given high priority in the 2011 ÖREK strategy, but shrinkage and settlement deconstruction are not explicitly addressed. Within the Monitoring Report a subchapter is dedicated to the prevention of urban sprawl and climate protection. It describes the different approaches and measures of the Laender to foster inner-urban development, the mobilisation of building land and the limitation of urban sprawl.

Source/Further reading: 16. Raumordnungsbericht (German language)

ÖROK Strategies for regions with population decline 2016 - 2018

[5] These are: Larger urban regions; Smaller urban regions and rural agglomerations; Axis areas along high-ranking transport infrastructure; Rural tourism regions and Rural areas with low population density and population decline

Between 2016 and 2018 the ÖROK members carried out an ÖREK partnership, which dealt in particular with municipalities and regions with a decrease in population. The intention of the work was to discuss the many shades and differentiations of the topic, to contribute to a removal of taboos and to develop proposals for action (focus: spatial development) for politics and practice.

A first study[6] analysed current demographic developments in a multidimensional way and identified questions, hypotheses and approaches to solutions. Concerning spatial planning the theses are the following:

(14) Irrespective of the diversity of the regions with population decline the redimensioning of infrastructures (expansion and deconstruction) is a central issue.

(15) The instruments of spatial planning and land use planning must be adapted for deconstruction.

(16) Architecture and building culture should be increasingly used as impulse generators.

In addition to a differentiated analysis, a major focus was on the development of strategies for communication and new perspectives in the approach.

Based on this analytic study further work turned to the specific question of communication and emotions in dealing with regions with population decline – a quite unusual issue for spatial planning. The leading questions were: How are regions with population decline talked about? What emotions are triggered by this and does this open up or close off possibilities for action? What facts are there, and how can they be brought into a further development process in a supportive way?

As a result, several strategies for communication and perception of regions with population decline were developed in cooperation with pilot regions. Possible options for action, which are based on analysis and are translated in new linguistic pictures are presented in guidelines. The partnership formulated 12 core statements and developed communication ideas, analysis and good practice examples.

The strategies have no direct relation to climate change, but they but mitigation of climate change and the adaption to climate change may be included in the future.

Source/Further reading: Strategien für Regionen mit Bevölkerungsrückgang (German language)

Tyrolean Spatial Concept "LebensRaum Tirol Agenda 2030"

The Spatial Concept includes a diagnosis about the spatial disparities between growing and shrinking regions. Overall, Tyrol expects further population growth. Most of this took/will take place in the regional capital and the regional centres. The easily accessible urban hinterland will also grow strongly in population, characterised by significant migration gains as well as positive birth balances.

[6] Regionen mit Bevölkerungsrückgang. Experten-Impulspapier zu regional- und raumordnungspolitischen Entwicklungs- und Anpassungsstrategien 2016. https://www.oerok.gv.at/fileadmin/user_upload/Bilder/2.Reiter-Raum_u._Region/1.OEREK/OEREK_2011/PS_Bevoelkerung/Experten_Impulspapier_Analyse_strategische_Orientierungen_20160718.pdf

A direct consequence of this (re-)urbanisation and suburbanisation is the rapidly progressing and spatially expanding physical urbanisation of the Tyrolean central region and the district centres. Foreseeable results of the strong building activity are towns and villages with different forms of housing and land uses. The interconnectedness of the Tyrolean central region is also progressing in functional terms. The concentration of workplaces and high-level supply facilities in the supra-regional centre of Innsbruck and in a few other central locations leads to a high mobility volume throughout the province as a result of the dispersed residential locations and the more distant areas for leisure activities.

In clear contrast to the population concentration in the Tyrolean central area, a slight but persistent population decline has set in in rural peripheral areas. This situation, which can be explained by continued emigration and increasingly negative birth rates, leads in the long term to a thinning out of the permanent population, which is also associated with a significant ageing of society. Even areas that are highly developed in terms of tourism are unable to decouple themselves from this demographic trend. This phenomenon, known as mountain exodus, requires specific public attention in order to avert the marginalisation of supply and the looming abandonment of the (agricultural) economic use of such areas.

The concept is thematically divided into the following five areas: livable places/settlements, successful business locations, needs-based supply and mobility, diverse landscapes and joint action. For these areas, goals and recommendations for action are given on the one hand for the entire Land, but also for different spatial types. These spatial types are: urban areas, areas used intensively for tourism, urban areas used intensively for tourism, rural areas and near-natural areas.

The objectives and recommendations for action are:

Liveable places:

- Create compact places;
- No designation of building land without spatial connection to existing building land;
- Mobilise building land;
- Identify vacancies and possible re-uses;
- Attractive design of public and semi-public areas;
- Define suitable areas for a functional mix of uses;
- Refine promotion criteria with regard to spatial planning objectives.

Successful business locations:

- Develop favourable locations for industry, commerce and trade and secure them for the long term;
- New commercial areas only in the form of regional commercial areas;
- Connecting industrial estates to local public transport systems;
- Establish design criteria;
- Identify and re-use vacant and brownfield sites;
- Further development of agricultural precautionary areas.

Needs-based supply and mobility:

- Optimisation of public transport services and catchment areas;

- Improve cycle and pedestrian networks;
- Offer services, retail areas and public facilities in line with demand, create framework conditions to safeguard infrastructures for the provision of public services;
- Coordinate transport infrastructure planning with spatial planning requirements;
- Improve public transport connections to intensive tourist areas and recreational facilities;
- Fast internet infrastructure.

Diverse landscapes:

- Interlinking of green and open space networks between localities and the open landscape, protection of characteristic valley forests;
- Recognising the diverse functions of the soil and taking them into account in planning, depiction of soil functions in the spatial planning information system tiris;
- Recognising and preserving special features of the landscape;
- Strengthening and shaping the green network of the landscape for nature, leisure and recreation;
- Greening the edges of the village to improve integration into the landscape.

Joint action:

- Identify interfaces with spatial planning, improve cooperation through interdepartmental projects;
- Communicate spatial planning issues in a comprehensible way;
- Making planning decisions transparent and expanding participatory processes;
- Further networking of spatial planning-relevant agencies in the state and increased exchange across state borders;
- Evaluate and realign planning associations, e.g. with cross-municipality spatial planning concepts;
- Develop cross-municipal synergy potentials for regional cooperation.

Source/Further reading: Lebensraum Tirol 2030 (German language)

Strategic spatial vision "Raumbild Vorarlberg 2030"

The strategic spatial vision forms the framework for spatial development in Vorarlberg and is the guiding principle for the development of regional spatial plans and the application of other spatial planning instruments. The 3+1 core themes of the Spatial Image Vorarlberg 2030 are: 'Open space and landscape', 'Settlement and mobility, economy, tourism', 'Agriculture and forestry' and 'Regional cooperation'. In addition, there are topics for the future: underground spatial planning, urban agriculture, digitalisation, decarbonisation, share economy.

For each goal, measures for rapid (3-5 years) and medium-term implementation (5-10 years) have been formulated. Example: Settlement and mobility - quality inner development:

In order to implement inner development, every Vorarlberg municipality has drawn up a legally binding local spatial development plan by the end of 2022. These concepts, which are developed in participatory planning processes - with the involvement of citizens - contain clear statements on settlement development in the municipality. Targeted development focal points are set. New building land is only designated upon conclusion of a spatial planning

agreement or for a limited period of time (in case the building land is not built on within the time limit). Isolated building land designations are generally avoided. On the basis of the local spatial development plan, neighbourhood development plans are drawn up for important parts of the village (e.g. the village centre). The implementation of the neighbourhood development plans is carried out by means of development plans, building land regulations and by way of contractual land use planning.

Source/Further reading: Raumbild Vorarlberg 2030 (German language)

Strategy for Adaption to Climate Change – Spatial Planning

The Austrian strategy for adaptation to climate change (2017) and its Second Progress Report 2021 include some interesting statements for spatial planning/spatial development (**Fehler! Verweisquelle konnte nicht gefunden werden.**).

General objective: Addressing the challenges of climate change in order to ensure sustainable spatial development through the consistent application and further development of existing planning objectives and instruments, as well as by preserving ecosystem functions.

Table 1 References in the Austrian Strategy for Adaption to Climate Change and its Second Progress Report

Strategy spatial planning/development (national level)	Progress (2021)
Development and provision of practice-relevant data and information bases, raising awareness, and improved networking of actors	Climate protection and adaption to climate change (CC) plays an important role in ÖREK 2030; relevant data are available esp. for energy planning, flood risk and natural disaster. Transfer to practice should be improved, implementation means a challenge.
Establishment and protection of flood retention and drainage zones and clear regulation of zoning prohibitions and restrictions	More retention areas were dedicated and excluded from zoning; the conflicts of potential land users regarding retention areas are challenging; clear rules for land use not yet everywhere.
Reinforced legal links between zoning and hazard-zone planning	Some Provinces (Upper Austria, Salzburg and Styria) already strengthened the link between zoning and hazard zone planning. Hazard zones are respected in all Provinces.
Regulations for handling existing zoning and building in hazardous areas	Reallocation of developed land is difficult in practise and spatial planning, resettlement and deconstruction of existing buildings are challenging. But there are some examples for volunteer resettlements.
Promotion of intermunicipal cooperation	Although some models for intermunicipal cooperation exist (e.g. “Schutzwassergenossenschaften”) there is no incentive system for cooperation.
Protection of fresh/cold air production areas, ventilation paths, and “green” and “blue” infrastructure within residential areas	Scientific information is available as research in this topic was strengthened (e.g. in Styria has a map of ventilation paths), but the implementation into municipal planning is not wide spread. Often economic interests influence the designation of priority areas (Vorrangflächen). A challenge is the high complexity of cold air production areas and ventilation paths, so that these information is missing in supra-local planning documents.

Strategy spatial planning/development (national level)	Progress (2021)
Review and (if necessary) adjustment of bioclimatically active measures in development plans	There are already some examples for the implementation of bioclimatically active measures, but the issue should be anchored more firmly in the instruments of spatial planning.
Increased protection of water resources and improved integration of spatial planning, water management planning, and usage with water demand	CC aspects should be included into water management plans.
Increased protection of ecologically important open spaces (undeveloped semi-natural areas, habitat corridors, biotope networking) and minimization of further habitat fragmentation	Traditional landscape planning and nature protection is already implemented, but CC augments the pressure to act. Challenges are amongst others conflicting interests between renewable energy and nature protection, awareness raising in municipalities, as even small measures may destroy corridors. There is a need to enlarge habitat networks.
Increased cooperation between spatial planning and tourism to promote a climate change adapted, sustainable tourist infrastructure	Sustainable development as basic principle is implemented into the Plan T – Masterplan tourism.
Promotion of energy-optimized spatial structures	Several guidelines and basic data for energy planning are available, but small municipalities are lagging behind. Need for more energy network infrastructures to raise resilience.
“Climate proofing” spatial plans, development concepts, procedures and spatial projects	Raised consciousness for the need to adapt to CC. More and more spatial planning instruments are modified and the exchange between Provinces raised. There is a need for manageable, resilient, unambiguous criteria for climate proofing in planning. These should be in the sense of clear guidelines and practicable for municipalities. The is a need to define when a plan is considered "climate change fit/climate compatible".
Promotion of quantitative soil protection and consideration of soil quality in land use	There is a quantitative target for land use and the soil function evaluation has been further developed and is taken into account at project level. Soil protection is a target in many spatial planning acts, but there is a lack of operationalisation for implementation. There is a need for (regionalised) targets in quantitative soil protection that also take into account transport areas. It is criticised that soil quality as a target level does not trigger a ban on land use. There are no guideline values that could be taken into account in the land use procedure. The exception is the production value in agriculture, other reference values are not available (e. g. for infiltration). It is recommended to designate more agricultural priority zones in all regional planning programmes.

Source/Further reading: Austrian Strategy for Adaptation to Climate Change and Zweiter Fortschrittsbericht 2021 (German language)

2.3 France

Input by Mrs. Vigneron until early May

2.4 Germany

In Germany the federal states are responsible for spatial planning. The Conference of Ministers for Spatial Planning (MKRO) coordinates the cooperation with the federal states.

Strategies for growth and shrinkage

After reunification in 1990, in some regions of the new federal states the population declined to an extent that made it necessary to reduce the settlements. For this purpose, a programme was developed that facilitated urban redevelopment called "Urban Regeneration East" ("Stadtumbau Ost"). Therefore, there is already a lot of experience in deconstruction of settlements and infrastructure in the context of population decline in towns, but not in the Bavarian Alps.

Demonstration project "Adapting peripheral settlement structures"

A demonstration project of spatial planning ("Modellvorhaben der Raumordnung" - MORO) simulated a "Strategic retreat" of peripheral settlement by the municipality. The project "Adapting peripheral settlement structures" ("Anpassung peripherer Siedlungsstrukturen") took place in 2018. The participants consisted of interested persons from administration, politics and citizens who had expressed interest in a preliminary study. If necessary, other external experts were involved who could, for example, contribute concrete experiences and financial orientation values for technical options for action. The project pursued the objectives of

- discussing the taboo subject of "strategic retreat" without predetermined result,
- identifying municipal options for carrying out a strategic retreat
- and deriving recommendations for practical application for municipalities.

The demonstration project yielded four basic options for municipalities with small peripheral settlement part without sufficient development perspective:

- No strategic retreat ("preservation");
- Very slow strategic retreat;
- Forced, complete strategic retreat;
- Forced, partial strategic retreat with the option of remaining and privately taking over infrastructure.

Source/Further reading: Strategischer Rückzug aus kleinen peripheren Ortsteilen (German language)

Legal framework for settlement withdrawal (2016) in the context of climate and demographic change

The Federal Environment Agency (Umweltbundesamt – UBA) published a study in 2016 about settelment withdrawal in the context of climate and demographic change (Siedlungsrückzug – Recht und Planung im Kontext von Klima- und demografischem Wandel). The study concludes that controlled settlement retreat as a method to adapt to demographic or climate change is possible within the existing legal framework.

Source/Further reading: Retreat of settlements – Law and planning in the context of climate and demographic change (English language)

Bavarian Spatial Development Programme (Landesentwicklungsprogramm, 2020)

The Spatial Development Plan is the framework for spatial planning in Bavaria. The programme defines – based on quantitative indicators – regions (districts or single municipalities) with a special need for action (Räume mit besonderem Handlungsbedarf) which are at risk to fall back compared to other regions. The following indicators define these regions: population forecast, unemployment rate, employment density, disposable income of private households (or income per taxpayer) and net migration of 18- to under 30-year-olds.

Priority is given to those regions with a special need for action in relevant government activities to ensure equal living and working conditions. To this end, they are given priority in spatially significant planning and measures. The perimeter of the area with special need for action thus forms the core area for relevant state planning and measures as well as for funding.

Shrinking is adressed in the context of demographic change (Chapter 1.2, footnote): *"The Bavarian sub-regions are affected by demographic change in different ways. Thus, in addition to a few that can still expect a population increase in the future, numerous sub-areas will have to expect a considerable population decline in some cases (cf. also Annex 1 "Status quo forecast population development"). This coexistence of shrinkage and growth can lead to a worsening of spatial disparities, which makes it more difficult to achieve the guiding objective of creating equal living and working conditions in all sub-areas. In particular, the area with special need for action (cf. 2.2.3) is characterised by a decline in population and labour force, out-migration of young people, ageing and a difficult economic situation. As already outlined in the "Demographic Change Action Plan", this area therefore requires special support."*

The spatial planning policy contributes to coping with the consequences of demographic change by creating the spatial structural conditions for a balanced population development. This also includes the creation and maintenance of the spatial conditions for further immigration to Bavaria to be distributed as far as possible across all sub-regions of Bavaria. This counteracts one-sided agglomeration tendencies, especially in the conurbation of Munich.

In short: Shrinkage is an issue for spatial planning in Bavaria, but as the total population is still growing, the aim is to achieve a more even distribution of the population across the various sub-regions.

Source/Further reading: Landesentwicklungsprogramm (German language)

Enquete Commission "Equal Living Conditions throughout Bavaria" (2018)

Bavaria *"promotes and ensures equal living and working conditions throughout Bavaria"* - this state objective was included into the Bavarian Constitution in 2014 after a referendum. As a result, an Enquete Commission "Equal living conditions throughout Bavaria" was commissioned to develop recommendations for action on how to prevent Bavaria from drifting apart into economically more powerful and less powerful areas (with out-migration and a shrinking population) and how to ensure spatial justice in all areas of Bavaria.

These measures include suggestions for the design of shrinkage.

Municipalities in regions with particular structural and demographic problems tend to have low revenues. As a result, municipal options for action are particularly limited here for financial reasons. This exacerbates the starting position of the municipalities, as strategies for the

development of endogenous potentials usually also require increased personnel input (marketing activities, participation processes, mobilisation of civil society initiatives, inter-municipal cooperation).

Programmes to strengthen municipal finances in these regions should therefore be linked to municipal strategies to adapt to demographic changes and population decline. This includes deconstruction and adaptation of infrastructures to shrinkage.

Source/Further reading: Report of the Enquete Commission 2018 (German language)

2.5 Italy

National Strategy „Inner Areas" (Strategia Nazionale Aree interne, 2014)

"Italy's National Strategy for "Inner Areas" (SNAI) is an innovative policy for development and territorial cohesion to counteract marginalisation and demographic decline within "Inner Areas" throughout the Country. SNAI relies on an ambitious place-based policy based on new multilevel local governance through integrated local promotion and development, addressing demographic challenges and responding to the needs of territories penalised by significant geographical and/or demographic handicaps.

"Inner Areas" are fragile territories, far away from main centres of supply of essential services and too often left to themselves (Figure 1). They stretch over 60% of the national surface, and host 52% of Italian municipalities and 22% of its population. These "truest" and most authentic Italian areas primarily need to enable their inhabitants to still reside or return there.

The National Strategy aims to promote and protect "Inner Areas'" assets and local communities, enhancing their natural and cultural resources, creating new employment circuits and new opportunities – in short, counteracting the massive demographic exodus.

The National Strategy addresses 72 "Inner Areas" – overall, 1,077 municipalities and about 2,072,718 inhabitants." [7]

[7] https://www.agenziacoesione.gov.it/strategia-nazionale-aree-interne/?lang=en

Figure 1 Location of the Italian National Strategy's "Inner Areas"

Source: http://old2018.agenziacoesione.gov.it/opencms/export/sites/dps/it/documentazione/Aree_interne/STRATEGIE_DI_AREA/Strategie_di_area/FVG/Alta_Carnia_Strategia__marzo_2017.pdf

Source/Further reading: National Strategy for "Inner Areas" SNAI

2.6 Slovenia

Spatial development Strategy 2050[8]

Slovenia's Spatial Development Strategy 2050 sets five strategic spatial development goals:

- Rational and efficient spatial development;
- Competitiveness of cities;
- Quality of life in urban and rural areas;
- Strengthened spatial identity; and
- Territorial resilience, multifunctionality and adaptation to changes.

The strategy refers to the Territorial Agenda 2030 to ensure a sustainable future for all places and people.

2.7 Switzerland

Spatial Concept Switzerland (Raumkonzept Schweiz 2012)

In a participatory process lasting several years, the Confederation, cantons, cities and municipalities developed the Spatial Concept as a guideline for their spatial planning and development. The concept strengthens the cooperation not only between Confederation, cantons, cities and municipalities, but also between the twelve different action areas and

[8] Source: Tomaž Miklavčič: "Slovenia's new Spatial Development Strategy 2050 – on track towards a Just and Green Europe". Sent by mail by Lenča Humerca Šolar Nov. 2021

functional areas. Cooperation proved to be important also for functional areas, not only agglomerations, but also valley communities (“Talschaften”) in the Alps.

The Spatial Concept Switzerland proposes twelve action areas for the concretisation of the goals and strategies. It distinguishes between four metropolitan action areas, five small- and medium-sized urban action areas and three Alpine action areas (Gotthard, Western Alps, Eastern Alps).

The common goals and strategies, such as the economical use of land, the promotion of biodiversity, environmentally compatible transport, renewable energies and efficient energy transport, apply to each action area. The principle of taking care of the cultural heritage also applies everywhere. In addition, the Spatial Concept Switzerland places emphasis on the specific directions that are particularly important for the respective area of action.

The Alpine action areas with their cities, agglomerations, Alpine tourism areas and rural centres probably show the greatest heterogeneity of all action areas. In addition, the effects of climate change are most noticeable in the alpine areas and thus the need for action in this regard is greatest here.

The Alpine action areas are partly threatened by stagnation and emigration. The inner Alpine region is particularly affected: the Bernese Oberland, the Gotthard region and parts of Graubünden.

Gotthard region

For the Gotthard region the concept emphasises the importance as an Alpine transit axis for Europe. But at the same time it is the largest contiguous rural area in Switzerland outside the direct influence of urban areas. Additionally, the Reuss Valley and the Leventina are strongly influenced by road and energy infrastructures (transit corridors).

The problem of the peripheral location is exacerbated by the loss of importance of traditional economic factors such as the army and agriculture. It is therefore important to work together across the cantons in order to better position the Gotthard region, retain the resident population and ensure sufficient employment. The intact natural and cultural landscapes as well as the townscape should be maintained and used responsibly.

Western Alps

The Western Alps are an important tourist area. In addition, the region has a diverse economic structure as a production location for agricultural and winegrowing products, as a location for energy production and important industries as well as service companies.

The Western Alps action area occupies a top position in the international competition of tourism destinations but changing needs of guests and climate change are two major challenges. In addition, new solutions must be found to deal with intensive tourism uses, especially second homes, that are compatible with nature and the landscape and at the same time offer opportunities to strengthen summer tourism.

Compare Chapter 2.2. Good Practice *CH: Second homes Act and Ordinance (2016)* and *CH: Better use of second homes in Bellinzonese e Valli (model project sustainable spatial development 2014 - 2018)*

Eastern Alps

The trilingual action area of the Eastern Alps is strongly structured by many valleys and oriented in different directions. The agglomeration of Chur is the most important centre of the action area. The Eastern Alps also have two urban areas, Davos and St.Moritz/Oberengadin, which are strongly influenced by tourism. These three centres are complemented by other tourist centres as well as larger and smaller rural centres. In addition to tourism and efficient industrial and service companies, the use of water for energy production plays an important role. The entire region is strongly linked economically with the Zurich metropolitan area. Historically and culturally, there are close with neighbouring regions abroad.

The action area should develop a quality-oriented independence, which forms the basis for a long-term positive economic development. The aim is to maintain and expand the strong position in Alpine tourism sector in the future in the face of international competition. In doing so, the scenic qualities of the diverse mountains and mountainous landscapes with their rich cultural heritage must not be endangered. Climate change and the changing needs of guests represent two major challenges.

For the Western and Eastern Alps, the Spatial Concept emphasises to promote sustainable development with their cultural landscape in order to enable the resident population to remain in the functional areas of the side valleys. To this end, a sufficient basic supply of goods, services and jobs must be ensured in the alpine tourist areas and the rural centres. Regional strategies for spatial development must be oriented towards these focal points. The aim is to achieve an optimal combination of nature- and culture-based tourism, agriculture and commerce. Traditional cultural landscapes with their typical settlement forms and transport history should be maintained, responsibly used and valued.

Source/Further reading: Raumkonzept Schweiz (German, French, Italian)

Megatrends and spatial development in Switzerland (2019)

The Council for Spatial Planning (Rat für Raumplanung) in Switzerland is a permanent extra-parliamentary commission. It gives advice to the Federal Council and the federal agencies responsible for regional policy and spatial development. Growth is an important issue for Switzerland as population is expected to grow in total, but especially in the agglomerations and towns. Climate change is expected to become obvious with more frequent periods of heat, storms and other extreme weather events. The densification of the building fabric must therefore meet the measures demanded by the Federal Office for the Environment (FOEN) against the consequences. Such measures are larger ventilation corridors, more trees and more unsealed areas in towns and agglomerations. Densification projects will have to be assessed for their climate compatibility in the future. High real estate prices, too few "affordable" housing options, traffic volume, increasingly hot summers and subjectively perceived density stress are highlighted as key challenges for cities. In view of these diverse uncertainties, cities and agglomerations are increasingly orienting their strategies towards the goal of resilience.

Spatial planning and urban development prove to be particularly difficult in the Alpine valleys, which are characterised by growth. The design of linear towns is quite a challenge and

numerous demands for use overlap here (from the sides of agriculture, settlement development, traffic development, prevention of natural hazards, landscape conservation measures, recreational use, etc.). Growth is still largely uncontrolled in various individual municipalities, with the result that agglomeration-like structures are created. If these areas are to remain attractive for the population and the economy (including tourism), they must move away from unstructured settlement areas towards regional centres with an urban character.

The Swiss Alps show a high diversity of spatial types and as well in demographic and economic development. Accordingly, the issues of the Alpine region differ in the valley floors of the main valleys, in the tourist centres and the more remote side valleys. Especially the remote areas face a population decline due to out-migration of young people and therefore with an ageing population. Looking at population development by canton, the population did not decrease in any canton until 2016. But on the regional level, population figures show a sharp decline in some cases, especially in the cantons of Uri, Obwalden, Ticino, Nidwalden and Graubünden. These cantons, which already have to bear high costs for infrastructure and public services will face a further increase in expenditure for the care of the many old people living in remote areas.

Cp. Good Practice CH: Hasliberg: Multi-generation house and care network (model project sustainable spatial development 2020 - 2024)

The pre-Alpine regions are also quite different: while regions with good connections to transport networks (road and rail) and proximity to large cities have succeeded in attracting new businesses, there are also regions such as the Lucerne hinterland or Toggenburg that feel marginalised within their cantons because they are areas with low value added. For these reasons, these pre-Alpine regions are now trying to find or regain a foothold in tourism and work through developping their own unique selling propositions.

Climate change is an important megatrend with advantages as well as disadvantages and influences landuse. The effects will be most noticeable in the Alpine region and along watercourses. They affect infrastructures and settlements in natural hazard areas. An evaluation by the Federal Office for the Environment (FOEN, 2012) shows that around 20% of the Swiss population live in areas that could be affected by floods. Exactly there are also 1.7 million or about 30% of the workplaces. In addition, around a quarter of tangible assets (CHF 840 billion) is located in these areas. Further risks due to warming are the retreat/disappearance of glaciers and of permafrost which put a high pressure on settlements in the valley bottoms.

Source/Further reading: Megatrends und Raumentwicklung Schweiz (German, French, Italian)

Spatial strategy of the Alpine regions in Switzerland (Räumliche Strategie der alpin geprägten Räume in der Schweiz, 2014)

The Government Conference of the Mountain Cantons (RKGK) was founded in 1981. The aim of the association is to join forces and jointly represent the concerns of the cantons. The main focus of their activities is on spatial planning/tourism, energy, finances, transport and border-related foreign policy. In 2014, the RKGK published a strategy paper that puts the spatial concept for Switzerland for the mountain cantons into concrete terms. The strategy defined four priority fields of action:

- Preservation and sustainable use of natural resources;
- Strengthening of Alpine centres;
- Improve and secure transport and telecommunication access in the long term;
- Expand and optimise the use of hydropower.

Source/Further reading: Räumliche Strategie der alpin geprägten Räume in der Schweiz (German language)

Structural Change in the Swiss Mountain Region (Strukturwandel im Schweizer Berggebiet, 2017)

Avenir Suisse – a politically independent economic think tank in Switzerland committed to market-based solutions - published a position paper about structural change in mountain regions. Population and economic growth take place mostly in the metropolitean areas of Switzerland. At the same time some regions (especially in the mountains) face shrinking processes. But a fact-based debate on shrinking processes seems to be hardly possible. The study focuses on innovative approaches for structural change in such regions. It describes the following guiding principles for the design of a sustainable economic structure in mountain areas:

- Enable structural change through good economic framework conditions instead of hindering it by preserving outdated structures. Structural change is also a process of "creative destruction".
- Transfers to the mountain area should not be designed to provide permanent alimentation, but should finance projects that develop and strengthen the mountain area's own economic power.
- Subsidies should be concentrated where they generate sustainable growth. It is a matter of strengthening existing growth engines - for example, regional centres that radiate to the neighbouring rural area.
- This also requires a sincere approach to shrinking processes and areas with little potential. Blindly "subsidising" against shrinkage is expensive and ineffective. In some areas strategies for an orderly retreat are needed.

Source/Further reading: Structural Change in the Swiss Mountain Region (English, German, French, Italian)

3. GOOD PRACTICES FOR GROWTH AND SHRINKING STRATEGIES

The terms of reference for the collection of practical examples leave room for interpretation. Therefore, the collection is preceded by a "typification" of examples to make it easier to search through them in a targeted manner.

Type 1 - Spatial planning for adaptation to climate change: there is a number of possibilities for spatial planning to support adaptation to climate change with the usual set of instruments, whereby the relevant spatial levels depend on the national planning system. This includes, for example, the safeguarding of open spaces, flood plains, cold air production areas, fresh air pathways, retention areas, green areas/areas, etc., which is e.g. in Germany mainly done by means of priority and precautionary areas in the regional plans and the development programmes of the federal states. The options are "spatial planning" in a narrower sense and consequences for settlement development result from these specifications. Shrinkage and growth is not an issue in this context.

Type 2 - Adaptation to a shrinking population, reduction of land take and inner-urban development: for shrinkage in the context of demographic change (sometimes also structural change) there are many practical examples at the level of individual properties (or a certain accumulation of individual properties) in a particular district, town or occasionally a region. Mostly it is about the revitalisation or the subsequent use of vacancies, the deconstruction of buildings, the activation of too large building land reserves and inner development. The planning level here is mostly urban or municipal planning; climate change usually plays no role here. Nevertheless, these examples can also be considered under the aspect of climate change, or such a planning process can also be used to support the energy transition and adaptation to climate change.

Type 3 - Climate change-responsible growth: For the topic of growth in the context of climate change, one can find examples of how settlement expansions must be planned in order to withstand climate change (greening, fresh air production areas and runoff paths, rain retention, sponge city, green/blue infrastructure, etc.). Structures built today will have to withstand greatly changed climatic conditions in the future. The most relevant planning level here is usually the entire municipality or urban planning. An increasingly important role is also played by the neighbourhood level, which is located between urban planning and the building level. But regional planning may set the framework.

Type 4 - Withdrawal from danger zones: A special role is played by examples where a settlement retreats due to an increased exposure to natural hazards. This is actually neither growth nor shrinkage, but the relocation of settlements, which is often planned and carried out in response to an extreme event (flood, heavy rain, avalanche, mudslide, etc.).

In agreement with the interim caretaker[9] for this implementation pathway, a more targeted search was made for examples of type 2 and 3.

[9] Marc Pfister

3.1 Spatial planning for adaptation to climate change

AT (Styria): Green and blue infrastructure in municipal planning

The guidelines offer assistance to municipalities and spatial planners for green and blue infrastructures. They show how to include blue and green infrastructure in the planning process within the framework of local spatial planning instruments. The guidelines have a recommendatory character.

Ratgeber Grüne und Blaue Raumplanung (German language)

AT (Tyrol): Spatial planning programmes

In Tyrol spatial planning programmes may define areas, that are to be kept free for certain purposes such as for measures to protect against avalanches, floods, torrents, rockfall, landslides or other gravitational natural hazards and for flood runoff areas or flood retention areas.

Source: Raumordnungsgesetz Tirol §7 (German language)

CH: Strategy for risk-based planning

Not only the hazard of a site, but above all its use determines the risk. Depending on the type of use, the potential for damage increases. Spatial planning deals with natural hazards mainly with a hazard-based approach. Whether and which measures are necessary is derived from the hazard level of an area, which is recorded in the hazard map. The focus lies on areas with a significant or medium hazard. But often, the greatest risks are not in areas at considerable or medium risk, but in areas at low risk. Risk-based spatial planning takes this aspect into account by focusing more on use and considering the associated damage potential. The publication gives seven examples for risk-based planning in Switzerland.

Risikobasierte Raumplanung (German language)

CH: Climate adaption strategy Luzern (Klimaanpassungsstrategie Stadt Luzern)

The comprehensive climate adaption strategy of the City of Luzern contains six measures of spatial planning:

1. safeguarding cold air production areas and ventilation corridors with spatial planning instruments
2. requirements for climate-adapted site development
3. anchoring climate-adapted construction methods and climate resilience in the building and zoning regulations
4. qualitative requirements for greening in the building and zoning regulations
5. climate-adapted road surfaces
6. climate adaptation in public spaces

Klimaanpassungsstrategie der Stadt Luzern (German language)

DE (outside of the Alps – western Saxony): Safeguarding of areas for cold air/fresh air production

An urban-regional strategy for reducing bioclimatic stress consists in the exchange of cold and fresh air with the surrounding area. In order to protect settlement areas from increasing overheating, an urban-regional strategy is to secure open spaces for the creation and transport

of fresh and cold air from the surrounding areas into the dense urban spaces. Accordingly, cold and fresh air production areas are to be kept free of settlement and high emission uses. Larger transverse structures, dense planting and afforestation or mounding impair the transport of cold air and should be excluded by defining the areas. In order to maintain the quality of fresh air, it is necessary to exclude highemission uses from the fresh air transport areas.

Sicherung von Flächen für die Kaltluftentstehung (German Language)

3.2 Adaptation to a shrinking population, reduction of land take and inner-urban development

AT: ReDesign Eisenerz - Settlement reduction due to economic and population decline (since 2005)

Adaption of settlements to shrinkage

Due to an industrial decline, the city of Eisenerz faced a significant decline of population. As a result, housing vacancies increased and the population aged. In 2005 the project Redesign Eisenerz was initiated with a study about current and future housing situation, about 800 residential units were vacant at that time. A broad public discussion was enforced by an exhibition in Eisenerz about shrinking cities, which was made in cooperation with the German programme Shrinking cities ("Schrumpfende Städte").

A concept was developed to facilitate the maintenance of the technical and social infrastructure and improve the housing situation through a coordinated demolition and deconstruction programme. Residents from remote and disadvantaged neighbourhoods were relocated to refurbished flats in central locations. The old town was strengthened, while structures in peripheral locations were to be abandoned. While the initial focus was on stabilising the housing market, the project has since developed into a bundle of activities ranging from the resettlement and redevelopment measures mentioned above, to public relations work on the topic of shrinkage, the activation of the city centre, and cultural and tourism projects.

A legal body, where the municipality and representatives of the housing companies took joint decisions for the housing markets with a mixture of redevelopment, conversion and demolition was established. This transformed the situation of competition into a situation of cooperation between relevant actors on the housing market. Part of re-design Eisenerz was the transformation of flats into holiday appartments, a multi-storey housing estate is being converted into tourist accommodation with up to 400 flats when finished. New job opportunities were created.

ReDesign Eisenerz (German language)

CH Brig-Glis: Win-Win Spatial development in Brig-Glis (model project sustainable spatial development 2014

Too much building land is a fact that confronts the municipality of Brig-Glis. Due to the revised spatial planning law and the new cantonal structure plan, it will have to reduce the size of its building zones. The executive of Brig-Glis has therefore drawn up a model for the spatial development of the municipality's territory and, on this basis, established principles for municipal settlement development („Building in the right place").

The aim of the project was to achieve broad political acceptance for the implementation of inner-urban development. The city council therefore pursued the goal of creating a common understanding for the qualities of future spatial development and to carry out the necessary rezonings without losers.

Win-Win Spatial development (German, French, Italian)

Further reading: Schlussbericht Modellvorhaben räumliche Entwicklung Brig-Glis (German)

CH: My way – our network (model project sustainable spatial development 2020 - 2024)

Inner-urban development and zero-emission transport/walkability

In official planning, pedestrian access is often not a priority, and footpaths and path networks receive little attention. Yet they take on very important functions in neighbourhoods and communities: as places of encounter and movement in everyday life, they enable social exchange and promote health without much effort. Attractive, safe footpath networks contribute to the quality of life, are important elements of an open space framework, enhance public space, have an identity-building effect and thus play an important role, especially in inner-urban development. Children and older people benefit from a well-developed network of paths.

The model project shows, as an example for a neighbourhood in Frauenfeld and the communities of Matzingen and Neunforn, how the footpaths and path networks can be systematically recorded and become part of public awareness again. The population contributes their knowledge of old footpaths and also their everyday needs. Together with different target and age groups - such as pupils or senior citizens - answers to the following questions are sought: Where do missing paths and connections limit our movement behaviour? Where can new attractive, eventful and independent connections be created away from roads dominated by motorised traffic?

Fussverbindungen - Alltagswissen und -wege vernetzen in der Region Frauenfeld (TG) (German, French, Italian)

CH: A new start in old age (model project sustainable spatial development 2020 - 2024)

Housing strategy for an aging population

Two mountain regions (Albula and Prättigau/Davos, Graubünden) which are struggling with out-migration, ageing and empty beds intend to strengthen the residential location. 17 municipalities are looking for new ways to create needs-based housing and mixed-generation living environments and to enable self-determined living for elderly inhabitants.

They face the following challenges:

- What are sustainable settlement models for peripheral regions?
- How can demographic change be used as an opportunity?
- How can newcomers and second home owners be integrated?
- How can (good) ideas and concepts be implemented in a low-threshold manner?

The aims of the model project are using demographic change as an opportunity:

- Encouraging the 55+ generation to move in;
- Extending the length of stay of the 65+ generation;

- Facilitate relocation of the 80+ generation.

In three laboratories, actors from the public sector, the housing industry and civil society jointly develop approaches and measures, each with a focus on:

- How can the underused building fabric that characterises the village image be converted?
- How can the housing stock and environment be upgraded?
- How can the commitment of people willing to start a new life be won and their access to existing networks be facilitated?

In the laboratories, implementation-oriented action manuals ("cookbooks") are developed that enable interested actors to define goals and target groups quickly and bindingly, to identify needs and gaps in supply, and to involve stakeholders and suitable implementation partners at the right time. In the laboratories, communication, coordination and cooperation within and between municipalities are strengthened and regional and supra-regional spaces for action are defined and developed.

Neustart im Alter: Wohnraumstrategie der Region Albula und Prättigau

CH: Hasliberg: Multi-generation house and care network (model project sustainable spatial development 2020 - 2024)

Housing strategy for an aging population

The demographic change is noticeable in Hasliberg: while the number of people under 40 is tending to decrease, the 65+ generation is steadily increasing. This generation would like to lead a self-determined life for as long as possible - even with physical limitations - and maintain their social ties in Hasliberg. The current living space in the four villages of the mountain community (with an area of 42 km²) consists mostly of residential property and rented flats for holiday guests. There is no apartment building with rental flats. In addition, the decentralised settlement, some of which is on steep slopes, makes it difficult for older people to move around. In order for them to be able to spend their last stage of life in a familiar living environment and to cope with their everyday life, they need accessible, obstacle-free living space with centre functions, service offers and rooms that can be used together.

A housing cooperative founded for this purpose is building an multi-generation house in a central location with barrier-free, affordable and partly decentralised flats of different sizes and rooms with public functions. The project and the approach can serve as an example of how cohesion in the community and coexistence between the generations can be strengthened.

Hasliberg: Generationenwohnen und Sorgenetz verbindet die Berggemeinde

CH: Spatial Planning Act limiting building land provision

Reduction of land take

Municipal building land supply is capped at the demand for the next 15 years; if this is exceeded, reallocations must be made.

Revision of the Spatial planning Act (German, French, Italian language)

CH: Second homes Act and Ordinance (2016)

Reduction of land take

Since the 1950s, the construction of second homes has led to an increased demand for land and to urban sprawl. Especially in the tourist regions of the Alps, the construction, sale and rental of second homes advanced to become an important branch of the economy. This development was accompanied by increased land consumption, urban sprawl and the problem of "cold beds". All municipalities have the obligation to draw up an annual housing inventory. In municipalities with a proportion of second homes of over 20 per cent, no new second homes may be approved. However, there is no absolute ban; for example, the construction of second homes for tourism is permitted. The law, the associated ordinance and the explanatory notes regulate the details.

Zweitwohnungsgesetz und -verordnung (German, French, Italian)

Additional information (German, French, Italian)

CH: Better use of second homes in Bellinzonese e Valli (model project sustainable spatial development 2014 - 2018)

Around a quarter of the respondents considered renting out their flats. The potential landlords wanted support above all in administrative matters, in receiving and looking after guests on site, maintaining and caring for the flats, as well as in marketing and handling bookings.

The project leaders then drew up a business plan for a regional marketing agency. It quickly became clear that a new structure would hardly have been economically viable and that it therefore made more sense to concentrate on existing marketing and reservation platforms. To ensure that this was actually used, the model project offered flat owners a financial incentive to create an illustrated and multilingual dossier about their flat. This was done in close cooperation with the regional tourism organisation Bellinzonese e Alto Ticino. After all, an attractive business card of the flat is a prerequisite for placement on the existing platforms.

The model project resulted in a series of tips that can simplify the rental process for second home owners. This includes an assessment of existing rental and reservation systems, such as Airbnb, E-Domizil and Interhome. Practical checklists and information on insurance aspects rounded off the offer.

Better use of second homes (German, French, Italian); the final report is available in Italian language

CH: National impulse inner-urban development (First phase 2016 - 2020 and extension phase 2020 - 2025)

Inner-urban development and reduction of land take

The programme aims to support cities and municipalities in implementing inward settlement development. The Swiss Association for Spatial Planning and the Environment EspaceSuisse (VLP-ASPAN until 2018) was commissioned to implement the services, and the federal government provides financial support for "Impuls Innenentwicklung", as there is a high demand for specialist knowledge and practical experience, particularly at the level of the

municipalities. In addition to communication and awareness-raising services as cross-cutting tasks, the services are structured along three building blocks:

- Advisory services: Offering advisory services;
- Training and further education: creating planning competences;
- Collection of examples: collecting and processing good examples (collection of good practices densipedia).

National impuls inner-urban development (German, French, Italian)

CH: Network for cooperative implementation of inner-urban development (LU, BL) (model project sustainable spatial development 2014 - 2018)

Inner-urban development

Planning and implementing inner-urban development is not easy: complex spatial structures, complicated ownership structures or low motivation to change can make the process difficult.

As part of the model project, the Lucerne University of Applied Sciences and Arts, in cooperation with the Spatial and Economic Office of the Canton of Lucerne and the Office of Spatial Planning of the Canton of Basel, developed a procedural model for locally specific neighbourhood development. The project focused on the cooperative implementation of inner-urban development strategies with the landowners concerned. This was intended to activate strategically important development areas. In addition to the process design with the owners and the municipality, the innovative content lay in the interdisciplinary cooperation of planning experts and social work specialists who are familiar with socio-spatial developments and processes.

Thanks to the partnership-based and cooperative involvement of those affected, conflict situations could be solved. The municipalities were sensitised to the fact that they must take on a new leadership role in inner-urban development, especially in strategically important locations.

The project participants conducted case studies based on the municipalities of Ballwil, Emmen, Entlebuch, Schüpfheim, Ufhusen, Weggis, Aesch and Oberwil and developed multi-stage approaches.

Network inner-urban development (German, French, Italian)

Comprehensive descriptions of case studies (German)

DE: New living concepts for the village (model project since 2017)

Reduction of land take

New lifestyles and the associated diverse demand for living space, sustainable use of all resources, demographic change, but also the massively rising costs of land acquisition and construction in many places require new answers in the development of living space. Especially in rural areas where mono-structural housing estates with single-family houses are still dominating, forward-looking strategies are needed.

The model municipality of Kirchanschöring has around 3,600 inhabitants and a long tradition of citizen participation. Now, as part of a local sustainable development strategy, the initiation

and realisation of community housing projects by private individuals from the region are being tested.

A first reference project in the planning phase is a building ensemble consisting of three multi-party houses as a new town centre in the small village of Hipflham. The project developer is the municipality in interim acquisition for private building communities. Up to five residential units of different sizes – from a small flat to a “house within a house” – can be accommodated in one building. The village square forms the central hub of the building ensemble. For years, no investor had been found with an appropriate proposal for the area. Now the citizens, supported by the municipality, are taking the development into their own hands.

Anders Wohnen Kirchanschörig (German)

DE: Kempten - Conversion of the industrial complex Mechanical Cotton Spinning and Weaving Mill (2014 - 2019)

The buildings of the Alte Weberei stood empty for decades and slowly deteriorated, with no further use and redevelopment in sight. But from 2014 to 2019, step by step, a complete conversion and redevelopment of the "Old Spinning Mill" took place (2014), the opening of the start-up centre in the former sizing mill (2017), the modernisation of the gatekeeper's villa (2018) and in 2019 the completion of 46 flats in the shed roof hall.

Despite enormous investments, the flats were integrated into Sozialbau's "Kemptener Modell – Wohnen für die Mitte" and thus offered at affordable rents. All in all, Sozialbau invested more than 30 million euros in the redevelopment of the entire neighbourhood in a forward-looking and sustainable way, thus upgrading the entire district.

Conversion of the industrial complex (German)

AT: Millstadt – Temporary building ban and realignment of local spatial planning (2018 - 2020)

Inner-urban development and reduction of land take (for secondary homes)

The market town of Millstatt is located on the northern shore of Lake Millstatt in the south-west of the Nockberge mountains and is a municipality with a high number of overnight stays (more than 300,000). The main settlement area with the most tourist offers is on the lakeside, but relevant parts of the municipality are located on the high plateau.

The number of inhabitants with their main residence in the municipality is around 3,500 and is only growing slightly, while the number of secondary residences is increasing. Between 2002 and 2018, the number of secondary residences has increased from 960 to 1340 (+ 40%), and the share of secondary residences is now 28%. The high share of secondary residences in the main town in a prime location is particularly problematic.

Due to this, the market municipality issued a temporary building ban in 2018 for the parts of the municipality near the lake. The municipal council is pursuing the goal of counteracting this negative development by a reorientation of local spatial planning with a focus on quality.

Millstatt – Temporary building ban (German)

AT: Carinthian Lakes Conferences/ Handbook on Spatial Planning on Carinthian Lakes (2018 - 2020)

Reduction of land take

In order to safeguard the treasure of Carinthian lakes for future generations, the Provincial Department for Spatial Planning has launched a broad process that aims to develop rules for dealing with this precious resource together with experts and citizens.

Within the framework of five "Carinthian Lakes Conferences", provincial and municipal politicians, administrators from the specialised departments of the province and the municipalities, representatives of tourism associations and the Federal Forests, planners, architects, building culture initiatives, entrepreneurs, residents and interested parties discussed the future of the Carinthian lakes in a lively and open-minded manner. In the process, different and often opposing perspectives were opened up and discussed in a broad dialogue between those actually affected and those actively shaping them. During the participation process, four thematic areas emerged. Following the Carinthian Lakes Conferences, these were formulated into proposals as well as starting points and measures for the future handling of the Carinthian lakes by those involved in the process. The first step is the implementation of the handbook for spatial planning on the Carinthian lakes with a description of the planning instruments and the possible applications contained therein.

Neues Seenhandbuch (German)

AT (Styria): Investment levy on undeveloped building land

Reduce land take (mobilisation of building land)

The investment levy is an exclusive municipal levy within the meaning of section 6 para.1 (5) of the Finance Constitution Act 1948. [...] The investment levy amounts to € 1,-/m² of the floor area per year. The obligation to pay the contribution ends with the demonstrable completion of the shell of an approved building in the sense of the intended use". (§ 36 para 3 StROG 2010)

AT/FR/IT/SI: Alpine Space Project trAILs - Alpine industrial transformation landscapes (2018 - 2021)

The decline of traditional heavy and manufacturing industry is occurring also in the Alps. This process is leaving behind impressive former productive landscapes of relevant size and complexity: Alpine Industrial Landscapes (AILs). The potential value of AILs in terms of sustainable transformation is strongly connected to Alpine-wide ecological, economic and social key challenges, such as the regeneration/improvement of blue and green infrastructures, the reactivation/upgrade of regional economies and the promotion of local identity and cultural heritage.

The project aimed to generate significant knowledge about AILs and to develop and test sustainable transformation strategies applicable and replicable in the whole Alpine space. There were four pilot sites in Austria (Eisenerz), Italy (Borgo San Dalmazzo), France (L'Argentière-la-Bessée) and Slovenia (Tržič).

Alpine industrial transformation landscapes

FR: T-ZAN („Zero Net Artificialisation") in Auvergne – Rhone – Alps

AMI ZAN: Towards "Zero Net Artificialisation": Trajectories and operational implementation of the Avoid-Reduce-Compensate sequence

The ambition of the AMI "Objectif ZAN" is to support all the actors who contribute to the development of Territories (T-ZAN), by increasing their skills through feedback and by stimulating a territorial dynamic around ZAN trajectories that are part of the long-term.

In order to meet this ambition, the AMI aims to support around fifteen projects from territories wishing to implement an "ambitious" ZAN trajectory, by committing themselves at their level to achieve zero net artificialisation by 2050 at the latest. The objective is to select a panel of territorial projects that can illustrate the different challenges in this area. From a methodological point of view, it is a question of structuring the reflection and actions around the experimental application of the "avoid-reduce-compensate" sequence to soil artificialisation.

ADEME's[10] support will focus on:

- Carrying out the studies required to draw up a strategy for a ZAN trajectory (part A);
- Carrying out studies prior to the implementation of operational projects contributing to this strategy (part B).

Source: AMI ZAN

DE: Land calculator

The land calculator (Flächenrechner) is a web application with which municipal and regional planning authorities can estimate what the regional downscaling of the nationwide land-saving target (on the way to less than 30 hectares per day nationwide by 2030) would mean for them.

At the click of a mouse, information can be retrieved on new land use in the past as well as on regional/municipal quotas that would have to be adhered to in the future in the case of nationwide land-saving targets based on the number of inhabitants.

According to the goals of the German Sustainability Strategy, the increase in settlement and transport area (new land use) is to be reduced to less than 30 hectares per day by 2030 and even to net zero by 2050 through the transition to a circular land economy.

In order to achieve these goals, there is increasing discussion about placing a quota on new land use.

Since planning authorities can hardly estimate what this means for them in concrete terms, the land use calculator was developed on behalf of the Federal Environment Agency. It offers the possibility of obtaining a concrete picture of the magnitude of the required quotas in the federal states, regions and municipalities.

Since quantitative land saving targets based on the 30 hectare target already exist in many federal states, the tool can be used for municipal land use planning. The land calculator is continuously updated.

Land calculator – WebGIS-tool

[10] Agence de la transformation écologique/Agency for ecological transition https://www.ademe.fr/

3.3 Climate change-responsible growth

CH: A Prototye for four generations – flexible housing in Geneva (model project sustainable spatial development 2020 - 2024)

The current housing supply in the Canton of Geneva is extremely scarce and far from satisfying the growing demand of a society in which two of the four generations are retired. The current housing stock as well as the local urban infrastructures are designed for a three-generation society and do not sufficiently take into account the changing housing needs of an ageing society. Building investors and property owners also do not seem to really recognise the impact of demographic change on the housing situation when renovations and building refurbishments are pending. For example, the rigid arrangement of room layouts restricts residents' ability to flexibly adapt their living spaces to different phases of life and needs (mobile partitions, accessibility solutions, temporary space for guests or care staff, etc.). Such housing solutions cannot be implemented today without changing the floor plans in existing flats or building new flats.

The project involves actors from the public sector, architects, real estate consultants, civil and energy engineers, members of building cooperatives, experts in social housing and social-medical services. Together they are developing a property with adaptable elements that can be used as a model project in view of demographic change. This prototype should be suitable for residents of all ages and transferable to different types of buildings and show cross-sector synergies (health, housing, costs, etc.).

Flexible housing in Geneva

CH: 2000-Watt Site Kleinbruggen/Chur

Switzerland's primary energy[11] demand is to be reduced to 2000 watts of continuous power per inhabitant by 2050 at the latest, and to 3000 watts by 2030. This value was over 6000 watts in 2000 and over 4000 watts in 2020. The global average is around 2000 watts. The approach of the 2000-watt society is intended to counteract the increasing consumption of resources.[12]

The 2000-Watt Site certificate was developed as part of the “EnergieSchweiz” programme. It recognises settlement areas that are committed to climate protection and demonstrate sustainable use of resources. It evaluates the entire development process from construction to operation. Certification is possible at any time: during planning, implementation and operation.

The focus is on mixed-use sites with flats and service areas (administration, school, specialist shop, grocery shop, restaurant, university). However, sites with exclusively residential or office use can also be certified.

The following requirements apply for certification:

[11] Primary energy is energy in its raw form before it is converted, transported or transformed.

[12] https://kleinbruggen-chur.ch/quartier/oekologie

- There is an authorised site owner.
- The site comprises a clearly defined spatial perimeter with at least two buildings connected by an outdoor space. This must be the responsibility of the site owner.
- The site must have at least 10,000 m² of land or floor area (certification of a smaller site area is possible under certain conditions).

The new 6-hectare Kleinbruggen neighbourhood is being built in Chur West. It is the first 2000-Watt Site in the whole of south-eastern Switzerland and, as a pioneering project, demonstrates the feasibility of 2000-Watt sites in cities with strong links to rural areas. Plans call for 13 buildings with a balanced mix of uses. A total of around 400 new flats and up to 600 new jobs are to be created on the site. The building density of the neighbourhood decreases towards the landscape area. Local outdoor and green spaces will be secured as local recreation areas and linked to the new neighbourhood. The entire interior of the area is car-free, has a large number of bicycle parking facilities and is well connected to public transport. Two bus lines with two stops adjacent to the site connect Kleinbruggen with other neighbourhoods and the city centre. The nearby Chur West railway station also offers good regional connections. In February 2020, the building application for the first of three stages was submitted by the four sub-building rights holders. Construction is scheduled to begin in summer 2020. Occupation of the first stage is expected in 2022. The second stage will then probably also be awarded, the third is expected to follow in 2026, and construction is scheduled to be completed in 2028.

Factsheet 2000-Watt-site Kleinbruggen (German)

2000-Watt-sites: general information (English)

CH: Planning guidelines to prevent urban heat (2018)

With climate change, urban heat stress is increasing. Heat waves are becoming more frequent, longer and hotter. The publication presents principles for climate-friendly urban development.

A distinction is made between planning principles, which represent overarching guidelines for reducing heat stress and serve as an orientation and benchmark for future-oriented action. Urban planning principles, on the other hand, contain concrete rules and proposals for action for settlement and open space development.

Planning guidelines to prevent urban heat (German)

AT Vorarlberg: Temporary zoning of building land (Spatial Planning Act)

As of 1 March 2019, land will only be zoned to building land if development is planned in a timely manner. Thus, if a plot of land is dedicated as building land after this cut-off date, it must be built on within seven years. If this does not happen, another dedication follows after seven years instead of the building land dedication. Alternatively, the owners can also conclude a contract with the municipality on the timely use, in which case the dedication is unlimited. Provision has been made for construction delays for certain legal reasons: these are taken into account in the calculation of the time limit.

Persons who acquire an undeveloped building site that has already been dedicated on or after 1 March 2019 must build on it within ten years. If the landowner cannot build for certain legal reasons, this non-culpable delay will also be taken into account when calculating the building deadline.

Anyone wishing to meet their own housing needs or provide for their family has the option of acquiring an undeveloped building area of up to 800 m² on a one-off basis, without this being associated with a building deadline.

If someone sells, gives away or bequeaths already existing dedicated land within the family, this is also possible without a development period. This leaves enough room for family provision.

Temporary zoning Vorarlberg (German)

AT Steiermark: Subsequent limitation of building land designations in the event of a revision of the zoning plan (StROG §36)

The Styrian Spatial Planning Act provides for the time limit of building land not only for new zoning, but also for the revision of the zoning plan (every 10 years at the latest). A building time limit is to be set by the municipality on areas:

- which have already been designated as building land or development land,
- on which no agreements under private law or reserved areas have been established and
- which have a size of at least 3,000 m².

A spatial and temporal staggering through zoning is permissible. If no development has taken place by the end of the time limit, it must also be determined whether:

- the land concerned shall be rezoned without compensation,
- the area is subsequently considered a special use, or
- whether an investment levy is to be paid by the landowner.

There is a discussion, whether the size of at least 3,000m² should be reduced to 800 oder 1,000m².

Limitation of building land designation (German)

AT Tyrol: Determination of the chronological sequence of building development (time zones)

In the local spatial development concept in Tyrol, the municipality is to determine not only the general objectives of its spatial development but also the maximum extent of the building development area. Taking into account the desired population and household development and the economic development, the maximum extent of the area that can be designated as building development area, as well as the maximum extent of the possible area to be dedicated and the time sequence of the dedication shall be determined. This is indicated by means of "time zones". If the extent of the building land already dedicated does not coincide with the defined development area and the area to be dedicated for residential or economic purposes, preconditions may be prescribed for already existing building land, which must be fulfilled before development can take place. In this context, undeveloped areas that have been dedicated as building land for more than 15 years are to be given priority. Thus, for example, privately owned and remote areas can be set aside and it can be stipulated that these areas are not to be built on until the existing buildable areas (or vacancies) in the settlement structure have been put to use. The so-called "time zones" could, for example, ensure a more orderly

development in the case of a high building land surplus, a high proportion of vacancies and especially in scattered settlement areas. (TROG §31)

Time zones in Tyrol (German)

AT Tyrol: Land Fund

The Tyrolean Land Fund was established more than 25 years ago to support the municipalities in local spatial planning. The main task of the fund is the acquisition, development and subsequent transfer of land. The land ready for construction is allocated by the respective local municipality. Through its activities, the Tyrolean Land Fund makes a significant contribution to the implementation of subsidised housing projects and building projects in land-saving and dense construction methods and to the settlement or relocation of businesses, whereby the creation of inter-municipal industrial estates is strived for.

In order to ensure acceptable architectural quality, the Tyrolean Land Fund regularly launches development studies for the design of its project areas. The avoidance of conflicts of use, forward-looking mobility concepts, a high density of workplaces and dense and sustainable construction methods are of particular concern to the Tyrolean Land Fund.

Tyrolean Land Fund (German)

AT Salzburg: Land-Invest – Public company for building land (Salzburger Baulandsicherungsgesellschaft mbH)

Since 1994, Land-Invest has been an important public instrument for securing and developing land for residential construction and for supporting the municipalities in the practical implementation of their spatial planning policy objectives.

As a purely provincial company, it develops affordable building land through the purchase of land in trust for the municipalities or secures it by option for later interested parties. After rezoning, development by the subsidiary SISTEG and making the plots ready for building, a comprehensive potential of plots for the construction of single-family houses, semi-detached houses and terraced houses as well as multi-storey residential buildings can be made available to both local "house builders" and developers.

The purchase of green spaces as potential for later exchange purposes has also become increasingly important in recent years.

Land-Invest (German)

AT Voralberg: Inner development and building densification - Contributions to planning strategies (2018)

Years of population growth have also put pressure on the edges of settlements. On the one hand, settlement space, on the other, open space - these are two opposing forces acting on the settlement boundary. In order to maintain the outer edges of the settlement and at the same time provide housing opportunities, two strategies are needed that complement each other:

- inner-city (re)densification;
- the upgrading of the public space.

Densification is a change in the use of a space and thus a challenging topic in terms of planning and emotion. That is why both the urban planning-architectural and the social and process-related side of planning must be considered - both complement each other. In the project, the two sides of planning are considered together.

The pilot project identified different types of settlements, from scattered settlements in mountainous areas to multi-storey housing in cities, and investigated which forms of densification are suitable for which settlement type. Each settlement type has its own quality and the type of densification must correspond to this quality.

Ten types of settlements were identified and were either planned imaginatively or exemplary plans were evaluated. As a result different options of densification are described and visualised.

Densification in Vorarlberg (German)

AT (Pilot sites in Salzburg and Vorarlberg): BONSEI! (2018 - 2020)

Due to the extraordinarily high land consumption in Austria and the population growth especially in urban regions, there is a need for developing innovative and sustainable solutions to cover the demand of housing requirements and increase energy efficiency simultaneously. Great potential of densification as well as a large refurbishment backlog have been identified particularly in single and double family houses. Almost the same applies to small apartment houses. To effectively activate the potentials the predominant private owners need to be contacted and convinced of taking further actions.

The main objective of BONSEI! is the development of criteria and planning principles for an energy efficient densification as an important basis for the modernisation and sustainable development of urban regions. On the one hand the factors energy, location quality and mobility should be better integrated into the domain of densification and on the other hand interactions between densification, energy efficiency and energy supply should be taken more into consideration for the prioritisation of densification areas. The innovative criteria, which are developed within the project, will serve as basis for an exemplary innovative consulting service for the mobilisation of densification and renovation potentials for single and double family houses.

At first, a methodology is designed that automatically identifies potential densification areas. Subsequently, a criteria catalogue is worked out that provides indications on energy efficient densification concepts on both parcel and settlement level. Based on this, a prioritisation method for densification areas is developed and tested in selected areas. In the process the defined criteria (refurbishment backlog, legal restrictions, location quality) are integrated in a standardized format. Building on this, the innovative concept of a service offer is supplied, which illustrates the urgent need and densification options to authorities and may serve as first contact point for citizens who are interested in objective advice regarding refurbishment and densification issues.

BONSEI!

AT (Pilot sites in Salzburg and Vorarlberg): BONUS (Bestand optimal nutzen – Umwelt stärken 2020 - 2022)

Due to the limited availability of living space and land in cities and the simultaneously increasing demand for living space, it is necessary to focus more on internal development and redensification. One- and two-family houses in particular, which account for over 60 percent of the building stock in many cities, offer great potential for redensification and in some cases have large redevelopment backlogs. More than 90% of these buildings are privately owned. Mobilising the potential requires the owners' own initiative. In order to provide them with the best possible advice, there is the BONUS project. The abbreviation stands for "Making optimal use of existing buildings - strengthening the environment". Together with the project partners RSA FG iSPACE from Salzburg and the Energieinstitut Vorarlberg, Rosinak & Partner and Pulswerk (Vorarlberg), the City of Salzburg is developing a post-compaction consultation. In addition to energy-efficient and socially acceptable redensification, the focus is also on sustainable mobility, greening and open space design. This is because negative side effects associated with post-densification should be avoided and the quality of life in the individual neighbourhoods should be maintained.

To this end, the project builds on the results achieved in the preliminary project BONSEI! Further goals of the project are the development of a comprehensive database, the standardisation of the holistic BONUS advisory service and the testing and implementation of the advisory service in the two pilot cities of Salzburg and Feldkirch (Vorarlberg). A transferable operator model is also being developed on an ongoing basis in order to be able to apply it in other municipalities.

BONUS (German, English)

3.4 Settlement withdrawal from danger zones

DE: Isarmünd - resettlement due to flood risks (outside Alpine Convention) (since 2010)

Isarmünd is a small old settlement belonging to a municipality with about 2,300 inhabitants at the mouth of the Isar into the Danube. Due to its location in the floodplain of the Danube and Isar, the village has been flooded several times in the past. However, this was mostly due to rising groundwater and seepage water. In the course of the 2013 flood event, the existing dike was overtopped for the first time. To improve flood protection, there were first considerations for relocating the residents as early as March 2010.

The residents were offered new building plots and they got support to move, but this was voluntery. When the settlement was flooded in 2013 most of the new houses were already built, so that the residents could move out. Two seniors sold their plot, but have received a lifelong right of living there. The vacant farmsteads have been or will be completely demolished, unsealed and landscaped. They serve as retention areas in the Isarmünd polder area. In addition, some of the areas will be redesignated as nature conservation areas.

A key aspect of the negotiations with the residents was that the property owners could be paid 100% of the assessed value for the land and buildings. The purchase price for the buildings to be demolished was paid in instalments, depending on the progress of the move-out. There was a down payment when the contract was concluded. Once the property was completely vacant, the final payment was made.

Isarmünd (German)

AT: Valzur/Ischgl - Resettlement after avalanche (1999)

In winter 1999 (24 February) an avalanche hit Valzur, an old rural hamlet in the municipality of Ischgl. The avalanche destroyed 6 buildings, one was damaged, 7 persons lost their lives and three others were injured. Even if the hamlet was quite exposed to natural hazards such as avalanches, no events were recorded before 1999. At the time of the incident, the evacuation of the hamlet was already underway. The area affected has been disignated as yellow zone in the hazard plan (medium risk). After the avalanche it was decided not to rebuild, due to the comparatively small number of properties affected and the general exposition to natural hazards. In the hazard plan avalanche risk was turned into red zone (high risk).

At the same time in Galtür (where one day before an avalanche destroyed 7 buildings and 31 persons lost their lives) the decision was taken to invest in avalanche control in the break-off area, as Galtür is a centre for ski tourism and its economic situation allowed the investments.

In Valzur the buildings affected by the avalanche were located in building land of the municipal zoning plan (Flächenwidmungsplan), but there was no development plan (Bebauungsplan).

The resettlement process started very soon (2 weeks after the avalanche) with the collection of relevant data and round tables with important actors, such as the mayor, the local council, the torrent and avalanche control, several ressort of the Office of the Tyrolean Provincial Government, politicians, external expert and the local spatial planner. The local planner drafted a settlement concept and the new building plots were given to the persons affected by the relocation. The new buildings were financed by a disaster fund. Regarding land use planning there was no discussion about reassignment and deconstruction of the buildings.

In the Valzur resettlement project, the available instruments of local land-use planning were used comprehensively and consciously. First of all, a building ban was imposed on the endangered and designated as mixed building land. The amendment of the zoning plan in Obervalzur was made for the creation of the replacement sites and an eastern sub-area of the building land was reallocated without compensation due to the endangered situation. The areas in Untervalzur were only reclassified as open land with the overall revision of the zoning plan.

Source: A. Schindelegger: Absiedlung als Planungsinstrument. Planerische Aspekte zu Siedlungsrückzug als Naturgefahrenprävention. Diss. TU Wien. 2019 (German)

AT: Pfunds - Resettlement due to debris flow (2005)

In August 2005 several debris flows damaged about 80 buildings within Pfunds after heavy rain. The Stubner Bach, which had been regulated and straightened in the settlement area, had overflowed its banks. The existing brook-bed could not absorb the water and slide masses. About 70,000 m³ of boulder material was deposited in Stuben. People weren't aware of the risk, because there was no risk zone plan. In sum the damages were about 10 million euros. 600,000 euros were immediately made available to restore orderly drainage conditions in the Stubner Bach and to properly deposit the bedload material. As a prevention measure two retention bassins were planned, which made a relocation of some objects necessary. No zone for resettlement was decided after the event. The need to remove and demolish buildings

affected by the 2005 flood event arose from the the need to provide sufficient area for the construction of a retention basin. Resettlement is therefore a direct component of the protection project. In the area of the planned retention basin, there were three objects that were to be removed and demolished. The discussions with the affected parties were conducted primarily by the mayor. The focus of the planning support for the protection project was not on safeguarding the area of the retention basin, since the affected areas were taken over into the public water property anyway. Due to the designated red zone, it is no longer possible to build on it. More important were the replacement sites, which also required appropriate planning expertise in the mobilisation of the areas in question.

The damaged buildings were not repaired, but demolished as an emergency measure. The municipality took on the central role in the discussions with the affected parties about the transfer of the land needed for the bedload basin and the development and provision of replacement land. The local spatial planning was therefore primarily involved in the process with the replacement areas. The standing areas of the demolished buildings could no longer be built on due to the existing hazard, which is why the zoning plan was not revised until after the local planning concept had been drawn up.

Source: A. Schindelegger: Absiedlung als Planungsinstrument. Planerische Aspekte zu Siedlungsrückzug als Naturgefahrenprävention. Diss. TU Wien. 2019 (German)

AT: Schildried/Göfis: Resettlement due to flood risks (2005)

The municipality of Göfis is located northwest of Feldkirch in the Walgau region of Vorarlberg. The majority of the settlement area is situated on a south-facing slope and is not endangered by the floods of the Ill River. In the 1960s, however, the district of Schildried, which lies directly on the river, was dedicated and partially built on. Over the decades, it has been repeatedly hit by floods. In August 2005 a devasting flood led massive damage in the district of Schildried. The dams in the Schildried area were overflowed and partially broke, resulting in flood depths of up to 2.80 m. It was already the third flood event in 6 years. Due to the moisture in the masonry, the buildings were not habitable for the time being. Therefore the planning authorities decided to relocate the district (16 properties, approx. 50 residents). Buildings as well as plots of land were removed and the affected properties demolished.

In Göfis, no new replacement sites were developed and dedicated for the resettlers, but those affected were supported in their search for land or housing. Overall, spatial planning aspects played a subordinate role in the organisation and handling of the relocation. Keeping the areas free in the long term is due to the public water property on the one hand and on the other hand due to the obligation to obtain permission for construction work in the 30-year flood runoff. With the building ban decided by the municipality, construction work could be prevented until the settlement had been clarified and carried out, but the adjustment of the zoning plan was not carried out until 6 years after the flood event.

Source: A. Schindelegger: Absiedlung als Planungsinstrument. Planerische Aspekte zu Siedlungsrückzug als Naturgefahrenprävention. Diss. TU Wien. 2019 (German)

AT: Eferdinger Becken - Resettlement due to flood risks (since 2014)

After the Danube flood event in 2013, Upper Austria decided to realise active and passive flood prevention measures. Modul I started in 2014 with the voluntary resettlement within the HQ100

zone. Within Modul II the first resettlement zone was enlarged based on economic efficiency calculations for the active flood protection measures. The resettlement zone (called "yellow zone") is a rather wide area (about 24 km²) with 612 buildings, 138 of them residential. The demarcation of the resettlement zone was made on the basis of the following criteria on the part of the protective water management:

- Location in the HQ100 discharge area,
- contiguous areas,
- water depth,
- flow velocity,
- settlement density - building density,
- evacuability at HQ100.

A "purple zone" was decided with the annotation "Flood measure unknown" and refers to the planned Module II of the protection project, which provides for an efficient combination of measures based on a comprehensive investigation and scenario development. Further resettlements may be part of this planning, and were envisaged in 2015 during the presentation of the general project. The Land is responsible for providing funds for the subsidy amount, supervises the conclusion of the funding contracts, coordinates the preparation of the appraisal reports and performs the supervisory tasks.

The municipalities are responsible for the spatial planning aspects (new planning areas, rezoning, flood protection zone) of the resettlements as well as the contractual securing of the demolition and disposal of the affected buildings and are also to act as an information hub for those affected.

Resettlers must fulfil the eligibility requirements and demolish their buildings within 5 years of the conclusion of the contract. In addition, they must secure a building ban in favour of Upper Austria in the land register on all their properties in the resettlement zone. Replacement plots must be located outside the current runoff area of a HW300. From the point of view of regional planning, it was emphasised that the municipalities make efforts to ensure availability and zoning of suitable land for resettlement. It was politically decided that the individual municipalities should carry out the necessary rezoning and the designation of the protection zones for the floodplain. The opportunity to closely link the regional development of the Eferdinger Basin with the flood protection project was thus not seized.

The resettlement project in the Eferdinger Basin was very clearly not conceived as a planning project on future development in a regional or inter-municipal perspective, but rather focused on the concrete protection needs of the population affected by the flood. The use of resources for communication in various events as well as in individual and counselling talks was enormous, but by no means did it persuade all potential resettlers to accept the offer of resettlement.

A. Schindelegger: Absiedlung als Planungsinstrument. Planerische Aspekte zu Siedlungsrückzug als Naturgefahrenprävention. Diss. TU Wien. 2019 (German)