Foreword

Sara Bice

When Daniel Franks and I first met in Brisbane, Australia in 2008, we were young scholars with shared interests in the social impacts of the mining and extractives sector. Around this same time, in far-away Canada, Jill Blakley was completing her PhD in geography, with a specialization in environmental assessment evolving to focus on cumulative effects. As we each pursued our related but distinct research interests over the years, one thing became apparent: regardless of location, cultural background, government style, or stage of development, communities and individuals were experiencing the complex and layered effects of impactful industries and environmental changes to an unprecedented degree, at a systemic level. The intensity of these projects – combined with today’s global challenges of climate change, increasingly interdependent financial markets, governance failures, and a pandemic – make clear that the challenges presented by the twenty-first century are uniquely interconnected. They demand a style of understanding and mitigation response that acknowledges their elemental knottiness while offering particularized solutions. These challenges require better supports for adaptive systems to enhance resilience while offering necessary protections. In short, the social, environmental, economic, and *human* challenges of the twenty-first century need cumulative impact assessment.

The International Association for Impact Assessment (IAIA) is the world’s leading membership organization for impact assessment practitioners of all types and stripes. The IAIA defines cumulative impact assessment (or cumulative effects assessment, as it is most often referred to in this book) as being concerned with impacts resulting from ‘individually minor, but collectively significant, actions taking place over a period of time’ (IAIA, 2020). Cumulative impact assessment aims to identify and investigate the potential risks, impacts or benefits of projects or policies within their social, environmental, economic, and temporal contexts. This means that cumulative impact assessment takes a systemic approach to understanding the interconnections and interactions of social, environmental, and economic factors within the project or policy in question, and also often between other projects or policies operating within the same context.

I first understood the prevalence and perniciousness of cumulative impacts while undertaking a series of social impact assessments in the Pilbara region of Western Australia in the early 2000s. The region is characterized by its remoteness, resource riches (especially iron ore, petroleum products, liquefied natural gas, tin, manganese, and lithium) and its remarkable Indigenous heritage. Very recently, this heritage was irreparably devastated by Rio Tinto’s decimation of 46 000 year old Aboriginal rock shelters in Juukan Gorge 1 and 2. The Pilbara hosts multiple mining and resource extraction sites, run by disparate companies, sometimes with very divergent approaches to impact prevention, mitigation, and management, all affecting the same communities. During my time in the Pilbara, it became clear that for individuals living in the region – Indigenous and non-Indigenous alike – very little distinction between companies or projects was made. People were affected by ‘the mining’, and their individual and community experiences were understood from that perspective, far removed from one of regulated project boundaries delimited by clear lines.

Cumulative effects are writ large in the Pilbara region, as they are in many mining affected regions around the world. Impact assessment (IA) and management regulation, however,

largely fails to reflect the lived experience of these communities. Instead, issues are managed on a project-by-project or proponent-by-proponent basis, often resulting in overlapping or unnecessary actions that meet regulatory thresholds but fail to understand or respond to communities' needs. Cumulative IA, through its systemic focus, encourages a community-centered approach to understanding and addressing project impacts. It acknowledges the lived experiences of communities and the individuals within them to address impacts and benefits in ways that are far more meaningful than more traditional IAs. Cumulative IAs are holistic and engage the ecosystem of experience.

Cumulative IA also presents vital opportunities to engage new challenges and considerations for IA as a discipline. Despite contemporary geopolitical positions that would cleave us from one another, the world is, without question, today more interconnected than ever before. Colossal and controversial projects including China's \$1 trillion Belt and Road Initiative (BRI) extend the reach of governments into other territories via delivery of major engineering projects on land and at sea. Here, cumulative impacts and policy governance relate to transport, energy infrastructure, ports, urban development, and the extraction of natural resources, with projects impacting health, environment, economy, culture, and society. Related governance concerns range well beyond nation-state borders. In the case of BRI, for instance, there is an urgent need to understand the cumulative social effects of an ascending Chinese state investing in less developed countries and, in certain instances, taking ownership of assets previously held by those states. Understanding the risks, opportunities and effects of transnational initiatives requires a broad-based perspective and a concerted attempt to identify and understand cumulative impacts and their cross-border management.

Across the globe, such large (and largely government-led) initiatives raise critical questions for IA. These issues are becoming even more pressing as we seek a collective response to the COVID-19 pandemic. How might we understand the combined social and environmental impacts and benefits of rapidly delivered infrastructure across regions? To what extent do we need to better understand private investment in large-scale public projects, as borne out in public-private partnerships? What role might cumulative IA play in preventing 'debt-trap diplomacy' or discouraging governments from pursuing projects for which they do not yet have maintenance capacity, resulting in unintended consequences? If one government's investments outside its borders increase oil and gas exploitation rates in other countries, who should bear the social and environmental responsibility of the consequent emissions? Inherent in each of these questions is a requirement to determine ways to push beyond the usual, project-by-project, state-bounded nature of traditional IAs. There is an urgent necessity to view initiatives like BRI on a cumulative (and potentially global) scale, as opposed to project-by-project.

Cumulative IA will play a central role in supporting individuals, communities, societies, and governments to address the defining challenges of this century. From climate change to global health, and transnational governance to security, building a systematic and holistic understanding of the interrelations and interactions of social, environmental, and economic factors will be imperative. This *Handbook* offers an important resource to support the knowledge and skills necessary to that task.

The *Handbook* reflects the deep professional expertise, international perspectives, and practical experience of editors Jill Blakley and Daniel Franks. Their understanding of the field has resulted in a skillfully curated collection of the very best thinking about cumulative IAs, with perspectives covering diverse geographical regions, industries, and levels of application.

The *Handbook*'s authors represent leaders in the global field of cumulative IA, tackling the subject through theoretical reviews, case studies, and a variety of conceptual approaches. This diversity highlights the breadth and depth of cumulative IA and offers an important introduction to the scope of work possible through such assessments. Importantly, the *Handbook* concludes with a part on 'Cumulative Impact Management', providing clear insights into the governance processes, measurements, and monitoring that can shape effective cumulative IA. Finally, the *Handbook*'s inclusion of Indigenous perspectives, regional and rural community concerns, and developing country contexts acknowledges persistent inequalities that must be addressed. Together, the *Handbook*'s concepts and practices offer a compelling case for cumulative IA's central role in achieving IAIA's vision of 'a just and sustainable world for people and environment'.

Sara Bice, PhD, Associate Professor
Director, Institute for Infrastructure in Society
Crawford School of Public Policy, The Australian National University
Past President, International Association for Impact Assessment

REFERENCES

IAIA (International Association for Impact Assessment). (2020). *Cumulative effects assessment and management*. Retrieved 24 June 2020 from <https://www.iaia.org/wiki-details.php>