Political Reflection Group 20 - Analysts Rijkswaterstaat

Challenges in applying proposed advice in decision-making
As analysts of Rijkswaterstaat, our task is to provide data-driven, unbiased advice that supports informed decision-making. However, decision-makers may have political agendas, personal preferences, or physical and economic constraints that can influence how they interpret and implement our advice. This can lead to tensions and challenges regarding the utilisation of our advice. We will further elaborate on these challenges.

Firstly, **politicisation of scientific knowledge** is a significant concern. Sarewitz (2004) emphasises that scientific data can be selectively used to support political agendas, leading to distortion in factual information during political debates. In the context of the IJssel river project, multiple stakeholders conduct their own analyses, potentially resulting in selective presentation or distortion of data to align with their viewpoints. Actors involved can manipulate characteristics of the assumed GEV distribution for upstream flows, such as adjusting the scale parameter (σ) to account for greater variability in extreme events, like heightened weather extremes due to climate change. The Delta Commission focuses on long-term solutions and may adjust this scale parameter accordingly. Conversely, the transport group, prioritising short-term profitability and navigational routes, might use models with lower scale parameters. This demonstrates how variables can be adjusted to influence model outcomes. As analysts of Rijkswaterstaat, it is our duty to impartially represent the interests of all stakeholders in our analyses to develop a robust model for our client. Moreover, transparent communication of implications to Rijkswaterstaat allows for informed incorporation into policy proposals.

Steinbach (2022) points out that there is a complex relationship between politics and models. Politicians often ask policy analysts for advice on the best solutions, but sometimes they **look for arguments that support decisions they have already made**. It is important for analysts to be aware of this and to clearly explain the assumptions behind their results and any potential problems they might cause. Boswell (2008) explains how expert knowledge helps government agencies seem more legitimate. Expertise is crucial for developing policies, but it can also make it seem like decisions are objective, which might hide politicians' preferences. This can create tension between policy advisors and politicians, especially when political interests threaten the accuracy of the science. During our debates, this problem didn't come up much, probably because everyone involved was learning to be analysts and not actual politicians. This made us all pay close attention to the quality of the models and how they were used. If someone had tried to change the model to suit their own goals, the other analysts would have noticed quickly. However, in the real world, not everyone understands how models work, which could make it easier for people to use them in ways that are not fair.

Also, we believe that Rijkswaterstaat **genuinely pursued the best policy** option for all stakeholders without bias, as shown by the unanimous acceptance of the policy proposal. From the start, they also emphasised that we as analysts should look for policies that everyone can support. Furthermore, it was our responsibility to fact-check the outcomes of analyses conducted by other actors. This allowed us to verify whether the results presented by other stakeholders were significantly divergent. In doing so, we discovered an important difference: we noticed that everyone else involved looked at only one time step of the simulation, instead of multiple time steps required to propose an adaptive pathway. As a result, no policy proposal with an adaptive approach was proposed.

Thirdly, Metze's (2017) study on **framing in policy-making** emphasises how the way issues are framed can influence policy decisions. In the case of flood control measures, framing the IJssel as an ecological crisis (as the environmental interest group did) versus an infrastructural problem with economic dimensions (as the transport sector did) can have significant implications for the nature and scope of proposed solutions. How the problem is presented is of direct importance to us as analysts because it determines which constraints we impose on the levers and which outcomes we are optimising in our analysis. Therefore, the initial debate was essential for us, as all stakeholders presented their perspectives on the project. For example, we discovered that half of the actors wanted at least one, but preferably two RfR solutions, while the other actors preferred as many dike heightenings as possible. This enabled us to define the problem appropriately.

Radin (2016) adds that the r**elationship between policy analysts and decision-makers** can impact the advisory process greatly. While it used to be thought that policy analysts have a dominant or exclusive position in the advisory process, the practice has evolved into a more complex dynamic. Radin emphasises that policy analysts must adapt to changing circumstances by adjusting their communication strategies and approaches to the complicated dynamics of modern decision-making processes. This includes developing skills to communicate effectively with decision-makers, taking into account diverse political and cultural contexts. Analysts must not only be able to convey their advice clearly and persuasively but also understand and integrate the expectations and needs of decision-makers into their analyses.
If we as analysts had little contact with Rijkswaterstaat, we may not fully understand the political tensions surrounding the IJssel project. Rijkswaterstaat's mandate was to follow the Delta Commission's political line. For the second debate, a policy proposal from the provinces was presented, which only suggested raising dikes. The provinces' proposal seemed very cheap, which made the optimization we were doing seem unrealistically expensive in comparison. After consulting with Rijkswaterstaat, which had close contact with the Delta Commission, it became clear that Delta's willingness to pay correlated with the number of RfR-areas in the policy proposal. Without regular contact with Rijkswaterstaat, we would have been unaware of the political tensions and the availability of a larger budget contingent upon including RfR-options in the policy proposal.

Furthermore, Petersen (2003) describes a few important **characteristics of policymakers** that influence how analysts should interact with them. Firstly, policymakers often have strong faith in their own political analysis skills, based on their experience and politically oriented information channels. They tend to trust their political judgement over technical expertise. This can mean that we, as analysts, conduct thorough analyses that are not taken seriously enough.This did not occur during our debates, because the representatives of Rijkswaterstaat were students from a course that makes extensive use of models, so they understood the benefits that models can provide. Secondly, they approach politics mainly from a human-centred perspective, where personal interactions and individual decisions are considered more important than broader trends in data. This was evident in the final debate where the province of Gelderland continually urged Overijssel to collaborate more frequently in the future and thus maintain good relations. Despite the possibility that Overijssel might have wanted to adjust the policy proposal based on their own analysis, they had to consider Gelderland's interests as they would need to work together again in the future.

Lastly, **uncertainty** also plays a significant role. On one hand, there is political uncertainty. A sudden change in the political landscape can lead to the involvement of different stakeholders with new problem formulations and different preferences. For example, during our debates there was a lot of uncertainty about the budget that actors were willing to spend. Therefore, the available budget fluctuated regularly. As a result of changes in the political landscape, the outcomes we present as analysts may be interpreted and valued differently, or stakeholders may prioritise entirely different indicators or uncertainties. This was somewhat evident in the second debate when the province of Overijssel indicated that they did not want to allocate large budgets because they have elections in two years and do not want to risk losing votes. Additionally, they mentioned that new elections could mean a different provincial government is elected, and they do not want to make significant budgetary decisions for the new administration. The model itself also introduces uncertainty. Donald Rumsfeld outlined three types of uncertainties: known knowns, known unknowns, and unknown unknowns (Walker et al., 2013). It is particularly challenging to account for uncertainties in the latter category within a model. Consequently, the outcomes of the model may be questioned by stakeholders. During our debates, stakeholders raised questions about how climate change is taken into account and noted that the model appears less reliable because it does not take into account aspects such as biodiversity and water quality. That is why the environmental interest group immediately indicated during the first debate that it had more confidence in the RfR, which has proven to be effective in practice, than in the results of the model.

In conclusion, analysts must anticipate political dynamics and framing processes inherent in policymaking. While we can provide a robust policy proposal derived from the model for all stakeholders, its implementation is not guaranteed. Understanding and addressing the challenges of politicisation, the complex relationship between politics and models, framing, and uncertainty are crucial for effective policy advice.

Applied strategies implemented

We have implemented various strategies to mitigate the identified tensions and challenges associated with incorporating our advice into decision-making processes at Rijkswaterstaat.

To manage the complexity of the dynamics between politics and models, we adapted our **communication strategies**. Following the first debate, we increased the frequency of our communication with Rijkswaterstaat to stay informed about discussions with other stakeholders. This proactive approach helped address the challenge of politicisation of scientific knowledge, where data can be selectively used to justify political positions and enhanced a transparent and complementary cooperation. By staying closely engaged, we aimed to ensure that our technical advice was integrated into decision-making discussions in a constructive and accurate manner.

Moreover, attending all debates allowed us to **gain an understanding of the political considerations** at play, aligning with Radin's (2016) suggestion that understanding the relationship between policy analysts and decision-makers is crucial. Utilising visual aids such as graphs when presenting our advice further enhances clarity and objectivity, countering potential perceptions of expert knowledge as biassed. Furthermore, by maintaining strong relationships with Rijkswaterstaat and keeping them informed about our analysis process, we not only build trust but also tailor our advice to meet their expectations and needs, as outlined by Petersen (2003). For example, we helped them prepare for discussion and provide information about what proposals and responses they could expect from other stakeholders.

In line with Metze's (2017) findings on framing in policy-making, we have deliberately focused on **presenting policy issues from multiple frames**. By considering multiple perspectives during our problem analysis, we aimed to develop a balanced and inclusive analysis that addresses diverse stakeholder concerns. By mapping and weighing the interests of all parties involved, we were able to formulate a problem definition that is widely supported and includes various uncertainties and reflects on different preferred approaches .

Also, we **accounted for deep uncertainty**, as described by Kwakkel and Haasnoot (2019). By generating scenarios and exploring various policy alternatives, we acknowledged uncertainties inherent in the IJssel River project. Our scenario discovery further allowed us to identify critical variables influencing model outcomes, enhancing the robustness of our advice. Through this analysis, we were able to identify which variables had the greatest impact on the results, allowing us to focus on accurately estimating and communicating these critical factors to decision-makers.

We applied specific strategies for each challenge, such as improving communication with Rijkswaterstaat, using multiple perspectives and conducting a thorough robustness analysis and open exploration. These proactive measures not only strengthen the integrity of our technical advice but also foster a collaborative approach with other stakeholders, enhancing the likelihood of informed and sustainable policy decisions.

What will be done next
To counteract the politicisation of scientific knowledge and enhance public acceptance of the policy regarding the IJssel river, it is essential to **maintain a focus on transparency and inclusivity** throughout the decision-making process. The close intertwining of science and politics can provide benefits to both, such as increased recognition, reputation, and facilitation of fact-based decision-making, as well as drawbacks, including growing scientific scepticism, the dominance of experts, and the misuse of scientific credibility for political purposes (Schmid-Petri, 2022).
To tackle this issue, transparency and inclusivity are crucial because they uphold the objectivity of science and reduce the risk of politicisation (Reichert, 2007). We will:

- Present data and analyses in sessions where interested parties can participate, fostering a broader understanding of the situation.
- Thoroughly document methodologies and analytical processes, making them publicly accessible, which will enhance trust and enable independent verification.
- Focus on the reproducibility of the results

This approach ensures the integrity of scientific inquiry and minimises the influence of political agendas. Thus far, these measures have not been implemented, but the methodologies and analytical processes will soon be documented and made publicly accessible, which will enhance trust and enable independent verification.

Throughout the entire process, we will **remain available** for advice **during the implementation** of the policy. Our role does not end with policy recommendations; we stay engaged to ensure proper execution and to respond promptly to new challenges and insights. This enables us to continuously develop and adjust the model based on emerging knowledge and insights, leading to a more robust and resilient policy framework.

Furthermore, it is essential to conduct regular **policy evaluations** and a**ctively engage stakeholders** in this process. This involves assessing not just the policy's effectiveness but also its ethical ramifications. Blackstock (2007) stresses the significance of reflecting on the objectives and constraints of engagement processes. By integrating stakeholder perspectives derived from the debates into our evaluations, we ensure that policies are not only scientifically robust but also socially accepted. This approach enables us to foresee and address potential tensions and challenges, thereby fostering a more enduring and inclusive decision-making framework.

Lastly, there is a potential risk that stakeholders may **discover shortcomings** during the policy's implementation post-adoption. For instance, current policy models use a single time step, while the Delta Commission aimed for an adaptive pathway. Additionally, the future impacts of climate change, such as increased flooding, have not been fully integrated. It's crucial to anticipate these issues by adjusting models to include multiple time steps and account for climate change effects. Another assumption accepted during the final policy debate is that RfR costs include compensation for residents and farmers. However, if these costs exceed

expectations or are perceived as insufficient, good communication with Rijkswaterstaat is essential. Currently, the transparency of levee heightening costs is incomplete; for instance, it's unclear if permit expenses are included. These are aspects analysts need to investigate and integrate into the model to assess their impact on outcomes. In doing so, Rijkswaterstaat can address stakeholder concerns proactively and explore potential solutions beforehand.

By applying these strategies, we aim to maintain the integrity of our technical advice, foster collaborative approaches with stakeholders, and enhance the likelihood of informed and sustainable policy decisions regarding the IJssel river.

Reflection: potential risks of strategy
Increased transparency in decision-making processes brings several risks that can complicate collaboration and decision outcomes. Understanding these risks is crucial for developing effective strategies that mitigate their impacts. Here, we address key challenges supported by relevant literature, alongside potential adaptations and their potential impacts.

One potential risk is the **potential for stakeholders to exploit information for self-interest** rather than collaborative decision-making, leading to strategic behaviour, misinformation, or manipulation (Steinbach, 2022). For example, if the budget that the Delta Commission can deploy is known, this can ensure that other actors, such as the provinces, tighten their demands. This misuse can weaken cooperation and trust among parties, rather than fostering better-informed decision-making. Consequently, conflicts and inefficiencies may increase, undermining the original goal of transparency, which is to improve collaboration and decision-making processes. Research by Antci et al. (2008) indicates that increased transparency promotes cooperation only if it shifts players' preferences from a safe but less efficient equilibrium to a more efficient option. However, if transparency instead reinforces a preference for the safe equilibrium at the expense of the efficient choice, it can lead to coordination failures. For example, if transparency shifts preferences towards less efficient or riskier strategies, such as those with higher flood risk or greater damage, it can hinder coordination. Actors such as the provinces will then be more inclined to vigorously defend their own interests (and those of their residents) at the expense of cooperation. This highlights the critical importance of understanding how transparency influences the strategic dynamics of a group for effective collaboration and decision-making.

Another critical challenge lies in the inherent **uncertainty in our analytical models** used in strategic planning. Despite employing robust decision-making methods, fully encompassing all variables and future uncertainties remains challenging, partly because of computational power issues. Ideally, a fully disaggregated optimization over all desired outcomes for all stakeholders involved would be modelled. This would also involve adding the environmental and transport/logistics implications of the model before running it for a wide range of scenarios, to achieve convergence across a wide range of objectives. Unfortunately, this is not possible due to computational power issues constraints This can lead to varying interpretations and debates about the validity of proposed policy directions. External environmental

factors such as economic changes, technological advancements, and geopolitical shifts pose ongoing risks to strategic planning. These factors often lie beyond the control of Rijkswaterstaat and can change rapidly, rendering initial assumptions and forecasts made during strategy and model development outdated. Despite thorough scenario and sensitivity analyses, the risk persists of 'unknown unknowns', as described by Walker et al. (2013). This implies that unforeseen circumstances may arise in the future that were not previously considered. The risk is that stakeholders may overlook the possibility that even well-founded and thoughtful decisions could ultimately have negative consequences.

Moreover, the transparent quantification of values within models, such as the monetization of human lives, the translation of water level to damage and the potential effects of climate change can lead to **prolonged stakeholder debates**. According to Small (2014), stakeholders can vary in their beliefs about the likelihood of potential outcomes, differ in their valuation of these outcomes, and differ in their assessment of the model's ability to resolve uncertainty in the outcomes and their hazards. Transparently presenting underlying assumptions becomes crucial, yet it may also intensify disagreements over methodology and interpretation, complicating the decision-making process.

In conclusion, while increased transparency offers benefits in improving decision-making processes, it also introduces complex challenges that require thoughtful adaptation strategies. By leveraging insights from literature and exploring potential adaptations, stakeholders can better navigate these risks, ultimately fostering more resilient and effective collaborative frameworks.

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