

19.09.2025

Franziska Sperfeld

Ryan Kelly

REGIONAL DEVELOPMENT IN THE CONTEXT OF MAJOR INFRASTRUCTURE PROJECTS: IMPLEMENTATION, REGIONAL APPLICATION AND CONDITIONS FOR SUCCESS

© Dylan Gillis von Unsplash

Agenda

1. Introduction
2. Conceptual Framework
3. Case Studies
 - 3.1 Asse Salt Mine (Germany)
 - 3.2 Sectoral Plan for Deep Geological Repository (Switzerland)
4. Preliminary Conclusions



Brands&People von Unsplash

1. Introduction:

Key role of the regions in site selection procedure:

- Regions are more than locations: they are formed by actions and vice versa form actions
→ Regional identities, local governance, and specific (cross-)regional dynamics strongly shape project outcomes and success
- Strong regional embedding can foster trust, legitimacy, and realization of long-term development potential
→ Regional development ≠ financial compensation only → aims at socio-economic resilience & robustness

Development process ‘in a nutshell’:

1. Regional analyses (socio-economic potential analysis, SEPA)
2. Conceptualization of regional development
3. Implementation of development concepts, incl. integration into legally binding site agreements where possible

Regional conferences are the “institutional enabler” of a holistic development process:

1. Comment on the implementation of the socio-economic potential analysis (by the BGE)
2. Designing regional development concepts
3. Involvement in the final site agreement

2. Conceptual Framework: Definition and delineation of a region

Concept of a "region" is ambiguous and varies over time (cf. Ermann et al. 2022):

- Distinction between the essentialist (core essence), positivist (empirical comprehensibility) and constructivist (region as a process) approaches (Chilla et al., 2015; Kühne, 2015)
- Delimitation principles according to (Scharff, 1993; George & Berg, 2012)
 - Homogeneity (similar structural characteristics)
 - Functionality (internal interaction & interdependencies)
 - Administrative characteristics (statistical data & existing administrative units)



© forzaalisherka von Unsplash, wal_172619 von Pixabay, Annie Spratt von Unsplash

2. Conceptual Framework – Regional Development

- Shift in regional development paradigms from focusing solely on economic factors to endogenous potential, sustainability and more comprehensive indicators for prosperity, well-being and place-attachment (Chilla et al., 2015; OECD, 2022; Mbah & Kuppler 2024)
- Lack of standardized methodological approaches in literature and practice
- Regional development dependent on region-specific institutional arrangements, pilot projects and local dynamics



Wordcloud edited with wortwolken.com; on the basis of Sperfeld et al. 2024

Case Study: Regional Development around Asse Salt Mine

Background:

- Former salt mine (1909-1964), approved as a research mine for low- and medium-level radioactive waste, used as a final repository (1965-1995)
- Participatory process on decommissioning & closure (Asse2Begleitgruppe 2007-2012)
- Decision to decommission after retrieval of waste (Lex Asse 2013)
- Conflict over interim storage (ongoing)

Regional development instruments:

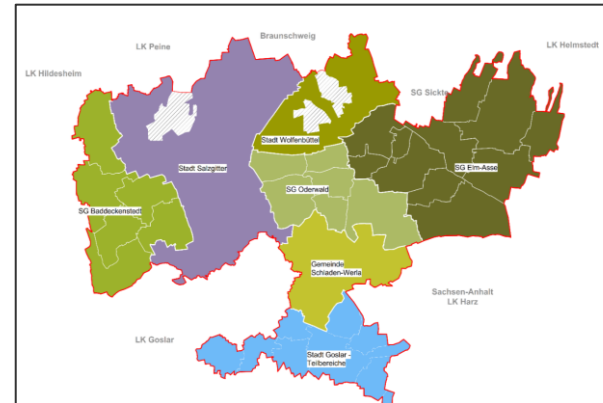
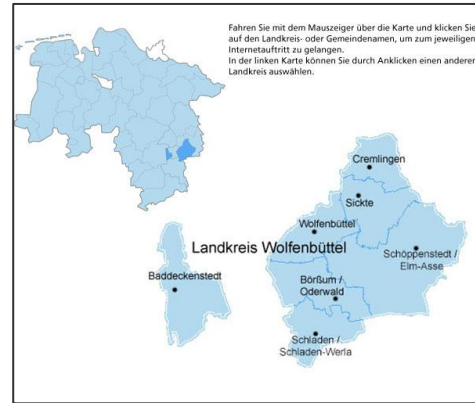
- Foundation for regional development "Zukunftsfonds Asse"
- Spatial impact Assessment



Case Study: Regional Development around Asse Salt Mine

Insights from desk research and interviews:

- Zukunftsfonds Asse (foundation) acts as an experimental space with a focus on impact, key areas of action, institutional framework (committees) and scope for action enshrined in law
- Conflict management and participative approaches over retrieval and interim storage (A2B, spatial impact assessment) and regional development initiatives are largely unconnected, but regional development issues have always played a role in the discourse
- Success of participatory development heavily dependent on local demand and capacity for formats



© ArL Braunschweig, Land Niedersachsen, Gemeinde Schladenn-Werla/ Sweco GmbH, Land Niedersachsen

Case study: Deep Geological Repository (Switzerland)

Background:

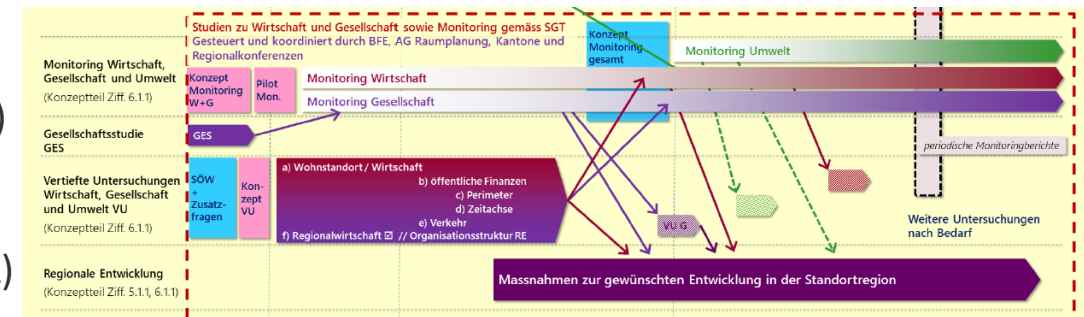
- *Sectoral Plan for Deep Geological Repositories* (“SGT”), since 2008
 - Current: **Stage 3** – Site selection and (start of) general licensing procedure (2018-2030): final stage of SGT – decision for “Nördlich-Lägern (N-L)” in 2024

Instruments of regional development:

- **Socio-economic-ecological studies impact studies** (“SÖW”) + additional **in-depth investigations** (e.g. effects on property prices or organisational structure and tenders for regional development)
- **Social study** on the region's image and social cohesion
- **Monitoring**: Economy, Environment and Society
- Complementary **financial instruments: Compensation** (“Abgeltungen”) according to the “Negotiating Framework Guideline”, Zurich 2017
- **Participatory visioning** (“N-L 2050”) and **ideas competition** for regional development projects (organised by: Regional Conference N-L)



© SFOE Magazine energieplus, July 2024, Pascale Jana Künzi, Regional Participation Specialist & added: SFOE & swisstopo



© SFOE 2023, Studies on the Economy and Society and Monitoring in the Sectoral Plan for Deep Geological Repositories, Overview and Steering Document

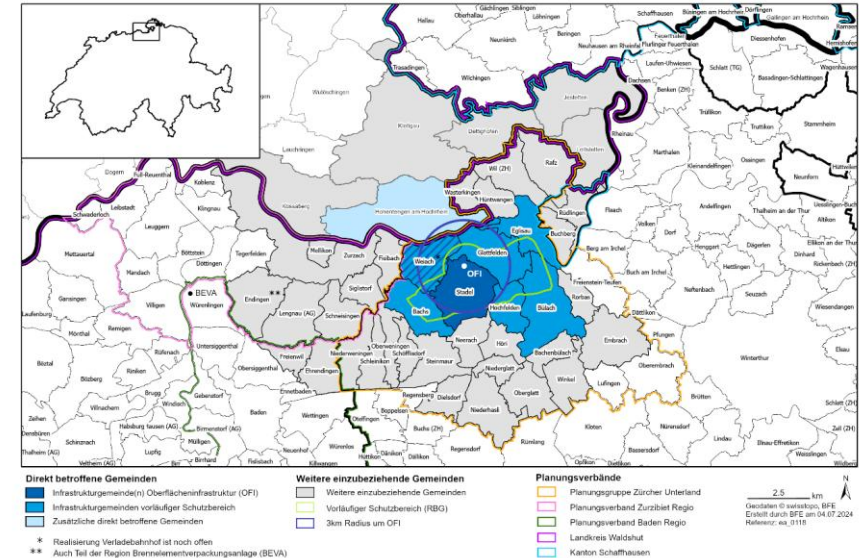
Case study: Deep Geological Repository (Switzerland)

Insights from desk research and interviews:

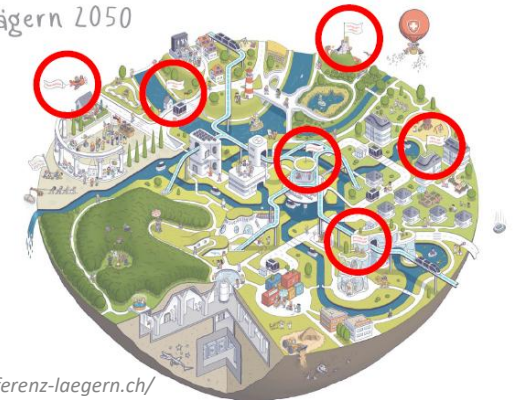
1. **Regional delimitation** was discussed in depth (hard versus soft factors): Infrastructure municipalities – planning perimeter – functional spatial understandings → decision for N-L in 2024 (incl. 3 km radius around the surface infrastructure ('OFI') in Stadel and the fuel element packaging plant ('BEVA') in Würenlingen)
2. Questions about **compensation** and **settlement payments** dominate discussions: early publication of compensation amount (target group: municipalities) hinders engagement for long-term regional development
3. Proximity to the **border** also leads to the need for **intensified coordination** in regional development, as well as for mutual respect for different cultural approaches to dialogue (consensual versus confrontational) and identities

Standortregion Nördlich Lägern

© SFOE / SFOE Magazine energieplus, July 2024



Nördlich Lägern 2050



© <https://regionalkonferenz-laegern.ch/>

Preliminary Conclusions:

Conditions for successful regional development in repository siting contexts

HOW?

- **Continuous and Inclusive Stakeholder Engagement**
 - » e. g. the proactive formation and integration of regional conferences equipped with their own funding, working groups and autonomy within the SGT.(Switzerland)
- **Democratic and Multi-Scale Integration**
 - » e. g. the early integration of existing stakeholders from the field of regional planning and development in regional conferences: Standortförderung Zürcher Unterland, Kanton Zürich, Planungsgruppe Zürcher Unterland, Regionalverband Hochrhein-Bodensee... (Switzerland)
- **Adaptive and Reflexive Processes**
 - » e. g. the culture of reflexivity, dialogue and trial-and-error in the SGT: round tables, constructive criticism and flexibility of the SFOE (Switzerland)

WHAT?

- **Empowerment through Targeted Projects:**
 - » e.g. Parallel development of financial support mechanisms and initiation of own starter projects and measures to build the capacity of local actors to empower them (Asse)
- **Balanced Infrastructure and Compensation Measures:**
 - » e.g. long-term infrastructure development through the expansion of Frankfurt Airport (indirectly) and burden compensation through direct payments for municipal development to affected communities (Frankfurt)
- **Proportional and Transparent Distribution of Funding:**
 - » e.g. open calls with transparent funding criteria, support for applicants a locally based executive committee composed of representatives from various regional authorities (Asse)

Thank you!

Project: Concepts of Regional Development in Major Infrastructure Projects: National and International Comparisons – Lessons for the Site Selection Process (KoRegio)

is commissioned by the Federal office for the Safety of Nuclear Waste Management (BASE)

Duration: 07/2024 – 06/2026

Funding Code (FKZ): 4724F10002

Contact:

Franziska Sperfeld, Independent Institute for Environmental Issues (UfU): franziska.sperfeld@ufu.de

Ryan Kelly, Institute for Applied Ecology (Öko-Institut): r.kelly@oeko.de

This research field is also discussed with further experts in the context of:

- Arbeitskreis der Akademie für Raumentwicklung in der Leibniz-Gemeinschaft: „Raumplanung und –entwicklung in der Endlagersuche“
- DAEF – Deutsche Arbeitsgemeinschaft Endlagerforschung
- ESchT – Expertengruppe Schweizer Tiefenlager

All presented concepts, ideas and texts are intellectual property of UfU e.V.

Any use of the content is prohibited and has to be requested and approved in a written format by the authors.

© Unabhängiges Institut für Umweltfragen, 22.10.20

Sources

Chilla, T., Kühne, O., Weber, F., & Weber, F. (2015): ‚Neopragmatische‘ Argumente zur Vereinbarkeit von konzeptioneller Diskussion und Praxis der Regionalentwicklung. In: Kühne, O. & Weber, F. (Hrsg.): Bausteine der Regionalentwicklung, 13–24. Springer Fachmedien Wiesbaden. DOI: 10.1007/978-3-658-02881-7

Ermann, U., Höfner, M., Hostniker, S., Preininger, E. M., & Simic, D. (2022): Die Region – eine Begriffserkundung (p. 332). transcript Verlag.

Kühne, O. (2015): Weltanschauungen in regionalentwickelndem Handeln – die Beispiele liberaler und konservativer Ideensysteme. In: Kühne, O. & Weber, F. (Hrsg.): Bausteine der Regionalentwicklung, 55–69. Springer Fachmedien Wiesbaden. DOI: 10.1007/978-3-658-02881-7
Scharff, R. (1993). Regionalpolitik und regionale Entwicklungspotentiale. In: Caesar, R., Hagemann, H., Herdzina, K., Kruse, J., Ohr, R., Pietsch, W., Schmidt, I., Spahn, P., Wagenhals, G., Walter, H. & Werner, J. (Hrsg.): Hohenheimer Volkswirtschaftliche Schriften, Band 18. DOI: 10.3726/b14033

OECD (2022): Measuring the attractiveness of regions. In: OECD Regional Development Papers 36. DOI: 10.1787/fbe44086-en

Mbah, M. & Kuppler, S. (2024): Governing Nuclear Waste in the Long Term: On the Role of Place. In: Historical Social Research, 49, 193–226. DOI: 10.12759/hsr.49.2024.09

Sperfeld, F.; Reimann, K.; Kelly, R. 2024: Konzepte der Regionalentwicklung bei Großprojekten im nationalen und internationalen Vergleich – Lehren für das Standortauswahlverfahren – KoRegio, unpublished report on Workpackage 1



Lubus Houska von Pixabay