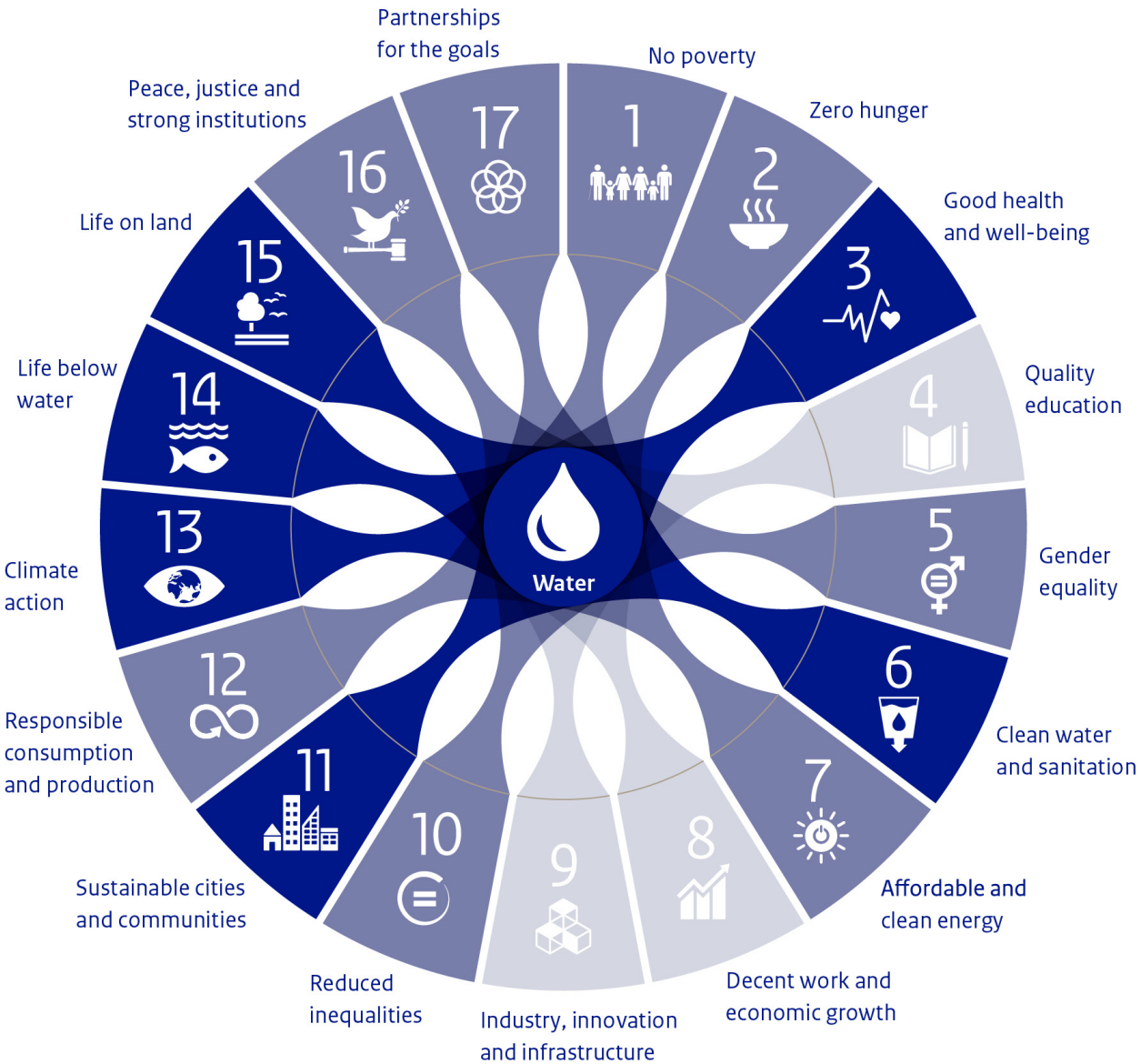
Sustainable Development Goals related to water



Group 1 targets: strongly related to water
Group 2 targets: related to water
Group 3 targets: indirectly related to water

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How Can Culture Help Us Learn and Change? A Key Question in Adapting to Water Challenges

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More than ever before, there is an urgent need for people to find a path to more sustainable and resilient development. A looming water crisis has reached the top of the international agenda, exacerbated by climate change, which is most acutely expressed through water. The main changes will be in precipitation and evaporation, with extremes of too much and too little water impacting humans and connected ecosystems. Changes in weather patterns and seasonality as well as the melting of ice will affect the availability of water, including during crop growth seasons. With increasing pressure on water systems, this will also affect water quality and put stress on connected ecosystems. Transformations and adaptations are urgently needed to address these issues, and in the search for approaches that accelerate adaptation, social learning has been identified as crucial. However, social learning approaches are often framed as technical or scientific learning, not giving sufficient attention to the important role played by culture and heritage. Integrating culture and heritage in social learning approaches in the area of water governance could boost the human ability to adapt and bring about needed change.

< *Fig. 1 Water is linked to all SDGs - directly or indirectly. The figure illustrates three groups of SDGs that are 1) strongly related to water, 2) related to water or 3) indirectly related to water (Source: Ligtvoet et al., 2018).*

Introduction

Historically, water has defined and enabled human development. Water can enable or limit the way society maintains health, grows food, generates energy, manages the environment, and creates jobs. A lack of clean water already limits economic growth in many developing countries. Climate change and water-related disasters hamper development, and 90 per cent of disasters are weather-related (floods, droughts, storms and heat waves). These risks in turn combine with a wider cocktail of other risks (social unrest, infectious disease, etc.) that mostly affect members of disadvantaged communities, particularly women and girls. With current and future climate change, water will therefore increase in importance as a defining element for development (UNEP 2022).

It has been concluded by many actors that the water crisis is essentially a water governance crisis. Thus, there is a need to strengthen governance structures related to water in general (UNEP 2022). The main issue is that all of the SDGs set out in the 2030 Agenda for Sustainable Development are related to water (directly or indirectly) but because water is included in multiple agendas, it slips down on the priority list and is not sufficiently managed and sustained (Ligtvoet et al. 2018). Addressing this situation will require appropriate policies, institutions with appropriate capacities, regulation, agile planning, and financing. The need for more integrated or systemic governance of water is recognized by several global agendas and international institutions, such as the European Union, the World Meteorological Organization, the European Environmental Agency and the 2030 Agenda for Sustainable Development. The Intergovernmental Panel on Climate Change (IPCC) has also been calling for the need to address the fragmentation of adaptation action, with a transformation of the current approach.

A transformation can be described as a change of identity or a change in the character of a system (fig. 2).

Describing all the needed transformations is beyond the scope of this article, however important steps are listed below (fig. 3):

1. Shift from an approach promoting short-term gains to long-term sustainable development.
2. Change from fragmented to integration and systems approaches, for example in the catchment or river basin.
3. Move from groupthink and other "lock-ins" to adaptive (change) management, policy making as experimentation and embracing failure as learning.
4. Pursue more inclusive governance to learn from all levels and sectors through new platforms, not to make assumptions but to understand contexts and perspectives, such as informal economies and norms and (informal) rules in use (strategic innovative capacity).

Current Approaches: Culture and Heritage as Essential to Transformations

Our current approach to change is very much dependent on access to technical and scientific knowledge and know-how. Evidence-based knowledge is certainly essential for achieving transformations and adaptations. At the same time, it is not clear how effective this approach is, as the current changes to water governance are often incidental and take place slowly (Dryzek 2013). There are many explanations for why the rate of change is so slow compared to the identified need. Theories of policy change ar-

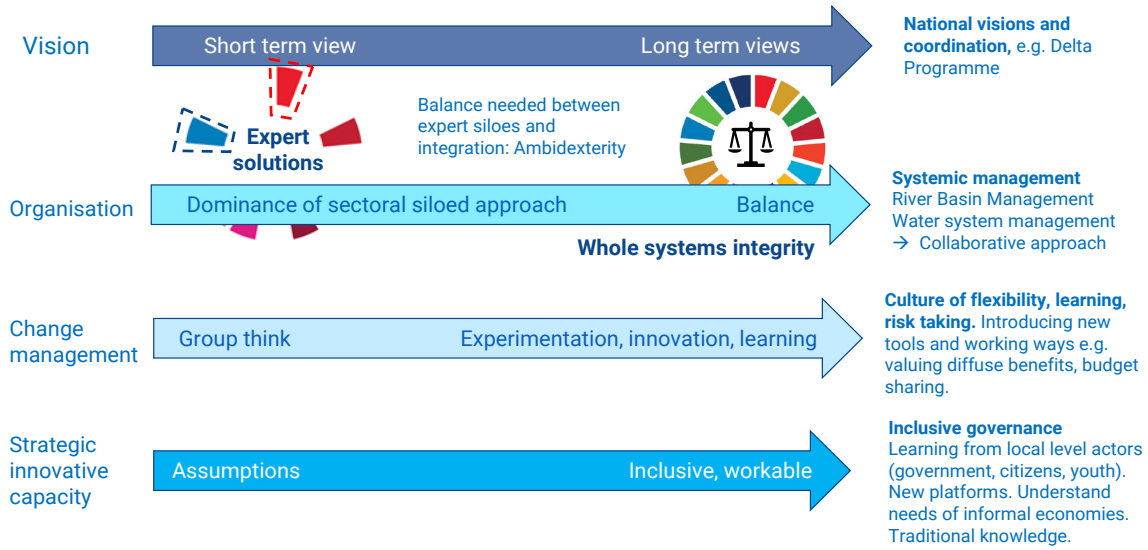
^ *Fig. 2 Transformation as change of identity. This figure illustrates transformation going from a fragmented (siloed) solution, where success is measured by sectoral Key Performance Indicators (KPIs) to a collaborative (systems/integrated) approach (Source: Åse Johannessen, 2023).*

gue that – in addition to knowledge – path dependencies play a role, with existing institutions and working processes constraining adaptation and transformation.

Social learning can help speed up change and unlock path dependencies, with culture and heritage as essential elements. Social learning and multi-actor collaboration are increasingly argued to be critical components of resilience, adaptive management, transformations and a key element in the development of more adaptive and sustainable practices in general (Gerlak and Heikkila 2019). Social learning refers to changes in collective understanding that result from the exchange of knowledge and experiences and lead to changes in practice (Medema et al. 2014). This includes social learning by policymakers, managers and other stakeholders (Gerlak and Heikkila 2019). Social learning is central to culture and heritage management since it is the mechanism whereby culture (ideas, customs and social behavior, comprising the totality of a person's learned and accumulated experience) is transmitted. Social learning has enabled us, for millennia, to gradually accumulate information across generations and develop tools, beliefs and practices that become embedded in our everyday lives or in institutions that are too complex for any single individual to invent in a lifetime (Boyd et al. 2011). Thus, culture and social learning are intrinsically linked. Knowledge accumulated as culture has made it possible for the human species to occupy spaces and geographies in a vast range of climates. As such, social learning is arguably one of the most important adaptive capacities humans possess.

Current and Future Challenges: Social Learning and Culture as Tools for Change

The question is how can we use the insights about social learning processes, in the context of culture and heritage, to address the needed transformations? Multi-stakeholder platforms, it can be argued, are an example of a practical way to boost social learning. Although many such platforms exist, a lot of networking still oc-



^ *Fig. 3 Governance changes and transformations needed to redefine approaches, norms and goals in water governance (Source: Åse Johannessen, 2023).*

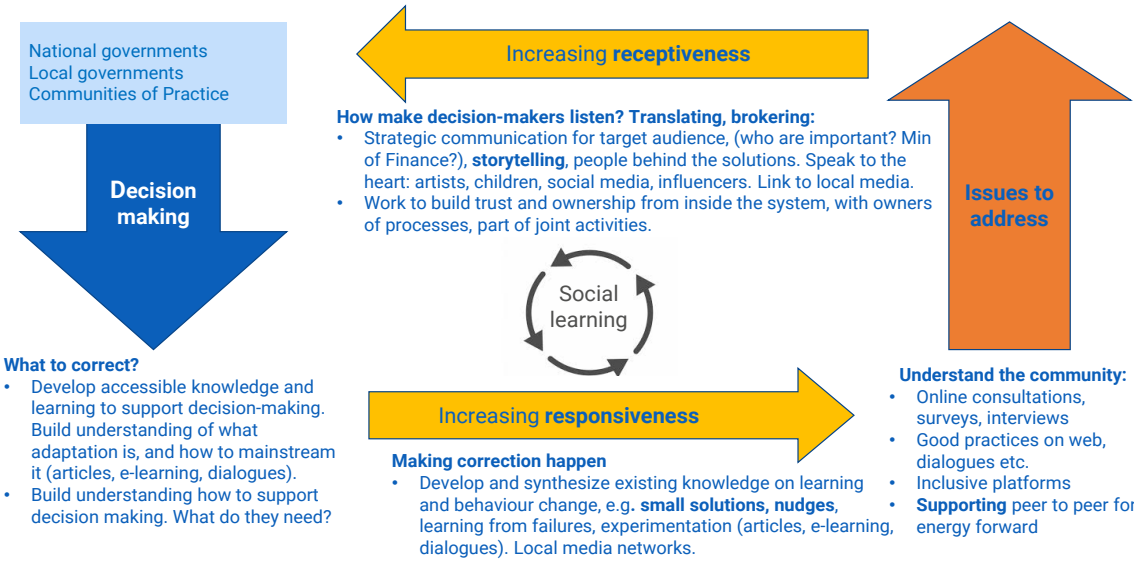
curs among professionals who work in closely related sectors. Research suggests that more radical innovations tend to rely on integrating knowledge that is spread across a range of different networks (Torfing 2016).

Facilitators are important to act as brokers who can help translate different views and language so that actors can relate to each other, coordinate efforts to deal with a common challenge and align perspectives and interests to support or complement each other (Torfing 2016). This can help encourage a particular story line, fundamental ground rules for interaction, and a particular method of mediating conflicts. For example, the Water Adaptation Community (WAC) at the Global Center on Adaptation (GCA) was created to be a multi-stakeholder platform linking actors that normally do not talk to each other, bridging siloed networks and as such accelerating climate adaptation. Its approach to social learning can be seen in figure 4.

Unpacking the Black Box of decision making and the Role of Culture

The model in figure 4 illustrates a social learning cycle. In social learning, the “errors” (or issues linked to the water crisis and inadequate water governance) need to be identified (error detection), for example through consultations. These are communicated to decision-makers who can correct them (that is, make the right decisions). Decision-makers, in turn, need to be receptive, willing and able to act on the information and address the issues (error correction). To avoid having decisions and plans collecting dust on a shelf, increasing responsiveness is needed to encourage and enable the right action with planners, implementers and citizens. This involves, for example, nudging for behavior change.

Culture plays a role here in facilitating collaborative interaction within this system by carrying



^ *Fig. 4 The cycle of social learning. Supporting and influencing decision making involves error detection, increasing receptiveness, error correction and increasing responsiveness (Source: Åse Johannessen, 2023).*

knowledge and giving shape to what is comprehended by humans. Culture and heritage can manifest in many ways, including objects and subjects, people, institutions, concepts, working processes, regulations, documents and story lines. They help connect people because they attract their attention and call for joint action. Culture and heritage also connect to an emotional dimension including insights that can complement evidence-based decision making. Social learning theory acknowledges that deeper learning, for transformation, is linked to values, "the heart" and emotions. This is compatible with findings in neuroscience investigating the wiring of the human brain. An example is research on the human brain's responsiveness to storytelling. Recently, neuroscience has identified that narrative storytelling can be used to capture lay audiences and encourage excitement about important scientific discoveries (Martinez-Conde and Macknik 2017). In a recent study, embedding climate change information in an emotional story structure encouraged pro-environmental behavior (Morris et al. 2019). This is an example of how to increase *receptiveness* of information (fig. 4). Such knowledge of the human brain has been used in product marketing for quite some time, but not as much by environmental and climate scientists. Experts and scientists often believe the right decisions are not taken by decision-makers. However, they typically downplay emotion in their publications.

Conclusion and Future Approaches

Culture and heritage play a role as carriers of accumulated knowledge, as subjects and artifacts, and as facilitators of collaborative interaction. As such, efforts to accumulate knowledge related to water governance and to bring about social learning and transformation could benefit from an understanding of human evolutionary history, human psychology and social

group behavior. The cultural approach also complements a focus on technical and scientific information to better understand how actors are triggered to change. For example, this approach recognizes the important role of emotions in decision making and the important role of storytelling to support scientific evidence. These and other socio-cultural factors would be useful to explore for the benefits of upscaling and accelerating adaptation. With better knowledge of social learning and the role of culture, we can design interventions, organizations and collaborations to better fit the human psyche. This is a promising new and potentially transformative field of research and practice to support climate adaptation and sustainable development.

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