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*Supplement of*

## **Transdisciplinary disposal governance – Learning and reflexion in and between organisations and through participation of the public**

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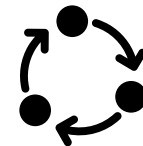
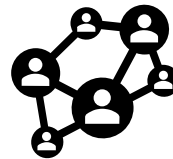
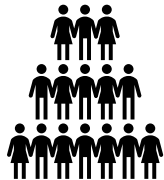


Interdisziplinäres  
Forschungssymposium  
für die Sicherheit der  
nuklearen Entsorgung

# Transdisciplinary disposal governance – Learning and reflexion in and between organisations and through participation of the public

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safeND

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# Outline

1. Why transdisciplinary?
2. What does learning in and between organisations mean?
3. What does learning mean in the German Site Selection Act?
4. How can participatory and transdisciplinary formats contribute to learning?
5. Why is context crucial?

# 1. Why transdisciplinary?

- Nuclear disposal is part of a transformative process (part of energy transition and induces societal and political transformations)
  - cooperation is crucial for success
- Transdisciplinary approaches are suitable to collaboratively work on (complex) real-world problems
  - e.g. concepts for learning and reversibility, participation, etc.

E.g., the project TRANSENS tests in different fields how and if transdisciplinary approaches can contribute to better solutions regarding nuclear disposal.

## 2. What does learning in and between organisations mean?

- Learning = is a process which generates long-term changes in attitudes and behaviours (intentional and implicit learning processes) [Müsseler 2005]
- For collective learning are individual (e.g. cognitions, attitudes) and collective (e.g. culture, structure/hierarchy) factors crucial
- Learning organisations do positively and actively support error culture (e.g. through experimentation) [Wolff et al. 2018]

Mutual learning processes and the development of (collective) knowledge are key aspects of induced transformations.

## 2. What does learning in and between organisations mean?

Requirements for learning (i.a. in td settings):

- Optimisation of knowledge management
- Realization of implicit knowledge
- Adjustment of structural characteristics and management culture
- Cooperative and collaborative working culture = networks with strong and weak ties

Approve interferences between all actors (and the public).

[Agyris/Schön 2018; Binner 2018; Park/Kim 2018; Senge 2017]

### 3. What does learning mean in the German Site Selection Act?

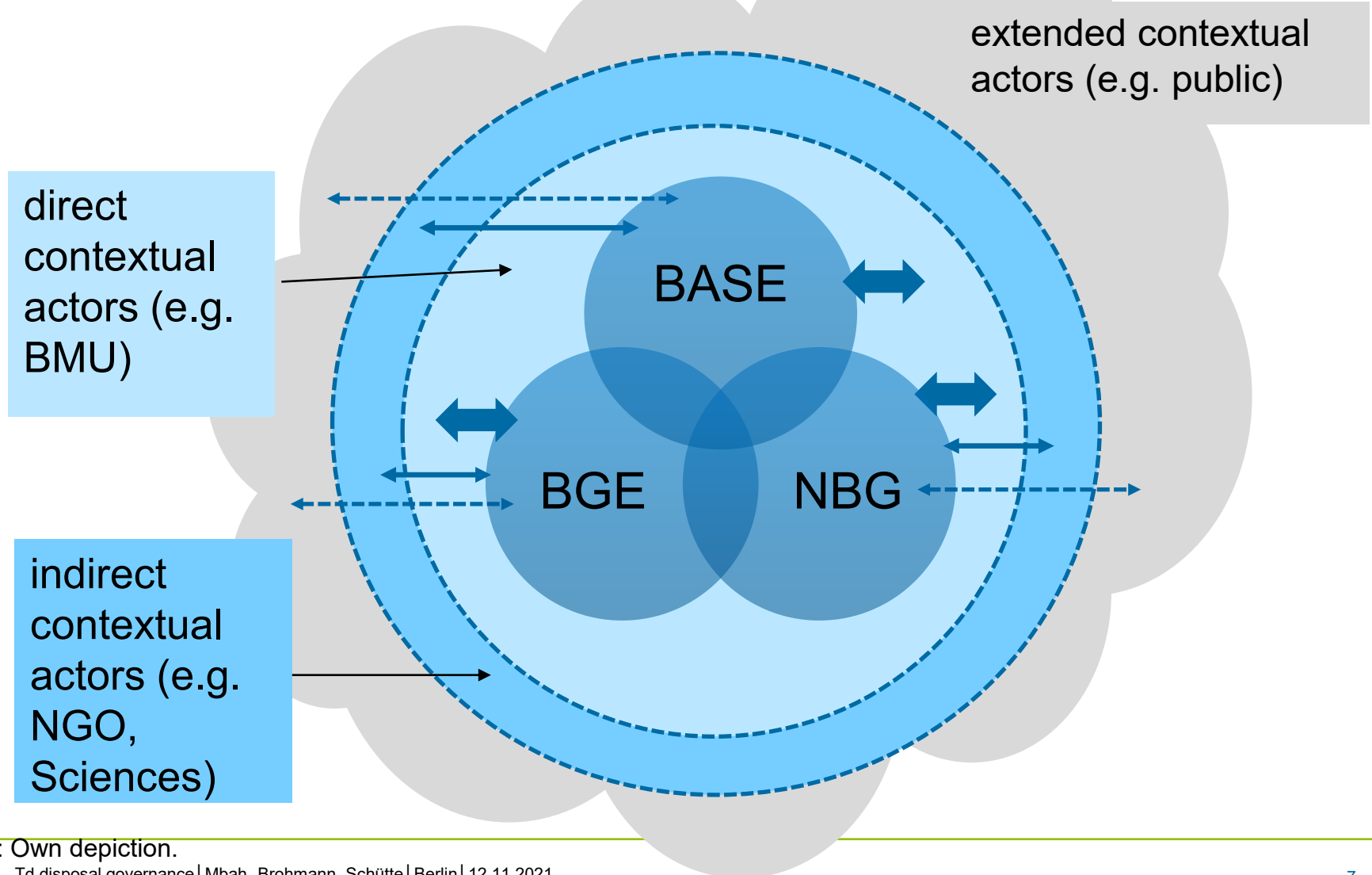
- Citizens are to be involved as “co-designers of the procedure” (§ 5 (1) 2 StandAG)
- § 5 (3) stipulates a further development of the participation procedure with the public



Need for participation that goes beyond information and consultation!

[Brohmann et al. 2021; Ewer/Thienel 2019; Kuhbier 2019; NBG 2019, 2021]

### 3. What does learning mean in the German Site Selection Act?



Source: Own depiction.

Td disposal governance | Mbah, Brohmann, Schütte | Berlin | 12.11.2021



## 4. How can participatory and transdisciplinary formats contribute to learning?

- To collaboratively design concepts, produce knowledge and continually evaluate the procedure
  - information and communication wide spread at „equal“ basis
- On different levels (local, regional, national) and topics (e.g. regional planning)
  - including local experts and professional public
- Context specific and in different – also experimental – formats
  - as integral part of the long-term procedure
- Focused on transformative impacts (of different subsystems)
  - find out about needs and expectations as orientation for further steps and conceptual work

## 5. Why is context crucial?

- Infrastructures cause long-term changes
  - several places are already affected, some will be affected in the near and far future
- Place identities shape attitudes towards and perceptions of technologies and innovations (e.g. energy production plants or nuclear facilities)
  - there is a need to understand spatial change better by integrating place specific characteristics

Td approaches need to be adapted to contexts that they can support mutual learning processes which may lead to better concepts and decisions

# Thank you for your attention!

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Do you have any questions?



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