

## What Has This Book Achieved?

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### Overview

In this chapter we offer concluding remarks based on issues raised in the book and informed by discussions between its contributors at a workshop held in December 2021. We emphasise the need to understand the Intergovernmental Panel on Climate Change (IPCC) as a complex epistemic, social, political and human institution and we evaluate its activities, achievements and challenges using three metaphors. First, we suggest opening the ‘black box’ of the IPCC to examine its internal workings, to understand how it functions and where its authority comes from. Second, we call for thinking of the IPCC as a ‘ship on the ocean’ to help situate its work within the scientific and (geo)political contexts in which it evolves. Finally, we caution against thinking of the IPCC as a ‘Swiss army knife’ that can successfully be all things for all people. These reflections on the design, function and future of the IPCC have implications for the study of other expert institutions.

### 28.1 What This Book Has Achieved

In *A Critical Assessment of the Intergovernmental Panel on Climate Change*, we have brought together more than 30 social scientists who have each studied the IPCC as an institution, and some of whom have been involved in its activities. These authors bring different disciplinary perspectives to the study of the IPCC, assessing, with a critical eye, the main features of the institution and evaluating its influence. They draw upon the available literature and their own experiences. Taken individually, each chapter offers an analysis of key questions relating to, among other things, the governance of the IPCC, the participants involved, the types of knowledge assessed, the processes guiding its work, and its influence in society. Taken as a whole, the book offers the first comprehensive and detailed

overview of the procedures, principles, practices and products that, together, comprise the IPCC and which underpin its authority and project its influence.

The book refrains from treating the IPCC as a unitary actor with a singular function, identity and culture. The starting point for many of the chapters has been recognising the heterogeneity of the institution, which brings together diverse scientific, social scientific, practitioner and political communities. The book therefore presents the IPCC as a complex epistemic, cultural, political and human knowledge institution whose ramifications extend well beyond its organisational boundaries. It shows that the procedures put in place to guide the assessment process, the types of knowledge assessed, as well as the individuals and institutions involved in the organisation, matter for how we think about the knowledge that produces. The IPCC is not a neutral loudspeaker for the voice of climate experts worldwide, but an active participant in producing such a voice. And its reports, products and messages – what that voice speaks – are not interpreted the same way around the world. The IPCC's procedures and *modus operandi* have implications not only for the framing of climate change in its reports, but also for the construction of its authority in various national and international contexts.

By compiling this book we also seek to start a debate about the perceived successes of the IPCC. We give contributors space to identify and discuss its various achievements, as they understand them, and the range of challenges it faces. 'Success' is not only defined in terms of impact and communication, but also in terms of governance, participation, diversity, transparency and reflexivity. The different chapters thus assess the IPCC with regards to its ability (or failure) to reach across different audiences, to develop inclusive, transparent and fair practices and processes of knowledge assessment, and to reflect on its own role in society.

In this conclusion, we draw out several threads that run through the book, using three different – and deliberately incommensurable – metaphors: the IPCC as a 'black box', as a 'ship in the ocean' and as a 'Swiss army knife'.

## **28.2 Opening the 'Black Box' of the IPCC**

The IPCC is primarily known for the authoritative and scientifically rigorous reports that it periodically publishes and that make headlines in media outlets worldwide. From the outside, like many successful institutions, it resembles a 'black box' – a complex organisation whose internal workings are hidden or, at least, not well understood. The contributions in this book have demonstrated the importance of opening the black box of institutions like the IPCC to describe how expert claims are produced, how their legitimacy and credibility are constructed, and how they are interpreted by a wide range of public audiences. These

perspectives have shown that the IPCC is many things: it is a panel of member states; it is three distinct Working Groups (WGs) and a Task Force; it is a small secretariat; and it is a network of researchers, government representatives and bureaucrats spread around the world in different national and international institutions. The chapter contributors have also offered a nuanced reading of some commonplace assumptions about how the IPCC selects its authors, produces its reports and communicates its findings.

First, opening the black box of the IPCC allows us to see how it is a unique experiment of co-production between scientific and social scientific experts and government representatives. It has evolved into a distinct professionalised space of encounter between these different worlds, with its own norms, codes, culture and philosophy. Applying a sociohistorical perspective to the IPCC makes two things clear. First, the institution was imagined, founded and originally designed in the late 1980s, within a particular geopolitical context that shaped its institutional form and governance procedures, and within an epistemic context that recognised a particular relationship between (scientific) knowledge and policymaking, namely, a 'science-first' approach. But, second, in its subsequent history, the institution has been continuously re-shaped by scientific advances, knowledge controversies, and national and international politics; for example, by climate contrarians, by UN Framework Convention on Climate Change (UNFCCC) negotiations and by shifts in geopolitical power. For all these reasons, the IPCC was 'born political', has never escaped subsequent politicisation and never will. All the contributions in this book deconstruct the carefully defended narrative that the institution is able to separate science from politics and that the IPCC is neutral with respect to policy. Yet they also observe that the political nature of the IPCC is not necessarily a problem, if acknowledged and reflected upon.

Second, opening the black box of the IPCC draws attention to how its knowledge assessments are constructed. This construction occurs through both the micro-practices of its participants and through the Panel's orchestration efforts that reach well beyond its institutional boundaries. Over time, the IPCC has developed one of the most sophisticated machineries of all global knowledge assessments, one which mobilises thousands of experts, hundreds of research institutions and scores of bureaucrats, working together over several years. Contributions in this book reveal the importance of the internal rules that guide the work of the institution, manage interactions between authors and government delegates, and respond to criticism. At the same time, they caution against thinking that procedures act as a proxy for objectivity. Rather, such procedures reveal the informality and learning-by-doing approach that prevails in many aspects of the IPCC's assessment process.

Third, opening the black box of the IPCC foregrounds the importance of participation for the legitimacy of its global assessments. Participation in the IPCC

is multifaceted. It is characterised by a high level of turnover among expert authors and government representatives, but also by the existence of a small group of individuals building their career and work around IPCC assessments. Participation is also limited. Despite efforts to increase the involvement of various groups – experts from developing countries, civil society, early career researchers, Indigenous Peoples, social scientists, humanities scholars, women – contributions to the book show the difficulties the institution still faces in developing procedures to enhance their participation. Contributors also argue that participation is less about quotas and statistics than it is about strengthening the capacity of these participants to contribute effectively, and with influence, to the IPCC's assessment work. Enhancing such capacity is not only essential to strengthen participants' engagement with the IPCC, but also to improve the quality and relevance of knowledge assessments produced by the IPCC.

Fourth, opening the black box of the IPCC renders visible some of the power asymmetries that characterise relations between disciplines (the natural and social sciences) and epistemologies (scientific and non-scientific systems of knowledge), between authors and governments, and between governments (for example, fossil fuel exporters, small island states, forest-rich countries). IPCC deliberations do not occur in a vacuum; they are subject to the same asymmetries that characterise, more broadly, interdisciplinary and transdisciplinary research, and the distribution of knowledge production between the Global North and the Global South. Many of the chapters identify moments in the assessment process where these asymmetries become visible and limit the consensus strategy pursued by the IPCC. They can restrict meaningful participation and deflect the overall narrative of the assessment.

Finally, and drawing upon the above insights, opening the black box of the IPCC helps situate the particular kind of knowledge that the institution produces and puts into global circulation. Several contributions to the book emphasise the IPCC's reliance on numerical modelling and quantitative analysis to tell the story of climate change, its impacts and potential solutions. Such framing comes at the expense of presenting plural narratives, grounded in perspectives from the social sciences, humanities, and Indigenous knowledge systems, which could reflect how climate change is experienced and interpreted differently around the world. The IPCC's particular framing of climate change also comes at the expense of acknowledging – especially in the Summaries for Policymakers – some of the disagreements and asymmetries of power that run deep within and between societies. And this framing further tends to support technocratic climate solutions that run the risk of locking in certain futures and narrowing the policy options available.

Who the IPCC's experts are (from which country, discipline or societal group) and how they arrive at their conclusions (the content of the black box) are thus as important as what they say (the reports).

### 28.3 'A Ship on the Ocean'

To use this metaphor of a ship on the ocean, *A Critical Assessment of the Intergovernmental Panel on Climate Change*, while focusing on the IPCC ('the ship'), is also about the context ('the ocean') in which the institution evolves and operates.<sup>1</sup> The IPCC navigates an ocean of variable depth and with dynamic currents and it regularly needs to adapt its sailing techniques. Its architecture and navigation system has evolved over time as the profile of its passengers and crew diversified, as conflicts over its destination arose, and as the physical properties of a warming ocean changed. This is not to say that the 'ship' does not also shape the ocean when its hull enters the water. Quite the contrary. Contributions in the book argue that the IPCC has played a key role in giving prominence to climate science, supporting international climate negotiations and raising global awareness on climate change. And they also show how these processes have, in turn, shaped the IPCC.

First, the authority of the IPCC derives not only from its internal procedures and practices, but from a large network of scientific and research institutions – principally located in Europe, Australia and North America – that have historically supported its work. The IPCC would not be what it is if it could not rely on the resources of these institutional actors whose own activities have, over the years, become increasingly organised around the IPCC's assessment cycles. In turn, these research institutions occupy key positions in the Panel's operations, creating feedback loops whereby the knowledge that these semi-independent and powerful institutions produce becomes even more prominent and influential in shaping and communicating the story of climate change as told by the IPCC.

The 'ship' of the IPCC, through its institutional proximity with the UNFCCC, is also closely connected to 'the ocean' of international climate negotiations. As shown by several contributions in the book, the IPCC has on several occasions become enmeshed in controversies over issues relevant to the negotiations – for example, when the UNFCCC commissioned a Special Report on Land Use, Land-Use Change, and Forestry (SRLULUCF) in 2000, or requested a Special Report on Global Warming of 1.5 °C (SR15) in 2015. In these situations, the IPCC is explicitly called upon to settle a political conflict between parties. The hope is that a rational and technical management of a political problem through IPCC knowledge assessment procedures may ease normative disagreements – such as, in the examples given earlier, what a carbon sink is and why 1.5 °C of warming is safer than 2 °C.

The IPCC is not insulated from the 'winds and currents' of external influences and often ends up trying to respond to them through internal deliberations. So far, the ship of the IPCC has not run aground in these tempestuous storms, although as

several of our chapters illustrate it came close to doing so in 2010 following the ‘Climategate’ controversy and some errors found in the Fourth Assessment Report (2007) (AR4). Several contributions also delve into the implications of the new role taken up by the IPCC in the post-Paris (after 2015) context. The IPCC’s principal mandate, dating back to 1988, of assessing what is known about the changing climate and its impacts is evolving into an expectation for the IPCC to pay more attention to the assessment of solutions. In these chapters, our contributors express concern about the prominent place given in IPCC reports to putative solutions to climate change whose technical, social and political feasibility is uncertain – for example, afforestation and bioenergy with carbon capture and storage, also known as BECCS. By promoting certain technocratic solutions that have not been debated through democratic means, the IPCC can be seen by some as exceeding its role as an assessor and synthesiser of knowledge. There are some dangerous rocks here around which the ship of the IPCC needs to navigate.

The IPCC is also connected to other institutions producing global environmental assessments through the links that are made with other problems, such as ozone depletion, biodiversity, desertification, chemical waste pollution and so on. For many interested observers, the IPCC sets an institutional precedent. As an exemplar of a science–policy interface, the IPCC’s internal arrangements – consensus-based, intergovernmental, science-focused – serve as a design template for other advocated global environmental assessments. However, the fact that the IPCC ship is still afloat after more than 30 years does not mean that the same ship design and navigating principles are appropriate for the different challenges of different oceans. The establishment in 2012 of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) is a good illustration of adopting some design features of the IPCC, but choosing a ship and a crew that looked and moved rather differently in order to navigate a different ocean. The IPBES, for example, brings together more diverse types of knowledge and explicitly includes capacity building in its mandate (which the IPCC formally does not).

To continue with this metaphor, the contributions to this book also draw attention to the multiple layers of various depths of the ocean the IPCC navigates. IPCC reports are relevant not only for global governance, but also for different regional, national and local decision-making processes. At the same time, IPCC reports – their framing of climate change, the analytical techniques adopted, their assessment of uncertainties and promotion of visuals – are circulated, used and interpreted in many different ways around the world. The perceived legitimacy of its reports, and their usefulness for various actors, vary significantly over time, and depending on context. In the wake of increased public attention to climate change in recent years – and the worldwide mobilisation of a youth climate movement – IPCC reports are under the spotlight in many countries and are being

used by various groups to call for more ambitious national action. But the IPCC also faces contestation by other actors who question its legitimacy and credibility for a variety of reasons. For instance, in the Global North, the IPCC has been the target of climate contrarian groups that sought to delay climate action by discrediting its work. In the Global South – where inequalities in knowledge production and access to resources hinder participation in the IPCC – its reports are criticised for underrepresenting the perspectives of developing countries. And as is made clear in one of our chapters, many Indigenous Peoples feel that the IPCC has not done justice to the Indigenous knowledge systems held by peoples who feel excluded from participation and yet whose knowledge needs formal means of recognition by the IPCC.

The metaphor of the ship in the ocean draws attention to how the IPCC (the ship) shapes and influences the social, political, cultural and epistemic context (the ocean) in which it is embedded. But the metaphor also points to how this changing environment within which the IPCC operates prompts adjustments to the staffing, the navigational protocols and even some infrastructural elements of the ship.

#### **28.4 ‘The Swiss Army Knife’ Problem**

While *A Critical Assessment of the Intergovernmental Panel on Climate Change* has been more concerned about what the IPCC is than about what the IPCC ought to be, this normative question is considered in many contributions. They reveal the diverse expectations that societal actors have about how the IPCC should function and what kind of knowledge it should produce. These ambitious expectations are a reflection of how successful the IPCC is in the eyes of many.

After each assessment cycle, reform of the IPCC is called for. For some, the IPCC should adapt its work so as to produce more tailored and context-specific regional and local information relevant for actors in charge of developing mitigation and adaptation policies. In contrast, for others the IPCC should listen more closely to the needs of the UNFCCC and adjust its publication timeline to key mechanisms, such as the Global Stocktake due to be completed by 2023. Contributors to this book also offer their own expectations for the IPCC. Several of them call for a greater integration of insights from the social sciences, Indigenous knowledge systems, practitioners and even the public at large. Others call for the IPCC to acknowledge its political role and for it to be more reflexive about the policy choices and value judgements that underpin its assessments. One of our contributors calls for the IPCC to redesign itself to be an engine for constituting a new form of global democracy.

As a result of the diversity of its stakeholders, there is no shortage of expectations about what the institution of the IPCC should become. This is what

the contributors to this book recognise as the ‘Swiss army knife’ problem.<sup>2</sup> A Swiss army knife is a unique handy tool that can be used in multiple ways and situations to perform multiple functions. While the IPCC might want its reports to be multifunctional and address a wide range of audiences across the world, in practice this is a difficult and problematic task. It might even be an impossible mission because it is difficult to imagine that the IPCC can simultaneously fulfil all the functions that different societal actors ascribe to it and satisfy all their needs. First, from a human resource perspective, it is complicated because the IPCC may not have the necessary capacity or resources – authors are volunteers for whom the assessment process is already very cumbersome and the volume of literature to assess keeps expanding. Second, from an epistemic perspective, as the contributions to this book have shown, the IPCC is already hardly all things for all people. It is an institution whose reports satisfy some scientific or knowledge communities, and some countries, more than others. Letting in new stakeholders would require substantial re-imagining of the rules and the intricately orchestrated process of assessment writing, and require the redistribution of power within the institution.

Finally, as several contributions suggest, the conflicts that arise in IPCC deliberations are becoming increasingly unresolvable, because they concern clashing worldviews, paradigms and values. While the IPCC might have overcome earlier controversies – for example about the attribution and detection of climate change – it is still struggling to use knowledge to reach a global consensus on how to tackle climate change, and how fast. Such a struggle might not even be necessary anymore, since the Paris Agreement and its Nationally Determined Contributions have in fact allowed for different tracks and different speeds. It might be time for the IPCC to recognise that the issue of climate change divides societies as much as it unites them, and that a rational and technical management of the climate crisis is unlikely to bring about major societal changes.

### **28.5 Looking Ahead**

With the help of the three metaphors discussed, we now circle back to the argument that opened this conclusion – the IPCC is a complex knowledge institution that means a lot of different things to different people. Instead of making the IPCC ship bigger to satisfy all, it may be worth considering building smaller ships to acknowledge the multiple and sometimes contradictory ways of thinking about climate change and its solutions, and more generally about living on Earth. Similarly, instead of thinking of the IPCC and its WGs as the only ‘tool’ in

town – a Swiss army knife – one could think of developing different knowledge and assessment tools fit for particular purposes. This is especially the case now in a world that is more epistemically fragmented and ontologically complex than ever and moving toward a polycentric and nationally oriented policy terrain on climate change.

This could mean moving away from comprehensive assessments to more topically and geographically focused and integrated evaluations. This could be pursued by the IPCC, or by other national and local institutions. For example, the last decade has witnessed the emergence of local IPCCs to guide the implementation of climate change policies ‘in the field’ – the New York City Panel on Climate Change established in 2009 is a precursor in that regard. If the IPCC is to be continued, it could also write reports with other knowledge institutions – specialised among others in food, biodiversity, energy, trace, finance, human rights – or establishing collaborations with a wider range of stakeholders at different levels of governance. For example, the IPCC/IPBES workshop organised in June 2021 brought much needed information on the synergies and trade-offs between biodiversity protection and climate change mitigation and adaptation, which was reflected in the WGII AR6 report. The IPCC could also move away from centring on global climate projections or proposing ready-made solutions, to instead offer a more careful examination of ‘inconvenient truths’ – such as historical responsibilities, social and political (in)feasibilities, the underlying drivers of inaction, or the new forms of capitalist domination that the climate transition is creating. As many contributions show, however, the IPCC, in its current intergovernmental form, is not fit for this task.

One could also argue, more provocatively, that we need to hear less about the IPCC and its ‘dire’ or ‘code red’ assessments. This does not mean that expertise is not needed anymore, but that it should not be expected – as it is still often the case – to be the primary driver for climate attention and action. It is now the time to move the focus of attention to the political leaders and decision-makers, with all their contradictions and inconsistencies, and request of them to assume the difficult choices that are needed, rather than lean, even if rhetorically, on ‘policy neutral’ global knowledge to instruct their paths. Climate change is now much less a scientific problem than it is a political and cultural predicament.

The knowledge and arguments contained in *A Critical Assessment of the Intergovernmental Panel on Climate Change* are partial, contingent and contextual. This is true of all knowledge, including that constructed by the IPCC. Yet this book is so far the broadest and most comprehensive assessment of the IPCC as an institution. It offers a ‘snapshot’ of what an international group of social science researchers understands about it, shaped by the available literature

and by the contributors' own situated experiences and judgements. It is a contribution to future debates about the IPCC – and about the role of science in society more generally – offered in good faith.

### **Notes**

- 1 We want to thank in particular Clark Miller and Shin Asayama for suggesting and developing this metaphor.
- 2 We thank Shin Asayama for suggesting and developing this metaphor.