

Preface

In this book, three big topics meet: resource extraction, local communities, and the Arctic. When we set out on a major research enterprise together in 2016 as part of the NordForsk initiative Responsible Development of the Arctic – Opportunities and Challenges – Pathways to Action, we already knew that all three were undergoing profound change and were under considerable stress due to a confluence of several factors. These did not just include environmental and climate change but also an increased political focus on sustainability and Indigenous rights, conflict on the ground over mining and renewable energy production, and mounting geopolitical tension around oil and gas, rare earth metals, and marine resources.

Environments of the Arctic were changing rapidly, especially climate due to the well-established “Arctic amplification.” Based on then-recent scientific work, the rule of thumb used to be that climate change was twice as fast in the Arctic compared to the global average. Just a decade later, by 2021, the most recent research, and reports from the IPCC, had increased Arctic amplification up to treble or quadruple the rise in global temperature, with the rapid loss of summer sea ice, shrinking snow cover of shorter seasonal duration, and increased amount of anthropogenic soot as some of the crucial drivers. To the increased heat absorption is added an accelerated influx of northbound heat from tropical and temperate regions.

Arctic resource extraction has a history of hundreds of years, with the bulk of it pursued by southern states, often in a colonial fashion with little profit staying in the region. Mining covers a good deal of that period, but the quantities of extraction, minerals, oil, and gas have never been bigger than in the last two decades, and amplitudes between years have never been wider, with a boom in the beginning of the twenty-first century. Prospecting, terrestrial and maritime, has never been more intense following liberalization policies from the end of the Cold War, rising globalization, and the rapidly increased demand for steel and rare earth

metals in China and other growing economies. A much-cited 2008 study by the United States Geological Survey, indicating that the region held as much as 30 percent of the world's undiscovered oil and gas, did much to animate the Arctic as a resource space for the future.

We also knew that Arctic communities for a long time had lived in complicated relationships with environmental and economic change, some clearly unhelpful to building and strengthening resilient local livelihoods. Our ambition was to research opportunities for these northern Indigenous and settler communities to find continued or even expanded resource extraction more useful, hopefully desired. We were eager to lay out a brighter future for Arctic communities under a reformed regime of resource extraction, with a more critical process of selecting mining sites and where more consultation, social licensing, and revenue sharing was the norm. The backdrop was a checkered history of extractive industries in the Arctic, certainly with a lot of variation between periods and between states and regions; and a complicated relationship with a climate emergency that was looking to the Arctic region, itself a prime victim of the emergency, for critical metals and renewable energy that could help underpin a sustainability transition. The Arctic, all of a sudden, ranked high in virtually all critical dimensions of global change.

Finally, we also knew that the Arctic wasn't one, but several Arctics. We looked in particular to the European Arctic, which means that the Nordic countries, including Greenland, took a central position, but we also had members of our research team covering Russia, Canada, and the United States.

That was the remit, and the spirit, of the NordForsk Responsible Development of the Arctic program that has funded our research in a Center of Excellence called REXSAC – Resource Extraction and Sustainable Arctic Communities – from 2016 through to 2022. REXSAC as a whole comprised more than fifty researchers and research staff, including ten PhD students and collaborating members of Indigenous communities. Altogether we represented about a dozen scientific specialties in fifteen universities and institutes located in seven countries.

To research these challenging issues has been extremely stimulating and at times discombobulating. It has made us think in new ways, break from old assumptions, and discover new connections. We have found some progress and reasons for hope. We have explored ways of transitioning from extraction to post-mining futures and wiser forms of collaboration and consultation. We have seen alliances form between multiple actors to find new ways forward for sustainable development, and a growing awareness of the acute danger that comes with climate change.

However, we have also seen inertia, inaction, and a resistance to accept caution, restraint, and responsibility. The empirical realities we have observed have not always been consistent with hopes we held at the outset. We have rather found that

resource extraction so far tends to continue a path-dependency of producing and reinforcing pressures on local, especially Indigenous, communities. Technological advances, environmental regulation, and local partnerships have had positive effects, and some of the ongoing extraction stands a good chance of assisting in the decarbonizing effort. But it is far from obvious that these advances will outweigh the insensitive interventions into virgin environments and the high demands on resources, landscapes, cultures, and livelihoods that the expanding extraction creates.

All in all, we see a more complex and problematic Arctic than many envisioned when the Cold War ended, but one that is even more solidly central to the future of both the planet and the world.

Sverker Sörlin

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