

8

Early Career Researchers

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Overview

This chapter argues that Early Career Researchers (ECRs) can contribute to the Intergovernmental Panel on Climate Change (IPCC) in two major ways. First, ECRs can contribute unique skills and competences to the assessment process. Second, ECRs can share the workload with senior researchers and thus enhance the quality of the assessment. By reviewing the IPCC's Scholarship Programme and the role of Chapter Scientists, this chapter explores the potentials and challenges of introducing ECRs into the IPCC, and for the Panel to engage in capacity-building to enhance the quality of the assessment. The review shows how the organisational set-up of the Scholarship Programme and the Chapter Scientist role allows the IPCC to informally engage in capacity-building without diverting from its mandate that does not include capacity-building. Even so, ECRs remains an untapped source of expertise that, through active and strategic work, can contribute to the future development of the IPCC.

8.1 Introduction

A key strategy the IPCC uses to ensure its credibility is to enrol world-leading researchers to assess the current state of knowledge about climate change (Hoppe, 1999; Beck, 2011a; IPCC, 2021b). To become relevant and legitimate, when selecting those who are to work on its assessments, the IPCC has complemented its requirement for credentialed experts with additional criteria that encourage diversity with respect to disciplines, gender, ethnicity, language and geographical representation (see **Chapter 7**). Even without engaging in a discussion about the extent to which this move has been successful, these strategies come across as having a rather short-term focus on how to make IPCC assessments credible, relevant and legitimate *here and now*. To continue to develop as an institution,

however, the IPCC also needs to consider longer-term strategies, including capacity-building and succession planning for future IPCC assessments. Although the selection criteria ‘to create a mixture of experts with and without previous experience in the IPCC’ could be seen as a plan to create continuity between assessments, capacity-building remains outside the IPCC’s formal mandate. Even so, this chapter will show how the IPCC indirectly engages in capacity-building by supporting ECRs and introducing them to the assessment process. Such a move prepares the IPCC to become an expert organisation for both the present *and* the future (Chan et al., 2016; Gustafsson & Berg, 2020; Gustafsson, 2021).

The chapter reviews the potential, and the limitations and challenges, of engaging ECRs in the IPCC to enhance the quality of the assessments and to bring new perspectives to the assessment process. This will be done by looking at the IPCC’s Scholarship Programme, which supports ECRs from developing countries through their academic studies, and by exploring how and why ECRs are enrolled as Chapter Scientists in IPCC assessments. Previous research on ECRs in the IPCC is, with a few exceptions, still rather sparse. Thus, this chapter will combine a review of existing studies on the topic with an empirical survey of where to find ECRs in IPCC.

8.2 Defining and Finding ECR in IPCC

The concept *Early Career Researcher* (ECR) refers, as the phrase implies, to a researcher at the beginning of their career. The concept lacks a universal definition and is instead defined through the empirical context in which it is used: for example, through guidelines of eligibility to fellowship programmes, jobs, and calls for research funding. ECR could refer to anyone from postgraduate research students up to researchers 7 or even 10 years post-PhD (e.g. Bazeley, 2003; Gustafsson, 2018; ERC, 2021).

Since 2009, the IPCC has supported ECRs through its Scholarship Programme in which ECRs are identified as postgraduate students and postdoctoral researchers (IPCC, 2009a). Since the 6th Assessment cycle, ECRs have also officially been invited by the IPCC to participate in the assessments as ‘Chapter Scientists’ (see later for a description of this role). The open calls for Chapter Scientists have identified ECRs as researchers with a Master’s degree or PhD, but who are still in the early stages of their academic career. Someone who passes this early career stage is referred to as one who is ‘overqualified’ and experienced (Gustafsson & Berg, 2020). Before these two opportunities existed – the Scholarship Programme and Chapter Scientists – ECRs did not have a formally assigned position in the IPCC. Instead, prior to 2009, to be able to participate in the IPCC, ECRs had to compete for a position as Lead Author on the same terms as senior researchers, but

with less academic work-life experience. Thus, participating in the IPCC as an ECR has been and still is very difficult, although not impossible or unheard of (Casado et al., 2019; Gulizia et al., 2019; Søgaaard Jørgensen et al., 2019). Similarly, the literature also offers only a few examples where ECRs – in these cases defined as Master’s students or early-stage PhD researchers – through special calls and invitations have participated in the IPCC review process, but generally with positive results (van der Veer et al., 2014; Casado et al., 2019).

Previous studies raise two general arguments as to why ECRs have a contribution to make in organisations such as the IPCC. First, ECRs contribute unique skills and competence to the assessment process (Lim et al., 2017). The fact that these researchers are early in their careers results in them bringing unique knowledge and experiences of great value to the process (Packalen & Bhattacharya, 2015; Gustafsson et al., 2019). This allows the ECR to approach issues with new ideas on how to collaborate successfully across disciplines, cultures and languages, as well as offer new perspectives on how to answer challenging questions (Kowarsch et al., 2016; Gustafsson & Berg, 2020). Second, ECRs are an overlooked group of competent researchers that, if included, could share the workload with the senior researchers and enhance the quality of the assessment (Gustafsson et al., 2020). Successfully contributing to global knowledge assessments requires skills and competencies to match the requirements and protocols of the assessment process. This needs to be learned by all new Lead Authors, regardless of their career stage. Studies have shown that, with appropriate guidance, ECRs can contribute to the assessment at the same level and quality as senior researchers (van der Veer et al., 2014; Gustafsson 2018; Casado et al., 2019; Gustafsson, 2021).

In the following two sections, I take a closer look at the IPCC’s Scholarship Programme and the role of Chapter Scientist, to explore the potential of engaging ECRs in the IPCC to enhance the quality of its assessments.

8.3 IPCC’s Scholarship Programme

The IPCC’s need to build capacity among ECRs intersects with other issues that also affect its credibility, relevance and legitimacy (Gustafsson et al., 2019). One such issue, which the IPCC has struggled with since its inception, is the representational bias favouring industrialised countries of the Global North (Agrawala, 1998b; Ho-Lem et al., 2011; Hughes & Paterson, 2017; Stranding & Lidskog, 2021; see **Chapter 7**). After being awarded a share of the 2007 Nobel Peace Prize, the IPCC decided to address these intersecting challenges by creating a Scholarship Programme Trust Fund to support young postgraduate students and postdoctoral researchers in climate change sciences from ‘developing countries’,

especially ‘least developed countries’ (IPCC, 2009a). Although directed by the IPCC, the Scholarship Programme is organised outside of the IPCC’s mandate and runs in parallel to the assessment process. Although capacity-building is not in the IPCC’s mandate, the Scholarship Programme allows the IPCC to address the problem of geographical bias.

The Scholarship Fund is governed by a Science Board and a Board of Trustees. The Science Board is responsible for the Scholarship Programme’s selection process and for deciding which scientific knowledge gaps and capacity-building needs are to be prioritised in each round of the program. The Board of Trustees carries the responsibility for the affairs of the Scholarship Programme Trust Fund. The Board of Trustees also holds the responsibility to create further economic support to the Fund and to develop collaborations on the Scholarship Programme. Since its establishment, the Scholarship Fund has received several monetary gifts and the Scholarship Programme has created a long-lasting collaboration with the Prince Albert II of Monaco Foundation, the Cuomo Foundation and, most recently, with the AXA Research Fund.

The IPCC’s Scholarship Programme was launched in 2009 as a two-year program and has since had six admission rounds. These rounds have differed slightly with regard to the academic age and research interest with which ECRs are eligible to apply to the program. Still, all six calls have been aimed towards postgraduate students, and sometimes postdoctoral researchers, working on ‘research that advances the understanding of the scientific basis of risk of human induced climate change, its potential impacts, and options for adaptation and mitigation’ (IPCC, 2009a: 3).

In total, 90 ECRs have been accepted onto the IPCC’s Scholarship Programme (IPCC, 2021c). Of this total, 33 were accepted in the sixth round. Fifty-five ECRs have participated in the Scholarship Programme supported by the Prince Albert II of Monaco Foundation, 25 by the Cuomo Foundation, 6 by the AXA Research Fund, and 4 by funds from the IPCC’s Scholarship Programme Trust Fund. One contributing factor to the low number of IPCC-supported scholars is that the Board of Trustees was inactive for almost three years after the first Board of Trustees’ mandate expired in 2016 and before a new Board was appointed in October 2018 (IPCC, 2018c). An additional challenge for the development of the Scholarship Programme has been administrative limitations within the IPCC’s secretariat to manage a larger programme (e.g. IPCC, 2012a; 2015b; 2016a). Despite strong appreciation, validation and support of the Scholarship Programme from the IPCC, the Programme’s organisation and management has therefore made it difficult – if not prohibited – to increase numbers of ECRs and to develop in other respects.

Three comments have recurred in the Panel’s discussions on how to develop the programme (e.g. IPCC, 2012a; 2016a; 2018d). First, is the desire to generate

additional funds and collaborations. Second, is to follow up on the progress of the ECRs in the programme and explore the need of making the Scholarship longer to ensure that the students can finish their studies. Third, is to work on ways to connect the ECRs in the programme more closely with the IPCC's work. However, it is not evident that these questions have resulted in any changes to or developments of the program up until 2018. In 2018, as part of the discussion on how to make closer ties between ECRs and the IPCC, the Panel reviewed whether funds from the Scholarship Programme Trust Fund could be used to cover travel costs and honoraria for Chapter Scientists from 'developing countries' (IPCC, 2018d). In subsequent discussions about this proposal, concerns were raised about potential negative consequences on the Scholarship Programme Trust Fund's capacity to contribute economic support to graduate and postgraduate studies. The outcome of these extended discussions was that the Panel decided, in May 2019, that the IPCC's Scholarship Programme Trust Fund *could* be used to support 'developing country' Chapter Scientists, but only if such use did not negatively impact the running of the Scholarship Programme (IPCC, 2019c).

When discussing the options of how the Scholarship Programme could be developed, an interesting comparison can be made with the Fellowship Programme in the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) (Gustafsson, 2021). In comparison to the IPCC, capacity-building *is* included in IPBES's mandate and this has led to the development of a Fellowship Programme that allows ECRs to participate in IPBES's assessment process in a role that equals that of a Lead Author. The IPBES Fellowship Programme also provides a mentorship structure and an annual capacity-building workshop that addresses both formal and informal skills that are needed in an assessment process like the ones of IPBES and IPCC (Gustafsson, 2018; Gustafsson et al., 2019, 2020).

8.4 Chapter Scientists

During the assessment process for the IPCC's AR5 Report, which was presented in 2014, the role of Chapter Scientist was officially introduced by the IPCC for the first time (Schulte-Uebbing et al., 2015). The Chapter Scientists' task is to aid and support the Coordinating Lead Authors (CLA) and Lead Authors (LA) throughout the assessment process to ease their workload. The introduction of Chapter Scientists was suggested and implemented as one of many measures that aimed to strengthen the IPCC's quality control in the aftermath of the critique of AR4 (see Chapter 6). During the assessment cycle of AR6, the position of Chapter Scientist has been formalised by the IPCC Panel and decisions have been made to offer economic support to Chapter Scientists from 'developing countries', as discussed

earlier (IPCC, 2019c, d). Before the introduction of Chapter Scientists, ECRs were recruited as research assistants outside of the IPCC's formal structure by individual CLAs with financial means to do so. To some extent, these personal and informal initiatives by CLAs continue in parallel to the formal work of the Chapter Scientists to create additional administrative support.

Despite being a formal designation within the IPCC, the role of Chapter Scientist has not yet been standardised in the same way as the role of CLAs and LAs (Gustafsson & Berg, 2020). Chapter Scientists are not nominated by IPCC member states and so their recruitment, and working conditions, have varied greatly between and within the three Working Groups (WGs). In WGI and WGII, Chapter Scientists have been recruited and employed by individual CLAs in a similar fashion as in the previous informal recruitment process of research assistants. This has often resulted in the engagement of locally known ECRs who come to work in the same institution as a CLA in a 'developed country'. WGIII, on the other hand, has engaged ECRs from 'developing countries' as Chapter Scientists through a general call administered by WGIII's Technical Support Unit (TSU). The assignment has been performed on a voluntary basis and the ECRs have been expected to be able to work for up to 30 per cent of their time in the role. Thus, the Chapter Scientists in WGIII have not been known to the CLA in advance and they have not come to work in the same institution. Until 2019, when the IPCC decided to offer economic support to cover travel expenses for Chapter Scientists from 'developing countries' (see earlier discussion), WGIII made use of external donations to cover such costs for their Chapter Scientists.

Chapter Scientists contribute to the organisation in two main ways: by contributing to IPCC's work on quality-control of current assessments in an assisting function; and by informally building capacity for future assessments as the ECRs gain inside experience of what it means to be an author in the IPCC. In addition to the value of Chapter Scientists' administrative support to current assessments, it is also important to recognise that many of the Chapter Scientists have come to contribute to the assessments in more substantive ways. Taking the Special Report on Global Warming of 1.5 °C (SR15) as an example, all Chapter Scientists ended up contributing qualitatively to the assessment in ways that enabled them to become recognized as Contributing Authors. Thus, in line with previous research discussed earlier, this example shows ECRs competence as an untapped pool of expertise that is relevant to the IPCC's assessments (Gustafsson & Berg, 2020).

To work as a Chapter Scientist offers ECRs a unique stepping stone towards future IPCC engagement. This is by having the possibility to gain state-of-the-art knowledge in the field, unique insights into the IPCC assessment process, and to develop networks that could help future career development. In this respect, the IPCC contributes to informal capacity-building. However, due to the variations in working conditions and tasks among the Chapter Scientists (see Box 8.1), the

Box 8.1**The tasks of Chapter Scientists**

Chapter Scientists' tasks vary greatly and are determined in collaboration between the Chapter Scientists and the CLAs they support. An indicative list of potential tasks for Chapter Scientists across WGs include responsibilities such as (IPCC, 2019d):

- Identifying, compiling and keeping control of references.
- Assisting the author team in compiling, revising and organising chapter contributions.
- Assisting in the design and development of figures and tables.
- Assisting with traceability checking.
- Technical editing.
- Monitoring overlaps or inconsistencies across chapters.
- Keeping records of review responses up to date.
- Assisting CLAs during online meetings and at LAMs, for example note-taking, correspondence and so on.
- Assisting with quality control in relation to the style guide, chapter formatting and glossary.

capacity-building process that takes place through the role of the Chapter Scientist is very much an ad hoc process without promises of designated capacity-building goals and outcomes. Important to note is that the ad hoc character of this process, in combination with the hierarchical organisation of the IPCC, also makes the role of Chapter Scientist a potentially insecure position. The informal ways in which work is assigned to the Chapter Scientist by the CLA creates a situation in which the ECR, due to differences in power dynamics, risks being exploited and overworked with limited resources to object to or change their situation.

8.5 Achievements and Challenges

The IPCC Scholarship Programme has been running for more than ten years, supporting 90 ECRs. This is a significant achievement. However, the lack of attention paid to the Programme's development raises questions about how it could be further enhanced through more active management. The Scholarship Programme has the potential to transform itself from being a passive activity that awards financial scholarships to ECRs to something more active. For example, taking inspiration from the IPBES Fellowship Programme, the IPCC Scholarship Programme could ensure closer and more regular contact between ECRs and the IPCC while the ECR completes their studies, allowing the ECR to contribute to the development of the IPCC. Such an extension of the Scholarship Programme would require more administrative and economic resources.

The chapter has also shown how the role of Chapter Scientist has been introduced as a first attempt to formally make use of ECR's capacities in current IPCC assessments. The role of Chapter Scientist offers a unique formal opportunity for ECRs to gain an insight into the IPCC's assessment process, enhance their knowledge in the field of climate change research, and develop important professional networks. The role allows for informal capacity-building for the individual ECR, as well as enhancing the quality of current assessments. However, shaping the role of Chapter Scientist so as to be beneficial to both the IPCC and the ECR has been neither standardised nor monitored by the IPCC at an institutional level. The responsibility has been left with individual CLAs and ECRs, and becoming an IPCC Chapter Scientist therefore comes with potential challenges for the individual ECR.

This chapter has shown how ECRs are an untapped resource of expertise and competence that could contribute to the future development of the IPCC. However, unlocking this resource is not something that will happen by itself. Developing the IPCC's inclusion of ECRs' expertise to enhance their capacity – as well as that of the IPCC – will require active and strategic work. First, would be to create new entry points to the assessment process for ECRs. Second, would be to offer more guidance on the execution of tasks in the assessment assigned to ERCs. And third, would be to change the mandate of the IPCC's assessment process to allow for capacity-building of ECRs; this would welcome and acknowledge their contribution to the IPCC of ECRs' knowledge, ideas and perspectives.

Three Key Readings

Schulte-Uebbing, L., Hansen, G., Macaspac Hernández, A. and Winter, M. (2015). Chapter Scientists in the IPCC AR5 – experiences and lessons learned. *Current Opinion Environmental Sustainability*, 14: 250–256. <http://doi.org/10.1016/j.cosust.2015.06.012>

This article provides an insightful description of the introduction of Chapter Scientists, accomplished by surveying experiences from IPCC's first cohort of Chapter Scientists in AR5.

Gustafsson, K. M. and Berg, M. (2020). Early-career scientists in the Intergovernmental Panel on Climate Change. A moderate or radical path towards a deliberative future? *Environmental Sociology*, 6(3): 242–253. <http://doi.org/10.1080/23251042.2020.1750094>

This article provides important knowledge on how the role of Chapter Scientist shapes the conditions for ECR's socialisation and capacity-building within IPCC.

Casado, M., Gremion, G., Rosenbaum, P., et al. (2019). The benefits to climate science of including Early Career Scientists as reviewers. *Geoscience Communication*, 3: 89–97. <http://doi.org/10.5194/gc-2019-20>

This article provides revealing knowledge of the untapped competence among ECRs, accomplished by problematising the outcomes of a group peer-review of the First Order Draft of the IPCC Special Report on Ocean and Cryosphere in a Changing Climate.