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Frames and tools for public participation

People's understanding of climate change is shaped by underlying organizing principles or "frames". Frames enable a person to develop a culturally accepted opinion about an issue without having to consider all the details. Hence, well-founded frames are prerequisites for public participation in climate-related planning.

GIVEN THAT CLIMATE CHANGE cannot be observed directly, the public's opinions on this issue are partly dependent on knowledge institutes and their tools, such as model tools, cost-benefit-analysis, and dialogue tools, each with its own built-in frames. Because different framings of an issue might significantly affect public participation, this paper aims to clarify the role of frames in this context.

Frames

Frames are underlying structures of perception, knowledge, and behavior, which are studied by researchers in such varied fields as anthropology, linguistics, cognitive psychology, social and organizational psychology, management science, sociology, communication and media studies, social

movements research, policy science, and science studies. One of the reasons why it is often difficult to reveal their role is their "hidden" or "taken-for-granted" character. Moreover, when people plan an event, such as learning more about climate change, they often begin by partially activating a frame for the event being planned^[1]. That is, a frame of an abstract issue, such as a concept, an event or a plan, is never experienced directly in its entirety.

Depending on the circumstances, subsets of frame information become active to highlight specific aspects of the issue at hand. For example, climate change is often seen as a science-based issue and an important aspect of such an issue is the link with knowledge institutes as potential sources of relevant information.



Although there is no standard methodology to measure frames, they can be better understood by analyzing the interactions of knowledge institutes and community stakeholders. In the Netherlands, these interactions happen in the context of regional “hotspots”, where climate change and land use planning may have large impacts on the quality of life.

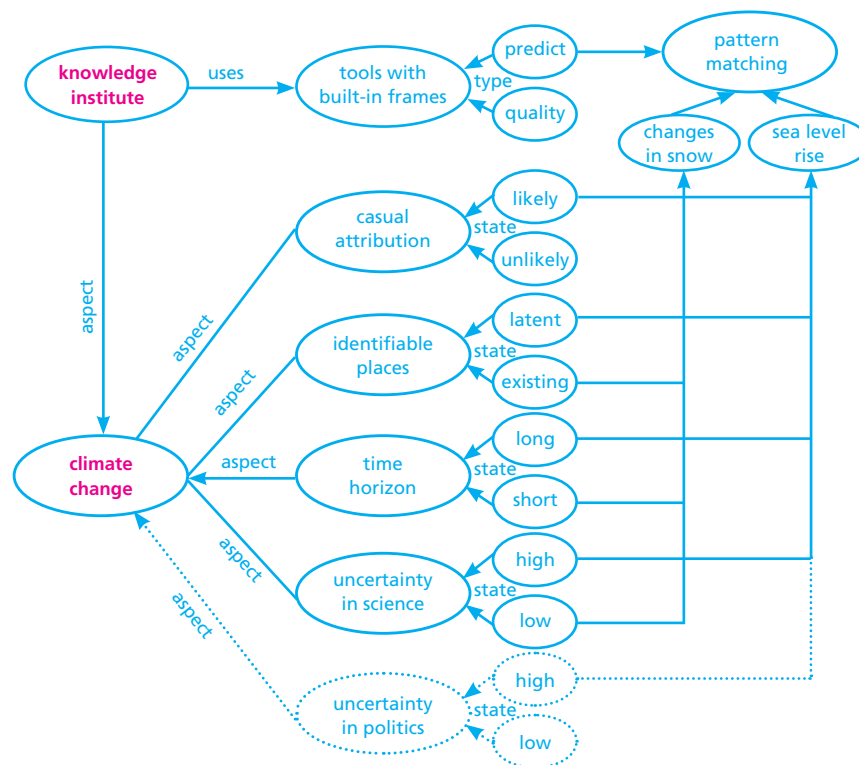
Some core aspects of the interactions are schematized in Figure 1. Figure 1 demonstrates that climate change can be framed in an event-like structure that combines aspects related to “causal attributions”, “identifiable places”, “time horizon”, and additional “uncertainties”. Particular combinations of these aspects enable understanding and prediction of specific patterns of obser-

vations, such as “changes in snow” (short time horizon) and “sea level rise” (long time horizon). Without going into all the details, it should be noted that the figure’s key point in the present discussion involves the articulation of uncertainty. A knowledge institute can frame climate change in ways that may or may not highlight uncertainties in science. Less obvious is what will happen with uncertainties in politics (shown dashed in Figure 1).

Strategic questions

Highlighting uncertainty is a matter of strategy. Thinking about climate-related planning, for instance, may require that several conditions of uncertainty have to be accepted. Instead of just focusing on the question “How can we reduce uncertainty in our estimates of future climatic

FIGURE 1. Main characteristics of the climate change manifestations “changes in snow” and “sea level rise”, represented by an event-like frame (inside the box) that combines various aspects of the climate change concept.



conditions?”, it may be important to give more attention to the question “Given that there is considerable uncertainty about our future, how can we best manage this coastal area to reduce risk and increase system resilience?”

Following Thompson’s seminal approach to decision-making^[2], the basic question is whether there is (1) a need for more scientific knowledge about the cause/effect relations that are instrumental for what the decision might actually accomplish or (2) a need for more deliberation on preferences regarding the possible outcomes of the decision. Figure 2 displays the main uncertainties that should be considered in developing a decision strategy and characterizes four strategy types that focus on (1) computation, (2) compromise, (3) judgment, or (4) inspiration. In addition, each strategy is accompanied by methods and tools with built-in frames that fit the strategy.

If the planners believe that there is enough certainty regarding both cause/effect relations and outcome preferences (upper left cell of Figure 2), decision-making is relatively straightforward. It may require a computational strategy to process voluminous data, relying on conventional forms

of decision support, such as multi-criteria analysis tools (MCA) and cost-benefit analysis (CBA). The built-in frame of these methods sees the decision situation as a problem for which an optimal solution might exist, provided that trade-offs will be accepted.

In contrast, if outcome preferences are uncertain or disputed, although cause/effect relations are considered certain, the planners need a compromise strategy to identify an acceptable preference (upper right cell of Figure 2). This means that the decision situation is framed as a problem which solution should satisfy a wide set of constraints instead of a single optimum criterion. To find a course of action that is acceptable to all kinds of stakeholders, participatory tools can be applied, such as some form of open, goal-directed conversation or “dialogue” between decision-makers, experts and other stakeholders, which may create favorable conditions for the exchange of diverging arguments.

If outcome preferences are clearly known and shared but cause/effect relations are uncertain or disputed, the planners must rely on a judgmental strategy to find a solution (lower left cell of Figure

		Preferences regarding possible outcomes	
		Certain	Uncertain
Beliefs about cause/effect	Certain	Computational strategy <ul style="list-style-type: none"> • Cost-benefit analysis tools • Multi-criteria analysis tools • Accounting tools and physical analysis tools 	Compromise strategy <ul style="list-style-type: none"> • Participative tools, e.g. stakeholder analysis and focus groups • Argumentation support tools • Negotiation tools
	Uncertain	Judgmental strategy <ul style="list-style-type: none"> • Scenario analysis tools, expert panels, simulation gaming • Model tools (biophysical, socio-economic, or integrated) • Checklists for judging model quality and uncertainties 	Inspirational strategy <ul style="list-style-type: none"> • Cognitive aids, e.g. checklists for prompting new ideas, “rich picture” drawing • Development of learning-scenarios

FIGURE 2
The horizontal and vertical dimensions of decision call for different decision strategies, which require their own methods and tools.

2). Whether cause/effect relations are uncertain may depend on several conditions, such as the planners’ belief that the existing knowledge is incomplete, that there is inherent uncertainty or uncertainty due to competition with opponents (e.g. rivals in the market). The nature and the relevance of scientific uncertainty (e.g. focusing on means or on variability) can lead to difficult discussions between decision-makers and experts, as well as between experts among themselves. There are several tools that can support this strategy, but a potential drawback is that discussions among experts might reduce feelings of problem ownership among planners and the public at large.

Finally, both causation and outcome preferences can be uncertain or disputed (lower right cell of Figure 2). When dealing with climate adaptation problems, for example, this may happen if there are external constraints that make planners at the regional level dependent on governmental institutions that can exercise veto power over some possible solutions. In many of these cases, the most likely action for the planners is to avoid any decision on the issue, unless an inspirational strategy can be introduced to create a new vision or belief. An inspirational strategy may include tools to

stimulate creativity, such as the development of learning-scenarios.

Interestingly, there are two diverging frames of creativity^[3]. Some persons tend to emphasize the value of spontaneous insight and the magical “Aha!” moment that occurs when a long-sought idea suddenly appears at the conscious level. Other persons emphasize systematic approaches to exploring problems and potential solutions. Generally, the occurrence of insight is associated with restructuring or reframing a problem space, for example, from a broader perspective.

Divergence and overlap

Taken together these insights show that there is a close relationship between frames, tools and public participation. This may give rise to a new generation of participatory tools that take the role of frames more explicitly into account, for example, by introducing a contrasting frame to open-up the process of decision-making. These notions have been elaborated in a short toolkit. A key point in this context is how contrasting frames will be appreciated. Political science has identified “divergent frames” as a potential source of intractable conflicts^[4]. In a more neutral problem solving setting, however, “multiple frames” or “perspec-

Frames are underlying structures of perception, knowledge, and behavior.

People with diverging arguments can only communicate meaningfully if their frames overlap to a certain degree.



tives” are often seen as fruitful complements to each other^[5]. Appreciating divergence is partly a matter of accepting diversity in preferences as an unavoidable social reality. Diversity can also be seen as an essential source of creativity, provided that there is at least a certain degree of commitment to support the planning process. It should be added, however, that people with diverging arguments can only communicate meaningfully if their frames overlap to a certain degree. Hence, a careful consideration of frames in their role of organizing principles may significantly facilitate the interaction between knowledge institutes, decision makers and stakeholders.

To read more on frame based information tools you can download the Toolkit: <http://www.chem.uu.nl/nws/www/research/risk/NWS-E-20093.pdf>

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