Annex. Navigating a Just and Peaceful Transition: Environment of Peace Part 3

These papers were commissioned to inform the research and analysis of the Environment of Peace initiative. They have not been through SIPRI's formal editorial process.

Contents

1. Protection through the Judicial System

Karolina Eklöw

Environmental wins can be achieved through formal judicial processes. Activists, grassroots groups, or larger NGOs have taken countries to court around the world for breaching either constitutional or legislative environmental laws. A successful example of environmental protection advanced through the justice system in a post-conflict setting occurred in Colombia.[1] A small grassroots movement sued the Colombian government to stop deforestation, which involved an inclusive policy process and the recognition of the Amazon as an entity with rights.[2]

Grassroots actors and particularly Indigenous groups have long recognized the risks of unparalleled deforestation in Colombia, where the issue of land has been at the heart of both the conflict and the peace process. In the 2010s, for example, groups of Indigenous youths were chosen by their community to participate in conducting local assessments on productive land uses and to share the knowledge with their Indigenous councils.[3] Such projects have been considered important for laying the foundations for the growing involvement of Indigenous Peoples and youth groups in governance in Colombia.

In 2018, a group of 25 children and young adults sued the Colombian government for failing to stop deforestation. The petitioners argued that accelerating deforestation violated their constitutional right to a healthy environment.[4] The Peace Accord drawn up after years of social unrest and persistent inequalities stipulates that the government must guarantee that the conservation of the Amazon is a priority. Colombia's Supreme Court ultimately decided in the plaintiffs' favour, marking a groundbreaking ruling. The court not only ordered municipalities to update their land management plans but went beyond the plaintiff's arguments in its recognition of the rainforest as an object with rights.[5] This ruling was especially timely given accelerated deforestation after the Peace Accord.

The court ordered the government to draw up an action plan and a cross-generational pact to protect the Amazon called Pacto Intergeneracional por la Vida del Amazonas Colombiano (PIVAC).[6] In 2021, the Colombian government finally began implementing the PIVAC. The participatory process was opened for citizens—both the inhabitants of the Amazon as well as the general public in other regions—could contribute. In this participatory process conducted through a digital form, among other forms, contributors were encouraged to propose actions that will be the responsibility of the Colombian State.[7] The issue of deforestation was also brought by the Colombian government to COP26, where European governments committed millions of dollars to conserving the Colombian Amazon and complement public policies.[8]

Indigenous and youth groups are growing in confidence and can prove that they are gaining more support from other stakeholders. The Amazon case is just one example of a new emerging eco-jurisprudence. The progress in addressing unjust social and environmental practices through legal means is often a result of the profound upswing in youth movements and their ability to

[1] Krampe, F. and Eklöw, K., 'Lessons from post-conflict states: Peacebuilding must factor in environment and climate change', New Security Beat, Wilson Center, 18 Oct. 2018.

[2] UN Economic Commission for Latin America and the Caribbean, 'Sentencia de la Corte Suprema de Justicia de Colombia (STC 4360-2018)' [Judgment of the Supreme Court of Justice of Colombia (STC 4360-2018)], Observatory on Principle 10 in Latin America and the Caribbean, Feb. 2018.

[3] United Nations Development Programme (UNDP), 'Integration of ecosystems and adaptation to climate change', Project fact sheet, Multi-partner Trust Fund Office, Partners gateway, 2011.

[4] Palomino, S., 'Jóvenes colombianos luchan en los tribunales para salvar la Amazonia' [Young Colombians fight in court to save the Amazon, *El País*, 30 Jan. 2018.

[5] UN Economic Commission for Latin America and the Caribbean (note 2).

[6] Mila, C., 'Colombia's youth fighting for the Amazon', DW, 18 July 2019.

[7] See e.g. '¡Todo por la Amazonía!' [All for Amazonia!], Questionnaire, accessed 21 Dec. 2021.

[8] Government of Colombia, High Council for the Regions, '¡Todo por la Amazonía! Avanza la construcción del Plan de Acción y el Pacto Intergeneracional por la vida del Amazonas Colombiano' [All for the Amazon! The construction of the Action Plan and the Intergenerational Pact for the life of the Colombian Amazon advances', Press release, 10 Dec. 2021.

mobilize.[9] In the case of protecting Indigenous lands and biodiverse regions, the conflicts typically do not only stand between communities and government but also include interests from industries and private companies.[10] With land issues, the private sector can be both a source of controversy and an actor to involve for meaningful environmental peacebuilding.

The fact that this inclusive process is taking place in Colombia, with its long history of civil conflict sprung out of land contestation and social injustice, makes this ruling an important milestone in more cooperative, inter-generational and inclusive directions. The June 2022 election of Gustavo Petro as president, given his pro-environment platform, will potentially create further avenues for advancing from a peace and environment 'crossroads'.[11]

[9] Pelizzon, A., 'An intergenerational ecological jurisprudence: The Supreme Court of Colombia and the rights of the Amazon rainforest', *Law, Technology and Humans*, vol. 2, no. 1 (6 May 2020).

[10] United Nations, Department of Economic and Social Affairs, *State of the World's Indigenous Peoples: Rights to Lands, Territories and Resources*, vol. 5 (United Nations: New York, 2021).

[11] Salazar, A. et al., 'Peace and the environment at the crossroads: Elections in a conflict-troubled biodiversity hotspot', *Environmental Science & Policy*, vol. 135 (1 Sep. 2022).

2. Chile: Exiting Coal and Constitutional Renewal

Noah Bell

The geographical and socio-political context of Chile make it a fascinating case in terms of the environment, climate mitigation strategies and new governance structures. Chile is currently going through a process to rewrite its constitution at a time when citizens are demanding better climate responses and environmental protection. This provides the country with an opportunity to be a world leader in these areas. The newly elected government in December 2021 remains committed to both decarbonisation plans and the rewriting of the constitution.

Chile is well placed to benefit from decarbonisation, as it has the highest levels of solar radiation in the world, providing great conditions for solar power, and economically, Chile is the largest supplier of lithium, which is crucial for the transition. Additionally, over the past four years, Chile has committed to a novel transition of its coal generation.

Coal transition

Chile's energy system is heavily dependent on fossil fuels. Over 70 per cent of its primary energy comes from fossil fuels and over 50 per cent of its electricity comes from fossil fuels, with coal making up the largest proportion.[1] Nearly all of Chile's fossil fuels (e.g. coal, liquid natural gas (LNG), oil) are imported.[2]

Since 2017, facing pressure from citizens and having ratified the Paris Agreement, Chile has committed to the managed transition of shutting down all its coal generators by 2040.[3] The decommissioning of the coal generators is notable for its commitment to a consultative and inclusive approach. Moreover, Chile is embracing novel solutions on how to recommission existing infrastructure to support the expansion of renewables, advance hydrogen as an alternate fuel source, and provide water through desalination[4]

Coal commission

In 2018, the Chilean government constituted a coal commission to investigate and design a transition management plan. The commission included a diverse array of stakeholders to be consulted.[5] Participants came from the government, the private sector, workers, international organisations and academics. The process has been very successful, and at COP25 (2019), the government announced that four coal generators were being decommissioned ahead of schedule, with 50 per cent of Chile's coal fleet expected to be retired by 2025.[6] The Ministry of the Environment has also subsequently introduced tougher air pollution regulations and taxes on CO2, nitrogen oxides (NOX), particulate matter and sulphur dioxide (SO2) to protect those near polluting generators and put further pressure on these facilities to close.[7]

[1] International Energy Agency (IEA), 'Chile: Countries and regions', accessed 23 Nov. 2021.
[2] Hauser, P. et al., *Phasing out Coal in Chile and Germany: A Comparative Analysis* (GIZ/Ecologic Institute: Berlin/Santiago, June 2021).
[3] Hauser et al. (note 2), p. 25.
[4] Schröer, R., Director of the Renewable Energy and Energy Efficiency Program in Chile, German Society for International Cooperation (GIZ) GmbH, Communication with author, 8 Oct. 2021.
[5] Hauser et al. (note 2), pp. 22–23.
[6] Hauser et al. (note 2), p. 34.
[7] Hauser et al. (note 2), p. 27; and Mardones, C. and Cabello, M., 'Effectiveness of local air pollution and GHG taxes: The case of Chilean industrial sources', *Energy Economics*, vol. 83 (1 Sep. 2019).

Affected communities

Affected communities were also included in the commission process. Many of which are located in the north, where most of the coal plants are.[8] Therefore, the decommissioning of coal generators will have a larger impact on northern communities. In total, there are by some estimates 4100 permanent (direct and indirect) jobs at coal generators and 1500 sporadic indirect jobs.[9] However, another study suggests 4300 are in the coal generation sector, with an additional 9500 indirectly employed.[10] While these numbers are a small fraction (0.17 per cent) of national employment, in some regions it constitutes nearly 7 per cent of employment.[11]

By contrast, in 2020, the International Renewable Energy Agency estimated that 17 500 people were employed in the renewable energy sector.[12] One study estimates over 20 000 jobs by 2026 can be created by the transition to more wind and solar generation.[13] The Inter-American Development Bank also models that transitioning away from coal will produce a net gain of jobs for Chile; however, it emphasises that some people will be worse off.[14]

Novel transformations

As means to help mitigate the negative impacts on affected communities, Chile has proposed innovative solutions to repurpose old coal generators. Proposals include water desalination, hydrogen and molten salt storage for renewables.[15] An advantage of this approach, if implemented successfully, is that it can retain more employment, making the transition less economically burdensome. However, it is unclear whether these solutions will be successful and achieve their intended goals. Some have noted that the government will need to make deeper investments to ensure these projects can be realised.[16] Moreover, green hydrogen has been flagged as an important clean fuel and energy storage solution for the future, and grids powered by renewables need to store energy for fluctuations in energy production.

The technology of converting a coal generator to a molten salt storage system is based on a pilot programme in Germany, where renewables will be used to melt salts that are then stored and used to make steam and turn a turbine, enabling much of the existing infrastructure to remain.[17] Hydrogen conversions are also new, with only a few projects being undertaken in the United States, and planning documents for those projects indicated that the costs would not be borne by consumers.[18]

It is important to keep in mind that as Chile tries to use novel transformations based on overseas pilots, there is an element of risk. However, it has been noted around the world that experimental policies, risks, and innovation are all required to meet the targets laid out in the Paris Agreement.[19]

[8] Hauser et al. (note 2), p. 14.

[9] Inodú, *Estudio de variables ambientales y sociales que deben abordarse para el cierre o reconversión programada y radual de generación eléctrica a carbón* [Study of environmental and social variables that must be addressed for the closure or scheduled and gradual reconversion of electricity generation to coal] (Inodú: Santiago, 7 Dec. 2018), p. 12.

[10] Viteri Andrade, A., *Impacto económico y laboral del retiro y/o reconversión de unidades a carbón en Chile* [Economic and labor impact of the retirement and/or conversion of units to coal in Chile] (Inter-American Development Bank: Santiago, 12 Mar. 2019).

[11] Phillips, S. and Albe, I., 'Chile's coal phase-out: Opportunities for a just transition', The Dialogue, 11 June 2021; and Viteri Andrade (note 10).

[12] International Renewable Energy Agency (IRENA), 'Renewable energy employment by country', accessed 23 Nov. 2021.

[13] Nasirov, S. et al., 'Expansion of renewable energy in Chile: Analysis of the effects on employment', *Energy*, vol. 226 (1 July 2021).

[14] Vogt-Schilb, A. and Feng, K., *The Labor Impact of Coal Phase down Scenarios in Chile*, Discussion Paper IDB-DP-00716 (Inter-American Development Bank: Washington, DC, Oct. 2019).

[15] Hauser et al. (note 2), p. 28.

[16] Phillips and Albe (note 11).

[17] 'Coal-fired power plant to be converted into heat storage facility', en:former, 29 Mar. 2019.

[18] Wagman, D., 'Nuclear to coal to hydrogen: Sheldon Station blazes a trail', IEEE Spectrum, 11 July 2017.

[19] Bang, G., 'The United States: Conditions for accelerating decarbonisation in a politically divided country', *International Environmental Agreements: Politics, Law and Economics*, vol. 21, no. 1 (1 Mar. 2021); Johansson, M. et al., 'A risk framework for optimising policies for deep decarbonisation technologies', *Energy Research & Social Science*, vol. 82 (1 Dec. 2021); and Schittekatte, T. et al., 'Regulatory experimentation in energy: Three pioneer countries and lessons for the green transition', eds B. E. Olsen et al., *Energy Regulatioj in the Green Transition*, vol. 1 (Danish Utility Regulator: Copenhagen, 2021).

Green grid potential

More than simply phasing out coal generation, Chile has been endowed with very good conditions to expand their renewables capacity. Firstly, in terms of reliability of renewables, the north has the world's best solar potential, with estimates that a total of 1263 GW could be generated from photovoltaics.[20] Currently, the National Electric System has a total installed capacity of 24.7 GW.[21] Additionally, its long coastline and geographical location in the 'Ring of Fire'[22] give Chile wind, tidal and geothermal generation possibilities too.[23]

Some of these new renewable projects are being financed by the Climate Investment Funds and Inter-American Development Bank, which provide loans based on GHG emission reduction. Therefore, energy companies receive incentives to shut down coal powered generators.[24] This combination of factors will enable Chile to meet its commitment to reduce GHG emissions 30 per cent of 2007 levels by 2030.[25] However, investments (estimated to be worth at least $20 billion) will need to be made in transmission lines to allow renewables to power all regions,[26] and investments to interconnect Chile to other South American nations can enable them to export excess green energy, or import if needed, providing more security to their grid.[27]A working paper by the World Bank suggests that more inter-country electricity transfer on the South American continent has a lot of potential, but also notes that there is a dearth of interconnections—especially for Chile, which only has five connections to Argentina.[28]

Secondly, Chile has not only large reserves of critical minerals (namely copper and lithium) that are essential for green tech but also salts for the storage of renewables. Notably, while Chile is well placed for a transition, it must be acknowledged that mineral-rich nations, especially in the Global South, often bear the burden of environmental and social costs of extraction, receiving a fraction of the profits for the mineral once it has been processed elsewhere and sold for significantly more.[29] Indigenous communities are often the most adversely affected and often are excluded from the planning process and profits.[30]

Notably, such issues have already arisen historically in Chile, as the mining sector has a long history in the country. A major concern for Indigenous populations in Chile has been the use of water resources from an extremely arid environment.[31] There have been several struggles of Indigenous people against the privatisation and mass extraction of water resources for agriculture and mining.[32]

For example, lithium mining requires millions of litres of water for every tonne mined, undermining the viability of indigenous agrarian lifestyles in the extremely arid conditions of the country.[33] Lithium mining and its environmental impacts are expected to be included in the new constitution.

[20] Simsek, Y. et al., 'Comparison of energy scenario alternatives for Chile: Towards low-carbon energy transition by 2030', *Energy*, vol. 206 (1 Sep. 2020).

[21] Hauser et al. (note 2), p. 11.

[22] The 'Ring of Fire' refers to the highly active tectonic areas that surround the Pacific Ocean.

[23] Simsek et al. (note 20).

[24] Climate Investment Funds, 'A world first: New financial model drives Chile's decarbonization', 25 Feb. 2021.

[25] Simsek et al. (note 20).

[26] Hauser et al. (note 2), p. 26.

[27] Hauser et al. (note 2).

[28] Timilsina, G., Deluque Curiel, I. and Chattopadhyay, D., *How Much Does Latin America Gain from Enhanced Cross-Border Electricity Trade in the Short Run?*, Policy Research Working Papers no. 9692 (World Bank: Washington,DC, 8 June 2021).

[29] Schlosser, N., *Externalised Costs of Electric Automobility: Social-Ecological Conflicts of Lithium Extraction in Chile*, Working Paper no. 144 (Hochschule für Wirtschaft und Recht Berlin, Institute for International Political Economy, IPE: Berlin, 2020).

[30] Babidge, S., 'Contested value and an ethics of resources: Water, mining and indigenous people in the Atacama Desert, Chile', *The Australian Journal of Anthropology*, vol. 27, no. 1 (2016); Babidge, S., '"Socios": The contested morality of "partnerships" in Indigenous community–mining company relations, Northern Chile', *Journal of Latin American and Caribbean Anthropology*, vol. 18, no. 2 (2013); and Jerez, B., Garcés, I. and Torres, R., 'Lithium extractivism and water injustices in the Salar de Atacama, Chile: The colonial shadow of green electromobility', *Political Geography*, vol. 87 (1 May 2021).

[31] Babidge (note 30).

[32] Jerez, Garcés and Torres (note 30).

[33] Voskoboynik, D. M. and Andreucci, D., 'Greening extractivism: Environmental discourses and resource governance in the "Lithium Triangle"', *Environment and Planning E: Nature and Space*, vol. 5, no. 2 (8 Apr. 2021), p. 9.

Controversial transmission line: 'Expansion Plan LT 2x500kv Cardones–Polpaico'

As part of transitioning, extensive transmission line networks will need to be built. One such project, the so-called electric highway, has proven to be quite controversial. It was approved in 2015, causing extensive protest among the affected communities. The company, Interchile, is to build more than 1 700 high-voltage towers and 753 kilometres of electric transmission line between the Atacama and Metropolitan regions, passing through 20 municipalities.

People in many of the affected communities protested the project, but the construction started regardless, with protests continuing. The Minister of Energy at the time (Máximo Pacheco) argued that the project followed all the environmental requirements. One of the concerns is the health related risks to the people that live close to the transmission wires (due to electromagnetic radiation), and there have been demands to change the route of the line to ensure that there is a safe distance to the communities and avoid areas where the line could lead to increased radon gas contamination due to the local geology.[34] Other concerns are the treatment of the workers constructing the transmission line,[35] and impact on protected nature as the lines will cross important nature reserves.[36]

Protesters have at times occupied transmission towers for several days, despite harsh weather conditions,[37] sometimes climbing and chaining themselves to the towers.[38] Some protesters have been arrested[39] and forbidden to get close to the towers.[40] There have also been demonstrations in towns, with banners and music.[41]

2020 Updated NDC

Going further than these aforementioned steps, the Chilean Government also included a social pillar in their second Nationally Determined Contribution under the 2015 Paris Agreement. The core components of this social pillar include synergy with SDGs; addressing the needs of the most vulnerable; ensuring water security; focusing on gender equality and equity; cost efficiency; the use of nature-based solutions that consider biodiversity and human wellbeing; utilising indigenous and local knowledge; and actively engaging with citizens through legally constructed fora.[42] Including these components into the transition will help minimise conflict risks, given that some of the most divisive issues associated with transition are focused on in these components.

The current democratic crisis and opportunity

Despite efforts being made to address environmental and climate concerns, dissatisfaction with the government, rising inequality, corruption and the cost of living led to an outbreak of

[34] Guajardo, D., 'Controversia de alta tensión' [High voltage controversy], Fundación Terram, accessed 21 Feb. 2022.

[35] Business and Human Rights Resource Centre, 'Chile: Protestas de agricultores por instalación de torres de alta tensión por presuntos abusos laborales y afectaciones a su territorio' [Chile: Farmers protest against the installation of high-voltage towers due to alleged labour abuses and damage to their territory], accessed 21 Feb. 2022.

[36] Díaz, N., 'Protesta en torre de alta tensión: Prohíben a detenidos acercarse a 5 metros de la estructura' [Protest at a high-voltage tower: Detainees are prohibited from approaching 5 metres from the structure], BioBioChile, 12 Apr. 2019.

[37] Business and Human Rights Resource Centre, 'Manifestantes cumplen 7 días de toma en la Torre 826 de la carretera eléctrica Cardones-Polpaico' [Protesters complete 7 days of taking over Tower 826 of the Cardones-Polpaico electric highway], 8 Apr. 2019, accessed 22 Feb. 2022.

[38] Electricidad, 'Vecinos de comunidad La Dormida toman torre de alta tensión en protesta contra Cardones Polpaico' [Residents of the La Dormida community take over a high-voltage tower in protest against Cardones Polpaico], Electricidad, revista energetica de Chile, 2 Apr. 2019, accessed 22 Feb. 2022.

[39] Lara, E., 'Últimos manifestantes en torre de alta tensión en comunidad La Dormida saltan 6 metros y se fugan' [Last protesters at the high-voltage tower in the La Dormida community jump 6 metres and escape], BioBioChile, 11 Apr. 2019.

[40] Díaz (note 36).

[41] Radio Chiloe, 'Castro: comité Pro Defensa Contra las Torres de Alta Tensión protesta en contra del proyecto' [Castro: Committee for Defense Against High Voltage Towers protests against the project], 29 Oct. 2017, accessed 22 Feb. 2022.

[42] Chilean Government, *Chile's Nationally Determined Contribution (Update 2020)*, United Nations Climate Change, Nationally Determined Contributions Registry (Chilean Government: Santiago, 2020), pp. 25–26.

protests in 2019.[43] To quell the protests, the government agreed to a process to amend the 1980s-era authoritarian constitution, written by then President General Augusto Pinochet and the ruling military junta.[44] After voting in favour of this process,[45] Chilean citizens have secured the establishment of a constitutional convention to rewrite the constitution.[46] The convention began its work in July 2021 and must conclude its work within a maximum of 12 months. The proposed constitution will be put to a referendum before the end of September 2022.[47]

The Constitutional Convention

Importantly, the process will be one of the most inclusive constitutions drafted in history. The convention will have an equal gender split,[48] 17 reserved seats for Indigenous minorities[49] and at least seven people are openly LGBTQ+.[50] Moreover, a range of ages and occupations are represented, trying to truly reflect a cross-section of Chilean society.[51]

This group of 155 people will decide, among many other issues, the fate of climate action and environmental protection. The convention is expected to discuss elevating water to the status of a public good, increasing local participation in extraction activities, and whether nature has rights.[52]

The December 2021 elections elected a new government that also vowed to take environmental issues more seriously and to nationalise lithium mining to benefit the entire country rather than corporations.[53] For example, a proposal presented in February 2022 (though not approved by the Constitutional Convention) suggests nationalising resources such as copper and lithium. If approved (which is far from certain), this could mean the nationalisation of some of the largest mines in the world.[54]

The current constitution does mention the environment, as Article 19 No. 8 describes the right to a non-contaminated environment. At the time of writing, this was progressive for a constitution but today is seen as insufficient.[55] The Constitutional Convention has begun voting on the norms that will be part of the new constitution, and it is already clear that the environment is an important component.[56] The new constitution could be significantly more ambitious and include more detailed references to the environment, as there are a number of proposals that seek to include principles related to the protection of natural resources and the environment.[57] The Constitutional Convention is, for example, considering provisions that require more local decision-making[58] to recognise the atmosphere as a common good, the principle of just climate action, the right of access to mountain areas and ancestral trails, and the right to safe and affordable water. Another proposal suggests that it should be ensured that economic activity is ecologically sustainable and does not risk damage to natural and cultural heritage.[59]

[43] Díaz Pabón, F. A. and Palacio Ludeña, M. G., 'Inequality and the socioeconomic dimensions of mobility in protests: The cases of Quito and Santiago', *Global Policy*, vol. 12, no. S2 (2021); and Cheatham, A., 'What's behind the Chile protests?', Council on Foreign Relations, 1 Nov. 2019.

[44] Garnier, S., 'From dictatorship to democracy: Chile's outdated constitution', *Harvard International Review*, 16 Feb. 2020.

[45] Chilean Ministry of the Interior and Public Security, 'Ministry of the Interior and Public Security calls for a national plebiscite for the date indicated', *Diario Official De La Republica De Chile*, 42.538-B, 27 Dec. 2019.

[46] Cuffe, S., 'Chile agrees to hold referendum on constitution: 5 things to know', Al Jazeera, 15 Nov. 2019.

[47] Dattari, C. P., 'Chile: The battle for a transformative new constitution', Transnational Institute, 16 Dec. 2021.

[48] Abebe, A. et al., *Annual Review of Constitution-Building: 2020* (International Institute for Democracy and Electoral Assistance, International IDEA: Stockholm, 19 Nov. 2021), p. 65.

[49] Chilean Senate, 'Ya es una realidad: escaños reservados para pueblos originarios en la Convención Constituyente' [It is already a reality: Seats reserved for native peoples in the Constituent Convention], 15 Dec. 2020.

[50] 'Chile celebra Día Contra la Homofobia tras la elección de constituyentes LGBT', Terra, 17 May 2021.

[51] Mohor W., D., 'Chile's new constitution: Writing a new guiding document for a divided and unequal country', CNN, 4 July 2021.

[52] Sengupta, S. and Zegers, M., 'Chile writes a new constitution, confronting climate change head on', *New York Times*, 28 Dec. 2021.

[53] Bartlett, J., 'Mining of lithium, key to the climate fight, faces new scrutiny in Chile', *New York Times*, 6 Jan. 2022.

[54] 'Cómo el medioambiente guía la nueva constitución de Chile' [How the environment guides Chile's new constitution], Bnamericas.com, 2 Feb. 2022, accessed 21 Feb. 2022.

[55] University of Chile, 'UChile Constituyente presenta cinco grandes ejes medioambientales para el debate constitucional' [UChile constituent presents five major environmental axes for the constitutional debate], 13 Oct. 2021, accessed 21 Feb. 2022.

[56] Bnamericas.com (note 54).

[57] University of Chile, 'Del agua al derecho a acceder a la montaña: Las iniciativas medioambientales que buscan su lugar en la nueva Carta Magna' [From water to the right to access the mountain: Environmental initiatives seeking their place in the new Magna Carta], Faculty of Law, accessed 23 Feb. 2022.

[58] Sengupta and Zegers (note 52).

[59] University of Chile (note 57).

Conclusions

Chile, in response to pressure by citizens, has committed to changing its governance structures and its relationship to the environment and addressing climate change. It is a mammoth undertaking, but by trying to centre a diverse range of affected people, Chile provides a useful example for countries around the world to observe and copy.

Chile has committed to the Nationally Determined Contribution (NDC) process of the Paris Agreement by increasing their commitments, including the complete phasing out of coal by 2040, but probably sooner and also incorporating social aspects in the transition. The new Constitutional Convention process also has the potential to drastically transform the country's relationship to the environment and cement Chile as a leading country in a new decarbonised economy.

3. Gulf Cooperation Council States, Decarbonisation and the Social Contract

Noah Bell

Unique decarbonisation for GCC states

Decarbonisation poses a significant problem to members of the Cooperation Council for the Arab States of the Gulf (GCC). Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates will not only face tough mitigation and adaptation problems but, importantly, all have economies and socio-political structures that have evolved in response to the rise of the rentier state. These governments are the recipients of vast fossil fuel rents (FFRs) and distribute the revenues to their citizens[1] through the financing of government expenditure which allocates funds to large public sectors and fuel subsidies. The vast FFRs mean that they barely levy taxes on their citizens.[2] Decarbonisation, then, poses a risk to this structure.

This type of social contract is contrary to the common adage in the US, 'no taxation without representation'. For GCC states, the social contract appears to be 'no representation without taxation'.[3] Thus, the structures within GCC states are such that certain behaviours, like extreme loyalty to the ruling family, are incentivised and discontent among citizens is kept at a minimum through a generous welfare state, ensuring all their basic needs are met, safeguarding political power, sometimes through repressive tactics.[4] Although it should be noted, this behaviour is exacerbated by FFRs not caused by it.

The extent of GCC states' reliance on FFRs is made clear in table 3.1. All the GCC states' budgets are financed by FFRs by more than 50 per cent, highlighting heavy dependence. This means that government expenditures are closely correlated to average oil prices of any given year—noted in their 2020 budget papers was how Covid-19 caused a sharp decline in oil prices. The downturn at the beginning of the pandemic caused GCC states to revise their forecasts for oil prices to a more conservative range of $40–50 to enable them to prepare future budgets without having to heavily rely on financing through debt.[5]

However, a recovery and then later surge in oil prices in 2021–22 have led to more favourable projections,[6] especially given the recent invasion of Ukraine by Russia, which has led to a surge in the price of oil.[7]

GCC states comparison

Table 3.1 indicates the size of GCC public sectors and reliance on foreign labour. Public sector jobs are desirable because they have higher wages and increased benefits compared to the private

[1] Losman, D. L., 'The rentier state and national oil companies: an economic and political perspective', *The Middle East Journal*, vol. 64, no. 3 (1 July, 2010).

[2] Losman (note 1).

[3] Losman (note 1); and Tagliapietra, S., *The Political Economy of Middle East and North Africa Oil Exporters in Times of Global Decarbonisation*, Working Paper no. 5 (Bruegel: Brussels, 2017).

[4] Losman (note 1); Levins, C. M., 'The rentier state and the survival of Arab absolute monarchies', *Rutgers Journal of Law and Religion*, vol. 14, no. 2 (2013); 'Throwing money at the street', *The Economist*, 10 Mar. 2011; Tsai, I.-T., 'Political economy of energy policy reforms in the gulf cooperation council: Implications of paradigm change in the rentier social contract', *Energy Research & Social Science*, vol. 41 (1 July, 2018); and O'Driscoll, D. et al., *Protest and State–Society Relations in the Middle East and North Africa*, SIPRI Policy Paper no. 56 (Stockholm International Peace Research Institute: Stockholm, Oct. 2020).

[5] Qatari Ministry of Finance, *Public Budget Statement 2021* (Qatari Ministry of Finance: Doha, 2021); Saudi Arabian Ministry of Finance, *Budget Statement Fiscal Year 2021* (Saudi Arabian Ministry of Finance: Riyadh, 2021); and Kuwaiti Ministry of Finance, *22/21 Budget* (Kuwaiti Ministry of Finance: Kuwait City, 25 Jan. 2021).

[6] World Bank Group, *Gulf Economic Update: Seizing the Opportunity for a Sustainable Recovery* (Washington, DC, Fall 2021).

[7] Power, J., 'Russia invades Ukraine: What's next for energy oil prices?', Al Jazeera, 24 Feb. 2022.

Table 3.1. Comparison of select statistics of Gulf States

All figures are rounded.

Country	% Govt revenue from FFRs[a]	FFRs % GDP (2019)[b]	% Public sector employed[c]	% Nationals[d]	Net zero pledge date
Bahrain	62	4	36	48	2050
Kuwait	83	43	79	31	–
Oman	72	27	46	55	–
Qatar	80	21	90	10	–
Saudi Arabia	54	25	66	67	2060
UAE	–	17	93	12	2050

– = no data; UAE = United Arab Emirates.

[a] Percentage of government revenue that comes from fossil fuel rents (FFRs), as stated, or calculated from the most recent budget papers (2021–22).

[b] Fossil fuel rents as a percentage of gross domestic product (GDP).

[c] Percentage of the population employed by the public sector.

[d] Percentage of population that are citizens (low numbers indicate high immigrant labour force).

Sources: Budget and government papers for Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the UAE, various years; World Bank Development Indicators, 2019; PWC data citing the International Monetary Fund, 2016; and European University Institute and Gulf Research Center, various documents, 2010–16.

sector.[8] This has led to bloated public sectors which arguably have stymied private sector growth.[9] Additionally, generous energy, food and water subsidies are provided to citizens. In 2015, across GCC members (e.g. Saudi Arabia), energy subsidies totalled more than $16 billion (2.1 per cent of GDP).[10] These subsidies impose a large budgetary cost on countries and result in forgone export profits, especially as subsidies encourage high fuel usage.[11]

Large public sector and government spending on other state-owned enterprises only serves to recycle FFRs throughout the economy, and there are few other truly productive sectors. Most value-added endeavours are the refinement of fossil fuels. Hence, decarbonisation poses a long-term risk to the economic viability of the Gulf States. Without diversification and fewer FFRs to sustain spending, there will be limited new money to circulate in their economies.[12]

Compounding this problem is the *kafala* system (nizām al-kafāla), or sponsorship system for (mostly unskilled) migrant labourers, allowing businesses or private citizens control over migrant workers' labour rights and immigration status.[13] Many workers have been used to work on oil and gas infrastructure projects, and their employment can be dependent on prevailing oil prices.[14] Migrant workers come seeking better wages than in their home countries, and vast sums of their pay is transferred internationally (totalling $75 billion in 2012),[15] further limiting the potential of the region's economies.

While many of the Gulf States have implemented plans to diversify their economies, it is a slow process that requires patience and consistency of policy direction (see also 'Decarbonization in Timor-Leste' in this annex).[16] Moreover, the lack of transparency due to closed-off monarchic rule threatens to catalyse social tensions when the social contract is altered through changed rent distribution.[17] As governments need to raise revenue, taxes will need to be levied, and subsidies reduced, fundamentally altering the nature of the rentier welfare state. One stark warning of a

[8] Shayah, H. and Sun, Z., 'Employment in the Gulf Cooperation Council (GCC) countries: Current issues and future trends', Paper presented at the 2nd International Conference on Social Science, Public Health and Education, *Advances in Social Science, Education and Humanities Research*, vol. 196 (Jan. 2019).

[9] Tok, E., 'The incentives and efforts for innovation and entrepreneurship in a resource-based economy: A survey on perspective of Qatari residents', *Sustainability*, vol. 12, no. 2 (Jan. 2020); and Ewers, M. C., 'Oil, human capital and diversification: the challenge of transition in the UAE and the Arab Gulf States', *Geographical Journal*, vol. 182, no. 3 (Sep. 2016).

[10] Tsai (note 4).

[11] *The Economist* (note 4).

[12] Alqassab, M. H., *Life after Oil: The Survival Predicament of the Gulf Arab States* (Troubador Publishing: Leicester, 22 Aug. 2020)

[13] Robinson, K., 'What is the kafala system?', Council on Foreign Relations, 23 Mar. 2021.

[14] Robinson (note 13).

[15] Naufal, G. S. and Gene, I. H., *The Story of Remittance Flows from the GCC Countries*, Explanatory Note no. 5 (European University Institute/Gulf Research Institute: 2014).

[16] Peszko, G. et al., *Diversification and Cooperation in a Decarbonizing World: Climate Strategies for Fossil Fuel-Dependent Countries* (World Bank: Washington, DC, 2 July, 2020).

[17] Tsai (note 4).

possible future is that the GCC states become vassal diplomatic states, with citizens rich enough to live elsewhere in the world.[18]

It will be important for GCC states to grapple not only with their changing status in the international arena but also with the simultaneous changes that will inevitably occur domestically which fundamentally change the nature of the welfare rentier state.

[18] Luciani, G., 'Allocation vs production states', eds H. Beblawi and G. Luciani, *The Rentier State* (Croom Helm: Kent, 1987).

4. Myanmar: Conservation in Conflict Settings

Kyungmee Kim

Conservation efforts in Myanmar provide important insights on viable alternatives to protect the environment in armed conflict. The country is home to both globally threatened and locally endemic wildlife species and part of the Indo-Burma biodiversity hotspot.[1] The last remaining intact forest areas in South East Asia and biologically rich lowland wet forests are found in Myanmar.[2] However, protracted civil war has had diverging effects on the country's environment, and the 2021 military coup has further complicated the governance of protected areas. The environment in conflict areas is often bio-diverse and remote, and in urgent need of conservation due to a lack of effective management and unregulated exploitation of natural resources.[3] For example, the presence of armed groups and military bases have created an incentive structure for illegal logging and trade that feeds into the conflict economy. To protect the biodiversity and environment, both state-driven and community-led conservation initiatives have been set up. The challenge is with the contestation by armed conflict in these areas located in the country's borderlands. This case study highlights two lessons from the conservation efforts within Myanmar: (*a*) the limitations of a state-centric approach in conservation in conflict zones; and (*b*) the potential and challenges of community-led conservation initiatives.

The limitations of a state-centric approach to conservation

Existing laws and practices for biodiversity conservation in Myanmar are primarily state-driven and highly centralised. During the reform era, several laws and policies were enforced that provide a foundation for conservation efforts. The Myanmar Environmental Conservation Law (2012), the National Biodiversity Strategic Action Plan (2012), and Environmental Impact Assessment Procedures (2016) reflect the development.[4] These policies, however, have been formulated without extensive public participation and consultation. This inclusivity deficiency has affected the policy effectiveness and led to conflict with local communities.[5]

The state-driven conservation efforts can be particularly problematic in the context of conflict. The primary concern arises when post-conflict conservation leads to forced eviction and resettlement of the conflict-displaced people or the dispossession of their customary land. When rebel groups sign a ceasefire with the government, it allows fthe state to enter into a previously inaccessible area.[6] The resulting enhanced stability and opening create an opportunity for transnational conservation actors and relevant government departments as well.[7]

This tension is clearly illustrated in the contentious Lenya National Park in southern Myanmar. Drawing boundaries for this national park has been highly contentious, with a long history of

[1] Tordoff, A. et al., *Indo-Burma Biodiversity Hotspot: 2020 Update*, *Ecosystem Profile* (Critical Ecosystem Partnership Fund: Arlington, VA, Sep. 2021).

[2] Tordoff, A. et al., *Indo-Burma Biodiversity Hotspot: 2020 Update*, *Ecosystem Profile*, Technical Summary (Critical Ecosystem Partnership Fund: Arlington, VA, Sep. 2021).

[3] Adam, Y. O., Pretzsch, J. and Darr, D., 'Land use conflicts in central Sudan: Perception and local coping mechanisms', *Land Use Policy*, vol. 42 (Jan. 2015); and Theisen, O. M., 'Climate clashes? Weather variability, land pressure, and organized violence in Kenya, 1989–2004', *Journal of Peace Research*, vol. 49, no. 1 (2012).

[4] Government of Myanmar, Environmental Regulation, Directorate of Investment and Company Administration, accessed 6 Oct. 2021.

[5] Cho, B. et al., *Stabilizing and Rebuliding Myanmar's Working Forests: Multiple Stakeholders and Multiple Choices*, Final Report (Nature Conservancy: Washington, DC, 2017).

[6] Woods, K. M., 'Ceasefire capitalism: Military-private partnerships, resource concessions and military-state building in the Burma-China borderlands', *Journal of Peasant Studies*, vol. 38, no. 4 (2011).

[7] Woods, K. M. and Naimark, J., 'Conservation as counterinsurgency: A case of ceasefire in a rebel forest in southeast Myanmar', *Political Geography*, vol. 83 (Nov. 2020).

conflict and repeated displacement.[8] After the 2011 ceasefire agreement between the Karen National Union and the army, many displaced Karen people wanted to return to their former village and gradually migrated back to the area, of which certain areas have been proposed to become part of the proposed national park.[9] Ethnic Karen people do not only rely on forests for food, livelihoods, and traditional medicine but also consider forests as an integral part of their cultural identity.[10] The Karen National Union also resisted the establishment of the national park and insisted the zoning be postponed until a comprehensive peace agreement is made between parties.[11] The involvement of transnational conservation and development actors has been controversial in this conservation conflict. External actors primarily focused on promoting their conservation goals and sided with the state while ignoring the concerns raised by the local population and Karen civil society.[12] This example raises caution on the role of transnational conservation actors in conflict settings.

Illegal logging and trade have been some of the drivers of rapid deforestation. Intact forests in northern Myanmar were plundered after several insurgent groups agreed on a truce.[13] The government's capacity to monitor and control the illicit conflict economy is insufficient, while the government army, militia groups, and the Myanmar Timber Enterprise—a state-owned company with a monopoly on logging and timber trade—all have strong incentives to financially benefit from this multimillion-dollar industry.[14]

Government-sanctioned agricultural concessions for palm oil and rubber plantations have been granted at the edge of conservation zones, exacerbating forest degradation.[15] In northern Myanmar, the Hugawng Valley Wildlife Sanctuary is one of the candidate sites for UNESCO world heritage status, given its outstanding biodiversity and intact forests and that it is a culturally important site for the Kachin people.[16] In 2006 the government awarded over 800 square kilometres of land to a crony company near and partially within the Hugawng Valley Wildlife Sanctuary, and the local population, mostly ethnic Kachin, protested the government decision.[17] In response, the private company armed some 800 employees who were former army soldiers and formed a militia to provide security for the plantation.[18] This has led to the human rights violation of the local population and social problems in local communities.[19]

The formalisation of protected areas has been the priority of transnational conservation actors in Myanmar.[20] However, existing challenges highlight the complexity of conservation challenges in conflict settings. The subsequent section outlines the case of a community-led conservation initiative in Myanmar's southeast as an alternative approach to the state-centric one.

Community-driven conservation as an alternative solution

The conservation can be promoted by the local civil society and community who have an interest in conserving the environment and their way of life. The viability of a bottom-up initiative is demonstrated in the case of the Salween Peace Park initiative in southeast Myanmar. This conservation initiative presents how cooperation among the local community, local environmental activists, a rebel group and transnational conservation actors led to environmental protection while safeguarding the rights of conflict-affected people.

[8] Crawford, A. et al., *Conflict-Sensitive Conservation: Practitioners' Manual* (International Institute for Sustainable Development: Winnipeg, 2009).

[9] Woods and Naimark (note 7).

[10] Cole, T., *Possessed Earth: Ownership and Power in the Salween Peace Park of Southeast Myanmar*, PhD Thesis (Stockholm University: 2020).

[11] Woods and Naimark (note 7).

[12] Woods and Naimark (note 7).

[13] Environmental Investigation Agency (EIA), *Organised Chaos: The Illicit Overland Timber Trade between Myanmar and China* (EIA: London, Sep. 2015).

[14] Environmental Investigation Agency (note 13).

[15] Connette, G. et al., 'Mapping distinct forest types improves overall forest identification based on multi-spectral landsat imagery for Myanmar's Tanintharyi region', *Remote Sensing*, vol. 8, no. 11 (25 Oct. 2016); and Woods, K. M., *The Political Ecology of Rubber Production in Myanmar: An Overview* (Yangon, 2012).

[16] UNESCO World Heritage Centre, 'Hukaung Valley Wildlife Sanctuary', Tenative Lists Search, 25 Feb. 2014.

[17] Woods (note 6), p. 762.

[18] Woods (note 6), p. 762.

[19] Kachin Development Network Group (KDNG), *Valley of Darkness: Gold Mining and Militarization in Burma's Hugawng Valley* (KDNG: Myitkyina, 2007).

[20] Graham-Rowe, D., 'Under the gun', *Nature*, vol. 435, no. 7044 (1 June 2005); and Donald, P. F. et al., 'Social reform and a growing crisis for southern Myanmar's unique forests: Democracy and Deforestation in Myanmar', *Conservation Biology*, vol. 29, no. 5 (Oct. 2015).

The Salween Peace Park covers 5485 km², has more than 70 000 inhabitants, and is a regional biodiversity hotspot with 17 globally threatened mammals, including tigers, clouded leopards, and wild dogs.[21] Named after the river that runs through it, the park includes more than 340 villages, four forest reserves, and three wildlife reserves. The area, which borders Thailand, is impoverished and isolated due to conflict. Local populations have since expressed growing concern about losing access to their land and forests due to the expansion of mining, plantations, and a hydropower dam, all of which have also been linked to local militarisation.[22]

The area has also been affected by the long-running conflict between the Karen National Union and the government since 1949.[23] The violence was significantly reduced after a 2011 bilateral ceasefire.[24] The start of a democratic opening and a nationwide ceasefire process has offered Myanmar civil society actors new opportunities, to which they quickly adapted. A network of ethnic Karen civil society organisations seized this window of opportunity by initiating a community-led project that simultaneously promotes peace and environmental protection. After laying the groundwork through community-level consultation back in 2017, the project was launched in 2019.

In the project, a peace park governing committee sets out rules that make the local population a leading force in environmental conservation and managing the commons.[25] The project trains community members in conservation and includes customary land management practices and community forests.[26] The initiative so far has not sought government recognition due to a weak state presence and antagonistic state-society relations between the Karen ethnic community and the government.[27] The local civil society actors have relied on the endorsement of the Karen National Union, a decades-old armed rebel group with a strong governance capacity.[28] The rebel group controls an area that is home to some 100 000 Karen civilians, including most of the designated peace park, though government forces also have a presence in the parking area.[29] Promoting conservation and community-led natural resource management fits well with the Karen National Union's own goal of self-determination. It seems that supporting and empowering the Karen population has also endowed legitimacy to its insurgency.[30]

Community-led conservation initiatives are fast spreading through the ethnic Karen network. These initiatives are found in areas where social cohesion within communities and pressure on land and forests is high. In 2014, fishing communities in the southern Tanintharyi Region set up their conservation plan to recover declining fish stocks in the region.[31] In the eastern Bago Region, communities have set up the Thawthi Taw-Oo Indigenous Park, with a focus on the protection of land, forests and conservation.[32] The role of the Karen Environmental and Social Action Network, an environmental NGO, is particularly important in the diffusion of these initiatives. The Karen environmentalists provide the technical and knowledge support for interested community leaders, which is instrumental in materialising the idea into practice.

Currently, the Salween Peace Park area is under significant pressure due to escalated military offenses and airstrikes after the 2021 military coup. The Karen civil society organisations include many veteran activists who were in Myanmar but are currently in neighbouring Thailand, where a significant segment of Myanmar civil society was based before the democratic opening.[33] These

[21] Moo, S. S. B., Froese, G. Z. L. and Gray, T. N. E., 'First structured camera-trap surveys in Karen State, Myanmar, reveal high diversity of globally threatened mammals', *Oryx*, vol. 52, no. 3 (July 2018).

[22] Karen Human Rights Group (KHRG), *'Development without Us': Village Agency and Land Confiscations in Southeast Myanmar* (Karen Human Rights Group: Mae Sot, Aug. 2018); and Kim, K., *Civil Resistance in the Shadow of War: Explaining popular mobilization against dams in Myanmar*, PhD Dissertation (Uppsala University: Uppsala, 2021).

[23] South, A., *Burma's Longest War: Anatomy of the Karen Conflict* (Transnational Institute: Amsterdam, 2011).

[24] Joliffe, K., *Ceasefire, Governance, and Development: The Karen National Union in Times of Change* (Asia Foundation: Yangon, Dec. 2016).

[25] Ostrom, E., *Governing the Commons: The Evolution of Institutions for Collective Action* (Cambridge University Press: Cambridge, 1990).

[26] Pearce, F., 'Amid tensions in Myanmar, an Indigenous park of peace is born', Yale Environment 360, 30 Nov. 2020.

[27] Brenner, D., 'Inside the Karen insurgency: Explaining conflict and conciliation in Myanmar's changing borderlands', *Asian Security*, vol. 14, no. 2 (4 May 2018).

[28] Loong, S., 'Notes from the Salween Peace Park', New Mandala, 27 May 2019.

[29] Joliffe (note 24).

[30] Mark, S., 'The forging of legitimate authority in the ceasefire mixed-control Karen areas of Myanmar', *Journal of Contemporary Asia*, vol. 52, no. 2 (2022).

[31] Karen Environmental and Social Action Network (KESAN), 'The establishment of a community fish conservation zone in Megui-Tavoy District, Karen State', accessed 7 Oct. 2021.

[32] Karen Environmental and Social Action Network (KESAN), *Thawthi Taw-Oo Indigenous Park* (KESAN: Chiang Mai, 2021).

[33] Simpson, A., 'Challenging hydropower development in Myanmar (Burma): Cross-border activism under a regime in transition', *Pacific Review*, vol. 26, no. 2 (18 Feb. 2013).

seasoned activists have returned to Thailand and fallen back on operating in the fluid borderlands after the 2021 military coup significantly reduced civil society space.

The 2021 military coup and the future of environmental conservation in Myanmar

The recent political crisis amid the 2021 coup has posed acute challenges for both state-led and community-driven conservation efforts in Myanmar. The post-coup regime repression has led to a spike in violence against civilians and clashes between armed groups. The increase in violence has several implications for biodiversity and conservation. The military regime responded to popular resistance with violence and repression. Within weeks, hundreds if not thousands of anti-coup activists and dissidents left urban centers and went into hiding. Several ethnic armed groups hosted the dissidents who fled cities and ramped up their operations against the army.[34]

The military regime ordered airstrikes against the Karen National Union in the Salween Peace Park area in northern Karen State and carried out artillery attacks against the civilian populations in Karenni and Chin State.[35] Due to the military violence, hundreds of thousands of internally displaced people live in makeshift shelters in Karen, Karenni, and Chin State. Escalation of the militarised conflict is likely to lead to the destruction of habitats and additional pressure on the environment. Moreover, increased violence threatens the community-led conservation initiatives because local communities themselves have been displaced and lost their capacity to carry out conservation activities.

Deforestation rapidly accelerated after the coup.[36] For example, the military regime has resumed the export of teak, a highly valued species, for earning foreign currency. During March and May 2021, over €1.3 million worth of teak was exported by Italian traders.[37] The Myanmar Timber Enterprise has been under US and EU sanctions since the coup, but the illicit timber trade has been booming.[38] The logging and timber trade poses a threat to the country's forests, which provide valuable habitats for threatened and endangered species.

Political uncertainties put pressure on both domestic and transnational conservation actors to operate in Myanmar. At the same time, local communities are under mounting pressure from worsening violence and a deteriorating economy. These factors may increase the risk of environmental degradation and loss of biodiversity. International actors must engage with caution to promote conservation in the area, which can unintentionally support the military regime and increase instability in conflict-affected areas.

[34] McPherson, P. and Wongcha-um, P., 'Thailand braces as refugees from Myanmar coup flee to border regions', Reuters, 18 Mar. 2021.

[35] International Crisis Group (ICG), *Taking Aim at the Tatmadaw: The New Armed Resistance to Myanmar's Coup*, Briefing no. 168 (ICG: Brussels, 28 June 2021); and 'Ethnic group in Myanmar faces airstrikes, new attacks for protesting coup', PBS NewsHour, 30 Mar. 2021.

[36] Erickson-Davis, M., 'Deforestation surge threatens endangered species in Tanintharyi, Myanmar', Mongabay, 30 Mar. 2021, .

[37] Environmental Investigation Agency, 'Italian traders are defying the law and sanctions to keep importing teak from Myanmar', 1 Sep. 2021.

[38] US Embassy in Rangoon, 'Imposing sanctions on two Burmese state-owned enterprises', US Embassy in Burma, 21 Apr. 2021.

5. Myanmar: Hydropower Dams in Violent Conflict

Kyungmee Kim

Countries in conflict-affected settings have considered harnessing hydropower for energy production and water storage.[1] Developing sustainable hydropower has additional challenges in civil war and post-conflict societies such as the Rio Grande in Guatemala, the Chittagong Hill Tracts in current-day Bangladesh, and the Himalayas in Nepal.[2] Myanmar, a country affected by decades of insurgencies and enduring military dictatorship, provides a primary example of contested hydropower governance and collective resistance against hydropower. Myanmar's topography and hydrology enable the construction of large dams for hydropower generation, which some consider an economic and clean source of electricity. The Government of Myanmar has plans to harness its vast potential in hydropower development by installing an additional 5738 MW generation capacity by 2031.[3] According to 2018 data, the hydropower sector in Myanmar has 3255 MW installed capacity which accounts for 58 per cent of the country's electricity generation capacity.[4]

The previous military regime promoted an ambitious plan to build large dams. This approach continued under the democratically-elected civilian government (2015–21) which did not stray away from the centralised and large-scale infrastructure-focused energy policy.[5] Under the civilian-led government rule, hydropower companies were slow to make progress in their projects in Myanmar due to strong civil society pushback around the weak environmental and social impact assessment procedures.[6]

Since the February 2021 coup and restoration of a military regime, the capacity for civil society to influence these government-led decisions has significantly diminished. The military junta's policy on the hydropower sector is still uncertain, but the junta leader, Min Aung Hlaing, noted in May 2021 that the military regime would resume the construction of the controversial Hatgyi Dam in cooperation with neighbouring China and Thailand.[7] His remark signals the junta's persistent interest in hydropower development, which has deepened civil society's concern about large hydro dams and their implications on human rights and the environment.[8]

The hydropower sector in Myanmar is closely connected to human security for conflict-affected populations in the border regions, where most of hydropower dam projects are located. Protracted armed conflict between the military and ethnonationalist rebels who refer to themselves as 'ethnic armed organisations (EAOs)' present immediate and severe risks for members of ethnic minority communities who account for 30 per cent of the population.[9] The reassertion of dam development threatens to add the negative social and environmental impacts of large hydropower projects on local communities relying on land-based livelihoods.[10] For these ethnic minority groups, connection to the land is culturally and spiritually significant and a crucial component of

[1] Swain, A., 'Water and post-conflict peacebuilding', *Hydrological Sciences Journal*, vol. 61, no. 7 (22 Apr. 2016).

[2] Johnston, B. R., 'Chixoy dam legacies: The struggle to secure reparation and the right to remedy in Guatemala', *Water Alternatives*, vol. 3, no. 2 (2010); Oliver-Smith, A., 'Involuntary resettlement, Resistance and Political Empowerment', *Journal of Refugee Studies*, vol. 4, no. 2 (1 Apr. 1991); and Suhardiman, D. and Karki, E., 'Spatial politics and local alliances shaping Nepal hydropower', *World Development*, vol. 122 (Oct. 2019).

[3] Aung Ko Ko, U., *Hydropower Development Plans* (Hydropower Developers' Working Group: Yangon, 18 Aug. 2016).

[4] du Pont, P. et al., *Decentralizing Power: The Role of State and Region Governments in Myanmar's Energy Sector* (Asia Foundation: Yangon, Apr. 2019).

[5] du Pont et al. (note 4).

[6] Foran, T. et al., 'Large hydropower and legitimacy: A policy regime analysis, applied to Myanmar', *Energy Policy*, vol. 110 (Nov. 2017).

[7] Karen Rivers Watch and Karen Human Rights Group, 'Joint statement from KHRG and KRW: The construction of the Hatgyi Hydropower Plant along the Salween River must be stopped' (11 June 2021).

[8] Karen Rivers Watch and Karen Human Rights Group (note 7).

[9] South, A., *Ethnic Politics in Burma: States of Conflict* (Routledge: London, 2008); and Pedersen, M. B., 'How to promote human rights in the world's most repressive states: Lessons from Myanmar', *Australian Journal of International Affairs*, vol. 67, no. 2 (2013).

[10] Karenni Development Research Group (KDRG), *Dammed by Burma's Generals* (KDRG: Mae Sot, 2006).

their societal identity. Inadequate resettlement processes around dams have negatively affected the socio-economic wellbeing and even the mental health of displaced populations.[11]

The case of the Myitsone Dam in northern Myanmar, which was initiated under the military junta in 2007 and then suspended due to popular resistance in 2011, offers lessons for hydro development in conflict-affected settings. The emergence and suspension of the dam project were intricately linked to the ethnonationalist struggle by the ethnic Kachin community against the Myanmar state. Chinese financing in the hydropower sector of Myanmar played a pivotal role in the development of the Myitsone Dam, a seven-dam cascade system in the headwaters of the Irrawaddy River.[12] If constructed, the upper Irrawaddy cascade system would generate 13 360 MW per hour.[13] When the leading Kachin rebel group, Kachin Independence Organization (KIO), signed a ceasefire agreement with the military regime in 1994, the junta was keen to exploit the vast potential for hydropower in northern Myanmar.[14] After several rounds of bilateral talks, China Power Investment, a Chinese state-owned enterprise, took on this $3 billion project and began construction in 2007 with the blessing from the previous junta headed by General Than Shwe.[15]

This development of the Myistone Dam coincided with a tumultuous period, during which the ethnic Kachin population became severely disillusioned with the ceasefire arrangement of the military junta. A handful of local elites and the KIO officials enriched themselves through natural resource extraction, while most Kachin people suffered from poverty and environmental and social problems caused by unregulated mining, logging, and hydropower construction.[16] Thousands of residents were displaced to make way for the Myitsone Dam construction without adequate resettlement processes.[17] The scrutiny led to a political crisis for the KIO and its new leadership was determined to restore popular support. The KIO issued a series of public letters pleading for a halt to the construction of the Myitsone Dam in 2009 and again in 2011.[18] The 2011 letter addressed to the Chinese president warned that the dam project could spark a civil war, and within a few months the Kachin civil war did in fact resume. It would be incorrect to conclude that the Myitsone Dam caused the KIO to return to war because the relationship between the KIO and the Myanmar army had already deteriorated in 2010 because of the KIO's rejection of the government's offer to become a pro-government militia. However, grievances surrounding the Myitsone Dam did fuel existing tensions and may have upset the precarious balance. The case of the Myitsone Dam illustrates how complex sociopolitical dynamics can emerge around hydropower.

Popular resistance against large hydropower dams was not limited to the Myitsone Dam. For example, popular resistance against the current junta led to widespread refusal to pay electricity bills as a collective act of defiance, leading to soldiers making threats for continued non-payment.[19] One claim by the leading anti-coup coalition states the unpaid electricity bills since February would be $1 billion in revenue, leading to mounting pressure on centralised energy planning.[20] Civil society groups have led popular movements against other large hydropower dams along the Salween River, one of the last free-flowing rivers in Asia.[21] In the absence of a transboundary water-sharing agreement or joint development plan, China and Myanmar have made plans to build 13 and 7 large hydropower dams respectively.[22] Chinese and Thai investors play an important role

[11] Physicians for Human Rights, *Forced Displacements and Destroyed Lives around Upper Paunglaung Dam in Shan State, Myanmar* (Physicians for Human Rights: 2015).

[12] 'The Myitsone Dam on the Irrawaddy River: A briefing', International Rivers, 28 Sep. 2011.

[13] International Rivers (note 12).

[14] Sadan, M. (ed.), *War and Peace in the Borderlands of Myanmar*, NIAS Studies in Asian Topics no. 56 (Nordic Institute of Asian Studies, NIAS: Copenhagen, 2016).

[15] 'Chronology of the Myitsone Dam at the confluence of rivers above Myitkyina and map of Kachin State dams', *Journal of Current Southeast Asian Affairs*, vol. 31, no. 1 (2012)

[16] Brenner, D., 'Ashes of co-optation: from armed group fragmentation to the rebuilding of popular insurgency in Myanmar', *Conflict, Security & Development*, vol. 15, no. 4 (2015).

[17] Kachin Development Network Group (KDNG), *Damming the Irrawaddy* (KDNG: Myitkyina, 2013).

[18] Seng, N., 'Shaky future for the KIO', *Irrawaddy Magazine*, vol. 12, no. 4 (Apr. 2004); International Crisis Group (ICG), *A Tentative Peace in Myanmar's Kachin Conflict*, Briefing no. 140 (ICG: Yangon/Jakarta/Brussels, 2013).

[19] Paddock, R. C., 'Pay your power bill, Myanmar soldiers say, or pay with your life', *New York Times*, 15 Jan. 2022.

[20] 'Electricity Bill boycott denies Myanmar military US $1 billion in power revenues since coup', Radio Free Asia, 15 Sep. 2021.

[21] Kim, K., 'Civil resistance in the shadow of war: Explaining popular mobilization against dams in Myanmar', PhD Dissertation, Uppsala University, Uppsala, 2021.

[22] Lamb, V. et al., 'A state of knowledge of the Salween River: An overview of civil society research', eds C. Middleton and V. Lamb, *Knowing the Salween River: Resource Politics of a Contested Transboundary River*, vol. 27 (Springer International Publishing: Cham, 2019).

in enabling the state hydropower development policy on the Salween River.[23] Within Myanmar's border area, a dozen minority groups live along the Salween River including the Shan, Karenni, Karen, Pa-O, Lahu, Lisu, Kokang, Wa, and Akha.[24] Civil society activists from these groups joined a coalition of anti-dam movements against the Salween dams.[25] Their claims focused on the potential implications of dams on human rights abuses, environmental deterioration, and conflict escalation.[26] The Hatgyi Dam in the northern Karen State, in particular, has been met with resistance by the ethnic Karen population, who suffered displacement and violence as a result of the military's Four Cuts counter-insurgency strategy.[27] The local population in the area has long opposed hydropower because they perceive it as a threat posed by the Myanmar government to control the area.[28]

The 2021 military coup has restricted the military junta's access to financing sources to develop hydropower, apart from a few countries such as China and Thailand. International responses to the 2021 coup have been generally critical given the military regime's action to imprison democratically elected civilian leaders and brutally suppress popular resistance against military rule.[29] These actions and the resulting international response have led to several investors suspending their operations in Myanmar.[30] China's response to the coup has been hands-off. However, despite the coup, China has not suspended its investment deals in Myanmar[31] and may continue to finance ongoing hydropower projects.[32] The post-coup development in Myanmar suggests that the prospect of the hydropower sector in Myanmar is highly uncertain. International organisations working on environmental sustainability have crucial roles to play in Myanmar's developing situation regarding hydropower, which include closely monitoring the situation on the ground and providing space for Myanmar's civil society groups.

[23] Zerrouk, E., 'Water grabbing/land grabbing in shared water basins the case of Salween River Hatgyi Dam', *Journal of Water Resources and Ocean Science*, vol. 2, no. 5 (2013).

[24] Lamb et al. (note 22).

[25] Kirchherr, J. J., Charles, K. and Walton, M. J., 'The interplay of activists and dam developers: The case of Myanmar's mega-dams', *International Journal of Water Resources Development*, vol. 33, no. 1 (2017).

[26] Save the Salween Network, 'Statement of concern regarding launch of IFC's Hydropower Developers' Working Group for Myanmar', 18 Aug. 2016.

[27] Aung Myoe, M., *Building the Tatmadaw: Myanmar Armed Forces Since 1948* (Institute of Southeast Asian Studies: Singapore, 2009).

[28] Kim (note 21).

[29] Gillett, M. T., 'UN Human Rights Council condemns Myanmar coup', Jurist, 13 Feb. 2021; and Han, E., 'China does not like the coup in Myanmar', East Asia Forum, 6 Feb. 2021.

[30] Protard, M. and White, S., 'France's EDF halts hydropower project in Myanmar after junta coup', Reuters, 19 Mar. 2021.

[31] United States Institute of Peace (USIP), *Myanmar: China, the Coup and the Future* (USIP: Washington, DC, June 2021).

[32] Chan, D. S. W., 'Business as usual: Chinese investments after the Myanmar coup', The Diplomat, 2 Sep. 2021.

6. Decarbonization in Timor-Leste

Noah Bell

Analysis of the transition away from fossil fuels typically focuses on large petrostates. Yet smaller fossil fuel extracting countries (FFECs) face uncertainty with this transition as well. A notable example is Timor-Leste, a post-colonial, post-conflict, democratic developing country still rebuilding after gaining independence in 2002. However, there are on-going impacts on the population and geography of Timor-Leste (see figure 6.1). Timor-Leste began extracting oil in 2004 and gas in 2006,[1] as part of this process it tried to establish best practices for its extractive industries by statutorily requiring the use of fossil fuel rents (FFRs) transparently, accountably, government expenditure and development. These efforts, which go beyond minimum standards, earned it certification from Extractive Industries Transparency Initiative (EITI).[2] A key part of this is through a Petroleum Fund established in law.[3]

Timor-Leste's economy was one of the most petro-reliant in the world, with FFRs composing the majority of their GDP from 2005 to 2014.[4] This dependence places the country in a precarious position as decarbonization will be a compounding risk factor on top of persisting post-conflict economic, environmental, and governance stresses. Moreover, its insignificant size in the global petro-market (less than 0.02 per cent of global output, 2021)[5] means Timor-Leste is likely to be especially vulnerable in a globally contracting market, due to international decarbonization efforts.

Despite working proactively against typical petrostate pitfalls,[6] there are concerns that Timor-Leste was neither prepared for the challenges of these pitfalls nor has maintained this commitment to best practices.[7] Additionally, when viewed through a more comprehensive lens, the EITI standards have some significant shortcomings, such as failing to factor in climate change.[8] Net-zero emissions by 2050 requires a stop of all new fossil fuel developments.[9] Yet leadership in Dili is actively pursuing developing the Greater Sunrise gas field (an offshore gas deposit: see figure 6.2) and an onshore processing hub,[10] despite international climate commitments (e.g. the Paris Agreement).[11]

Understandably, many countries view FFRs as an important means to invest in their development. However, tensions between the collection of FFRs, a rapidly changing climate,[12]

[1] Scheiner, C., 'Timor-Leste economic survey: The end of petroleum income', *Asia & the Pacific Policy Studies*, vol. 8, no. 2 (2021).

[2] Extractive Industries Transparency Initiative (EITI), International Secretariat, *The EITI Standard 2019: The Global Standard for the Good Governance of Oil, Gas and Mineral Resources* (EITI International Secretariat: Oslo, 15 Oct. 2019); Timor-Leste Petroleum Tax Law, 13 July 2005, Law no. 8/2005; Timor-Leste Law on Petroleum Activities, 23 Aug. 2005, Law no. 13/2005; and Timor-Leste Petroleum Fund Law, 13 July 2005, Law no. 9/2005.

[3] In 2005 the government constituted a Petroleum Fund (sovereign wealth fund) through the Petroleum Fund Law no. 9/2005. The fund was established to responsibly manage income from Timor-Leste's oil and gas deposits. It covers rules about transfers to fund government expenditure and allowed risks in terms of which investments can be made. Petroleum Fund Law (note 2).

[4] World Bank, 'World Development Indicators', accessed 23 June 2021.

[5] Total output includes oil and gas, as calculated by the United States Energy Information Administration, 'Petroleum and other liquids', accessed 11 Oct. 2021.

[6] See e.g. Ross, M. L., 'The political economy of the resource curse', *World Politics*, vol. 51, no. 2 (Jan. 1999); Ross, M. L., 'What have we learned about the resource curse?', *Annual Review of Political Science*, vol. 18, no. 1 (May 11, 2015); and Armstrong, C., 'Decarbonisation and world poverty: A just transition for fossil fuel exporting countries?', *Political Studies*, vol. 68, no. 3 (1 Aug. 2020).

[7] Duraisami, A. and Courvisanos, J., 'The Timor-Leste petroleum fund: From buying peace to white elephants', eds E. Okpanachi and R. Chowdhari Tremblay, *The Political Economy of Natural Resource Funds*, International Political Economy Series (Springer International Publishing: Cham, 2021).

[8] Cient Earth et al., 'Climate change and the extractive industries transparency initiative', Joint letter, 13 Oct. 2015; and Bradley, S., *Transparency in Transition: Climate Change, Energy Transition and the EITI* (Chatham House: London, June 2020).

[9] International Energy Agency (IEA), *Net Zero by 2050: A Roadmap for the Global Energy Sector* (IEA: Paris, 18 May 2021).

[10] Paul, S., 'Update 1-E. Timor's state oil company sees Greater Sunrise producing gas around 2026', Reuters, June 19, 2019; and Ingram, S., Kent, L. and McWiliam, A., 'Introduction: Building the nation: Legacies and challenges for Timor-Leste', eds S. Ingram, L. Kent and A. McWiliam, *A New Era? Timor-Leste after the UN* (ANU Press: Canberra, 2015), p. 5.

[11] International Energy Agency (note 9); and United Nations, Paris Agreement, adopted 12 Dec. 2015, entered into force 4 Nov. 2016, Treaties-XXVII.7.d.

[12] Masson-Delmotte, V. et al. (eds), 'IPCC, 2021: Summary for policymakers', *Climate Change 2021: The Physical Science Basis: Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*, IPCC (Cambridge University Press: Cambridge and New York, 2021).

Figure 6.1. Map of Timor-Leste

Source: United Nations Office for the Coordination of Humanitarian Affairs, 2013.

environmental damage,[13] political realities,[14] and future prosperity are complicating this approach.[15] Despite high FFRs over the past decade, Timor-Leste's Human Development Index score decreased since 2011,[16] it also has one of the highest rates of child malnutrition in the world.[17] FFRs have been used to help satisfy a key political constituency and arguably to help maintain a fragile peace. Since 2010, the Timorese government has paid significant pensions to veterans of the independence struggle.[18] This continued payoff contributes to withdrawals from the Petroleum Fund exceeding the rate of return, diminishing the fund's capital. The amount of money spent on these payments exceeds expenditure on healthcare and make up nearly 80 per cent of the education budget.[19] This decision simultaneously undermines the Fund's ability to support future prosperity and development programmes (such as through health and education,) as the government seeks gaining political support through patronage rather than whole-of-society programmes.[20]

[13] Scheiner, C., *Timor-Leste: 2021 Economic Survey: The End of Petroleum Income* (La'o Hamutuk, Timor-Leste Institute for Development Monitoring and Analysis): Dili, 30 June 2021).
[14] Doraisami, A., 'The Timor Leste Petroleum Fund, Veterans and White Elephants: Fostering Intergenerational Equity?', *Resources Policy*, vol. 58 (Oct. 2018).
[15] Scheiner (note 13).
[16] United Nations Development Programme, 'Timor-Leste', Human Development Reports, 2021.
[17] United Nationa International Children's Emergency Fund, World Health Organization and World Bank Group, *Levels and Trends in Child Malnutrition: Key Findings of the 2021 Edition* (WHO: Geneva, Apr. 2021).
[18] Doraisami (note 14).
[19] Doraisami (note 14).
[20] Barma, N. H., 'Do petroleum rents fuel conflict in developing countries? A case study of political instability in Timor-Leste', *Energy Research & Social Science*, vol. 75 (May 2021).

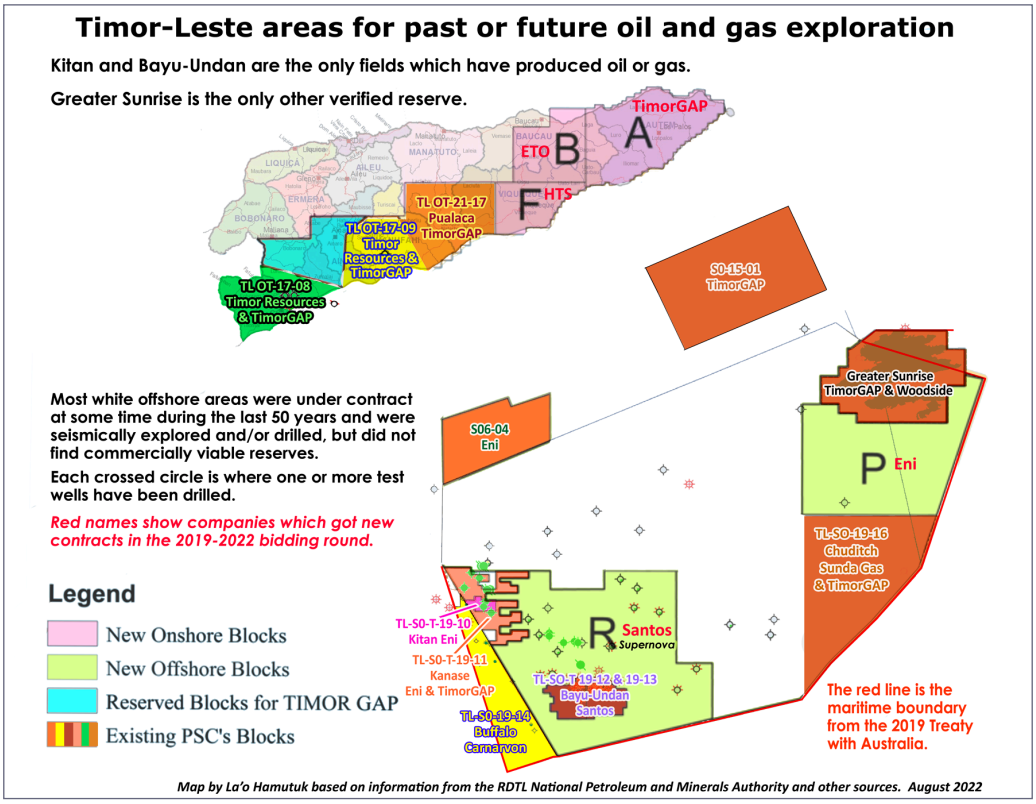

Figure 6.2. Country claims to offshore petroleum deposits around Timor-Leste

Source: La'o Hamutuk, 2022.

Funding veteran pensions acts as a band-aid in achieving peace but does not address the underlying conditions that everyone in the country faces. Notably, the agriculture, healthcare and education sectors need more funding.[21] Agriculture will be especially important due to the high number of subsistence farmers and the need to adapt to climate change.[22]

Further undermining the Petroleum Fund's utility as a mechanism for development, the government bought out Shell and ConocoPhillips' stakes in the Greater Sunrise project. The one of the remaining two corporations, Woodside Petroleum, revalued the project to zero in 2020.[23] This investment of $650 million from the Petroleum Fund in an "unproductive asset",[24] has left state-owned TimorGAP, with a loan it likely cannot payback.[25]

Timor-Leste as a price taker

Committing to new fossil fuel projects is a large risk because Timor-Leste is a 'price-taker', meaning the actions of larger cheaper producers (e.g., Saudi Arabia, Qatar, US, and Russia) effectively shape market prices. Success for Timor-Leste's fossil fuel exports is contingent on maintaining high prices. Yet, modelling of prices is filled with extreme uncertainty, with estimates between $25 and $170 by 2050,[26] meaning Timor-Leste could either reap the rewards or suffer from stranded assets. Yet, high fossil fuel prices also are problematic. In 2018, approximately 20 per cent of Timor-Leste's imports were fossil fuels, ($140m).[27] Therefore, high prices also limit the amount

[21] Doraisami (note 14).

[22] Chandra, A., Dargusch, P. and McNamara, K. E., 'How might adaptation to climate change by smallholder farming communities contribute to climate change mitigation outcomes? A case study from Timor-Leste, Southeast Asia', *Sustainability Science*, vol. 11, no. 3 (May 1, 2016).

[23] Scheiner (note 13); and Evans, D., 'Sunset at East Timor's Greater Sunrise LNG after Woodside write-down', Energy Voice, 22 July 2020.

[24] Scheiner (note 13).

[25] Scheiner (note 13).

[26] US Energy Information Administration, *Annual Energy Outlook 2021 with Projections to 2050* (US Department of Energy: Washington, DC, Feb. 2021); and International Energy Agency (note 9).

[27] Timor-Leste General Directorate of Statistics (GDS), *External Trade Statistics 2018* (GDS: Dili, 2018).

of fossil fuels that can be imported, presenting a clear justification to decarbonize the domestic economy.

Much of Timor-Leste's speculative revenue sits in undeveloped fields with relatively small reserves, a key source of risk.[28] Heavy investment in fossil fuels could lead to the over-specialisation of human capital and infrastructure, depriving other sectors that are necessary for future prosperity (e.g. health, education, water, agriculture, business development) of investment and skilled labour.[29] Development agencies, NGOs, and academics have all warned that failure to diversify, "may give rise to socially and economically destabilizing conditions".[30] Additionally, International Financial Institutions have warned that lack of income from petroleum revenues will place Timor-Leste in a situation where it cannot afford to import goods it needs. Moreover, diverse investment will reduce inequality and enable a fairer and more just society, especially for the overwhelmingly young population who do not receive direct welfare payments from the government.[31] As inequality is a recognized driver of conflict in societies,[32] it is important to address it as climate shocks that compound existing difficulties of multidimensional and persistent poverty.[33]

Diversification of the Timorese economy

The World Bank acknowledges that economic diversification projects that would reduce these risks for Timor-Leste are challenging and require detailed long-term planning.[34] Climate response from outside the country can assist. Developed countries need to work cooperatively to facilitate low carbon technology transfers, fulfilling climate financing commitments enabling a just transition for all countries.[35] Making such transfers not only address climate change but are also an investment in security. Timor-Leste presents an example where addressing climate change creates particular stresses for some petrostates that already grapple with a recent history of conflict and heavy dependence on FFRs. Timor-Leste still has ongoing challenges from conflict (including many environmental),[36] persistent inequality, high poverty and malnutrition, and recurring climate disasters that only hinder development and peacebuilding.[37] Taking on these fundamental challenges requires government to make investment decisions now that maximise prosperity and safety for all their citizens.

[28] Armstrong (note 6).

[29] Scheiner, C., 'Can the petroleum fund exorcise the resource curse from Timor-Leste?', Ingram, Kent and McWiliam, eds (note 10); and da Cruz Cardoso, J., 'Why is Timor-Leste still unable to diversify its economy?', The Diplomat, 1 Mar. 2021.

[30] Peszko, G. et al., *Diversification and Cooperation in a Decarbonizing World: Climate Strategies for Fossil Fuel-Dependent Countries* (World Bank: Washington, DC, 2 July 2020); Baird, R., 'Boosting the private sector key to sustainable growth: UNPAZ Rector', *Tatoli*, 2 Dec. 2019; Asian Development Bank (ed.), *Growing the Non-oil Economy: A Private Sector Assessment for Timor-Leste* (Asian Development Bank: Mandaluyong City, 2015); Manley, D. and Heller, P. R. P., *Risky Bet: National Oil Companies in the Energy Transition*, Summary (National Resource Governance Institute: New York, Feb. 2021); International Energy Agency (note 9); and World Bank, *Timor-Leste Economic Report June 2022: Investing in the Next Generation* (World Bank: Washington, DC, 28 June 2022), p. viii.

[31] 'Rights and sustainability in Timor-Leste's development', Presentation, La'o Hamutuk, 15 Feb. 2022.

[32] Bartusevičius, H., 'The inequality–conflict nexus re-examined: income, education and popular rebellions', *Journal of Peace Research*, vol. 51, no. 1 (Jan. 2014).

[33] Bonis-Profumo, G., McLaren, R. and Fanzo, J., 'Ravaged landscapes and climate vulnerability: The challenge in achieving food security and nutrition in post-conflict Timor-Leste', *Advances in Food Security and Sustainability*, vol. 4 (2019), pp. 99–100.

[34] Peszko et al. (note30).

[35] Pigato, M. et al., *Technology Transfer and Innovation for Low-carbon Development* (World Bank: Washington, DC, 14 Apr. 2020).

[36] Ide, T., Palmer, L. R. and Barnett, J., 'Environmental peacebuilding from below: Customary approaches in Timor-Leste', *International Affairs*, vol. 97, no. 1 (11 Jan. 2021), pp. 108–109.

[37] World Bank Group, *Timor-Leste Economic Report May 2021: Charting a New Path* (World Bank Group: Washington, DC, May 2021); Barma (note 20).

7. Solar, Water, in Times of Conflict: One Step Forward, One Step Back in Yemen

Emilie Broek

Yemenis are struggling to meet their basic needs in the face of ongoing conflict and political instability, chronic drought and water shortages, and severely limited economic opportunities. Solar power is proving to be one means to try to overcome these challenges, yet renewable adaptations also pose risks. In Yemen, the growing use of solar-powered pumps is depleting groundwater levels and contributing further to a multi-dimensional water crisis. Although the pumps have provided carbon-neutral, affordable energy and water access to farmers and households that previously lacked electricity, they are overextracting groundwater supplies, increasing the risk of water insecurity, land subsidence, and sea water intrusion across the country.[1] Solar pumps have revolutionised farming and agriculture in Yemen and have provided many with comparatively low-cost energy. However, if solar-powered pumping is not regulated and groundwater levels are not protected, Yemen will be at risk of worsening its water crisis with dire longer-term consequences for livelihoods, agriculture and the economy.

Prior to the outbreak of civil war in 2014, Yemen was considered an 'energy poor' country when compared to its neighbours in the Middle East.[2] Electricity coverage was only at around 50 per cent.[3] This became even worse during the civil war, when half of the country's electricity infrastructure was destroyed, prices for diesel shot up, and fuel supplies grew scarce due to blockades and the weaponising of supply routes.[4] In June 2014, the destruction of key power lines resulted in national blackouts and the collapse of the country's power grid. By the end of 2016, only 10 per cent of the country had access to on-grid electricity.[5] At first, many Yemenis turned to diesel-powered generators to meet their needs. However, due to limited supplies and unaffordable costs, many shifted to solar-powered pumps instead. By 2017, around 75 per cent of urban and 50 per cent of rural households relied on solar power for their energy needs.[6] With one of the highest average theoretical solar power potentials in the world, Yemen has largely turned solar.[7]

Solar-Powered Irrigation Systems (SPIS) have become especially tied to the agricultural sector in Yemen, which gives food security, employment opportunities and economic growth.[8] With 10 million people—more than one third of the total population—at risk of famine, SPIS has become a primary food provider for many households in Yemen.[9] Today, there are around 100 000 pumps already installed for irrigated agriculture.[10] It is predicted that if the political and security situation in Yemen stabilises, the country will make a complete shift to SPIS within seven years.[11]

Farmers in Yemen have very little incentive to shift away from solar pumps. SPIS are affordable, beyond their initial system costs, and once they are connected to power supplies, they can deliver continuous groundwater resources. Therefore, these are very lucrative income sources for

[1] Conflict and Environment Observatory (CEOBS), *Groundwater Depletion Clouds Yemen's Solar Revolution* (CEOBS: Hebden Bridge, Apr. 2021).
[2] Guardian Development Network, 'Time running out for solution to Yemen's water crisis', *The Guardian*, 27 Aug. 2012, accessed 22 Aug. 2021.
[3] CEOBS (note 1).
[4] Guardian Development Network (note 2).
[5] CEOBS (note 1).
[6] CEOBS (note 1).
[7] CEOBS (note 1).
[8] Food and Agriculture Organization of the United Nations (FAO), 'Solar powered water pumps help Yemeni farmers restore their agricultural livelihoods', 13 Jan. 2020.
[9] CEOBS (note 1).
[10] Aklan, M. M. and Lackner, H., *Solar-powered Irrigation in Yemen: Opportunities, Challenges and Policies*, vol. 22 (Sana'a Center for Strategic Studies/Deep Root Consulting/CARPO: 29 Apr. 2021).
[11] Aklan and Lackner (note 10).

farmers.[12] There is very little cost per unit generated with SPIS, so farmers are able to maximise their profits by expanding irrigated areas or selling water in tankers for distribution elsewhere.[13] In the absence of watershed management and national policies regulating solar technologies for water extraction, farmers have little motivation to alter their groundwater practices.[14]

This is a concern because unregulated solar-powered extractions in Yemen are causing a water crisis to emerge. Given that Yemen has no lakes or permanent rivers, rainfall and groundwater are the main water sources in the country.[15] With a growing population rate of 3 per cent per year, the demand for water in Yemen is significantly rising.[16] Currently, these demands are met by constructing new groundwater wells. Almost 90 per cent of Yemen's total groundwater resources are extracted for irrigation systems.[17] Without groundwater monitoring systems, these extractions are depleting water levels. Climate change, and its effects on extreme and irregular rainfalls, has also reduced the filling of groundwater aquifers, as the loss of topsoil prevents the absorption of water flows.[18] As the thirteenth most vulnerable country in the world to the effects of climate change (particularly droughts and extreme flooding), Yemen will continue to bear the brunt of these climatic pressures.[19] According to the Falkenmark indicator, absolute water scarcity occurs when per capita water availability in a country is below 500 cubic metres per year—this amount is already seven times greater than the annual water availability in Yemen.[20]

Yemen's future is tied to the sustainable management of its groundwater resources.[21] Looking forward, it is important to develop an integrated monitoring system for groundwater pumping in Yemen. This is key for protecting and monitoring groundwater extractions and ensuring they do not surpass aquifer recharge levels.[22] A comprehensive national assessment of Yemen's groundwater resources and extraction wells must also be conducted and integrated with the corresponding social, economic and political components. It could also be important to revive older traditional methods of land and water management, including the use of terraces to distribute rainwater and ensure the protection of aquifer recharge.[23]

The detrimental effects of solar energy on groundwater levels are occurring in other areas of the world as well. The UN FAO reported that in the face of climate change, solar-powered pumps will become a growing problem, as more people will need to extract groundwater for irrigation.[24] In India, this has also become an issue. The government subsidises and promotes solar irrigation pumps that are carbon neutral, accessible and affordable, but they deplete groundwater levels in the country.[25] Tunisia is also experiencing the same issue, where wells are being dug illegally by farmers to irrigate their lands without any regulation—since, unlike electricity central grids, with solar you cannot 'turn off' power or restrict access when needed.[26] As more countries turn to solar, it is important to be cognizant of its detrimental impacts on groundwater supplies and national security.

[12] CEOBS (note 1).
[13] Aklan and Lackner (note 10).
[14] Aklan and Lackner (note 10).
[15] CEOBS (note 1).
[16] Aklan and Lackner (note 10).
[17] Aklan and Lackner (note 10).
[18] Aklan and Lackner (note 10).
[19] CEOBS (note 1).
[20] Aklan and Lackner (note 10).
[21] CEOBS (note 1).
[22] CEOBS (note 1).
[23] CEOBS (note 1).
[24] Hartung, H. and Pluschke, L., *The Benefits and Risks of Solar Powered Irrigation: A Global Overview* (FAO: Rome, 2018).
[25] Sharma, A., 'Can solar pumps save groundwater while cutting debt of power cos?', Down to Earth, 27 Aug. 2021.
[26] Hartung and Pluschke (note 24).

8. Just and Peaceful Transition in the Middle East and North Africa

Johan schaar

Introduction

The Middle East and North Africa (MENA)[1] region is a universe of climate change manifestations. It is a major source of global fossil fuels and, by extension, global greenhouse gas emissions (GHG), delivering 36–38 per cent of global oil production during the past decade.[2] But it is also highly exposed to the already felt damaging impacts of climate change, and is the home of some of the most vulnerable peoples and societies in the world.[3] The hot and dry region uses considerably more surface and groundwater than what is replenished. With its political tensions, armed conflicts and weak regional institutions, the region is ill-equipped to address climate change. Massive and impoverishing forced displacement, authoritarian governments, deteriorating infrastructure and dependence on fossil fuels in the domestic energy mix, despite its enormous potential for renewable energy, are challenges to climate change adaptation and transitioning to a low-carbon future. The growing urgency to address climate change in all its dimensions tends to be overshadowed by the immediacy of failing services, insecurity and humanitarian crisis.

Awareness of the deep and intergenerational injustice inherent in the changing climate, where those already disadvantaged carry the heaviest burden, is finding increasingly concrete expressions. What the United Nations Framework Convention on Climate Change (UNFCCC) states as the 'common but differentiated responsibilities' of states to reduce emissions and support adaptation, giving industrialized countries the main responsibility, is being translated into internationally agreed climate finance instruments and a growing recognition that there is and will be loss and damage beyond what can be countered through adaptation. And citizens are increasingly holding their governments accountable for their omissions, leading to legislative reform, litigation and court rulings.[4]

Until now, the climate justice discourse has mainly focused on the United States, Europe and Small Island States. This paper seeks to contribute to the discourse by exploring the application of the concepts of 'climate justice' and 'just transition' to the MENA region. It argues that a general articulation of what *transition* means for the heterogenous MENA region can be made to: (*a*) reduce dependence on the production and consumption of fossil fuels; (*b*) protect people and natural and built-up environments through adaptation to climate change; and (*c*) reverse the overuse of water. A *just transition* is implemented when burdens and benefits are fairly shared, and transition decisions are made in a transparent and inclusive manner. These *distributional* and *procedural* aspects of transitional justice are closely related to and informed by efforts to achieve climate justice.

The next section provides a snapshot of the state of water, climate and insecurity in the region. The paper then analyses current and planned national transition strategies; identifies those at risk and those who stand to gain from transition; discusses the application of procedural and distributional justice in the region; and, finally, provides a set of conclusions and proposals for future action, the most fundamental being that achieving a just and peaceful transition cannot be divorced from the broader aspirations for human rights and justice.

[1] Using the United Nations definition, the countries in the MENA region include Algeria, Bahrain, Egypt, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Sudan, Syria, Tunisia, the United Arab Emirates and Yemen. In some instances, reference is made to the Arab region, which is the region covered by the UN Economic and Social Commission for West Asia (ESCWA) and does not include Iran and Israel.

[2] Menichetti, E. et al., *The MENA Region in the Global Energy Markets*, Working Paper no. 21 (Barcelona Centre for International Affairs: Barcelona, Oct. 2018).

[3] United Nations Economic and Social Commission for Western Asia (ESCWA), *Arab Climate Change Assessment Report: Main Report*, E/ESCWA/SDPD/2017/RICCAR/Report (ESCWA: Beirut, 2017).

[4] Displacement Solutions, *Courtrooms and Climate Change: The Current State of Play* (Displacement Solutions: Geneva, Dec. 2020).

The state of the environment, climate change impacts and security in MENA

At first glance, the environment and climate change are not prominent on the agenda of MENA states. They do not seem to be high priorities for most of the region's governments and awareness among the public seems relatively low, except for the obvious problem of access and quality of water.[5] But taking a closer look, political phenomena with deep roots in MENA societies sometimes take on an environmental shape. The garbage crisis in Beirut and Lebanon is really about governance that fails to manage and provide basic services.[6] The ongoing Hirak protests in Algeria have been fuelled by the public's rejection of fracking for gas in the south of the country.[7] And the hazardous recycling of Israeli e-waste in Palestinian villages in the West Bank is an expression of the asymmetric power relations between the occupier and the occupied.[8] These examples signify 'a broader conceptualization of the environment as an important zone of political contestation and social life in the region'.[9]

As a backdrop to the analysis of a just and peaceful transition in MENA, this section aims to give a snapshot of the state of sustainable development, specifically water, climate change and insecurity, and show how its various aspects are linked in ways that require a systemic approach to what is essentially a confluence of crises.[10] The Arab Sustainable Development Report of 2020 finds that the region is not on track to meet its targets for the UN Sustainable Development Goals (SDGs).[11] Despite its heterogeneity, a number of common barriers to sustainable development can be identified.[12] They include the absence of integrated policymaking, structural economic dysfunctionalities that lead to natural resource depletion, extreme inequality and a fundamental disrespect for human rights. Ongoing violent conflicts are immediate obstacles to sustainable development in several countries. The region is the only one where extreme poverty has increased.[13] Economic growth has not been sufficient to lift people out of poverty, since policies to distribute its benefits are either absent or ineffective.[14]

The region is highly water stressed, using more surface and groundwater than what is replenished.[15] Many of its aquifers are at high risk of becoming depleted.[16] The problem of water scarcity is exacerbated by a deteriorating infrastructure that increases losses and policies that subsidize the cost of water rather than encourage efficient use. Rapid population growth is also leading to increasing demand, while a warming and drying climate is reducing availability. Sixty percent of the region's water originates outside of its borders, such as in Turkey and Ethiopia, and almost all of the countries share aquifers and surface water with their neighbours.[17] Yet there are few transboundary agreements on the use and management of shared water and no basin-wide agreements.[18] Regional institutions, such as the League of Arab States, have not been accorded strong mandates by member states, and have consequently been unable to support them in resolving bilateral differences or negotiating water sharing agreements; the Arab Water Council's draft Arab Convention on Shared Water Resources remains an unratified draft.[19] Any negotiations for future transboundary agreements face the challenge of the increasing variability

[5] Green, J., *Arab Barometer: Environmental Issues in the Middle East and North Africa* (Princeton University: Princeton, NJ, 17 Oct. 2019).
[6] Barnes, J., Davis, M. H. and Stamatopoulou-Robbins, S., 'Nature and politics', *MERIP*, no. 296 (Oct. 2020).
[7] Belakhdar, N., '"Algeria is not for sale!" Mobilizing against fracking in the Sahara', *MERIP*, no. 296 (Oct. 2020).
[8] Kalifa, T., 'The toxic trash that is poisoning the West Bank', *New York Times*, 12 Sep. 2019.
[9] Kalifa (note 8).
[10] Schaar, J., 'A confluence of crises: On water, climate and security in the Middle East and North Africa', SIPRI Insights on Peace and Security no. 2019/4, July 2019.
[11] United Nations Economic and Social Commission for Western Asia (ESCWA), *Arab Sustainable Development Report 2020* (ESCWA: Beirut, 2020).
[12] ESCWA (note 11).
[13] ESCWA (note 11).
[14] Khouri, R. G., 'How poverty and inequality are devastating the Middle East', Carnegie, 12 Sep. 2019.
[15] World Bank (ed.), *Beyond Scarcity: Water Security in the Middle East and North Africa*, MENA Development Report Series (World Bank Group: Washington, DC, 2018).
[16] United Nations Economic and Social Commission for Western Asia (ESCWA) and Bundesanstalt für Geowissenschaften und Rohstoffe, *Inventory of Shared Water Resources in Western Asia* (ESCWA: Beirut, 2013).
[17] World Bank (note 15).
[18] ESCWA and Bundesanstalt für Geowissenschaften und Rohstoffe (note 16).
[19] United Nations Economic and Social Commission for Western Asia (ESCWA), *Overview of Shared Water Resources Management in the Arab Region for Informing Progress on SDG 6.5*, Technical Paper no. 13 (ESCWA: Beirut, 3 Jan. 2018).

of stream flows and water levels as a result of climate change. Pollution and salinity threaten water quality and human health, most seriously in the occupied Gaza strip.[20]

As the impact of climate change becomes increasingly tangible and presents new and unpredicted phenomena, the MENA region is already highly exposed.[21] Rising temperatures are exacerbating the serious water crisis, reducing agricultural and livestock productivity. Heat stress is life-threatening for those working on farms and construction sites, unable to protect themselves.[22] Recent summers have seen peak temperatures, particularly in Iraq and the Gulf, which have led to higher than normal mortality.[23] Extreme weather events such as storms and floods are happening more often and in places where they have been rare, while sea level rise and salt water intrusion threaten densely populated coastal areas and river deltas. The adaptive capacity of communities and governments to deal with these impacts is undermined by conflicts and displacement that drain them of resources and institutional and social capital.

Many MENA states are led by repressive and authoritarian governments, preventing inclusive decision making and popular grievances to be expressed through a political process. With the exception of Tunisia, civil society space has been shrinking since the early openings of the Arab Spring; non-governmental organizations, individuals and journalists who question the current order are often seen by governments as security threats, making their work dangerous.[24] Widespread violence against women and children, and discrimination against migrants and domestic workers seem to represent a pattern of human rights violations in the region.[25] Although young people's perception that the standing of women in the region has improved,[26] and women's level of education is generally high, their participation in the workforce and in national parliaments is the lowest in the world.[27] The latter part of the 2010s saw an increasing number of protests and unrest in the region as mostly young people expressed their frustration and dissatisfaction with corrupt governments, poor services and high unemployment, often calling for broader political and democratic rights.[28] In the Maghreb countries, many local protests have been reported that are related to water scarcity.[29]

In its analysis of risks of conflict, instability and crisis in the Arab region, the UN Economic and Social Commission for Western Asia (ESCWA) identifies a set of risk drivers, making a distinction between mega trends that have a global impact and catalysts that are specific to the region.[30] Mega trends include demography, where the region will see continued dramatic growth, displacement and migration, climate change, urbanization and the proliferation of small arms. Catalysts of risk specific to the Arab region include food price volatility, water scarcity, governance and economic policies, radicalization and violent extremism, and falling oil rents.[31]

The persistence of violent conflicts is the most prohibitive obstacle to sustainable development in the region. Civil wars, with the involvement of external powers in Syria, Yemen and Libya, severe instability and tension in Iraq and Lebanon, and Israel's continued occupation of the West Bank, East Jerusalem and Gaza, have led to hundreds of thousands of civilian deaths, massive destruction of property and infrastructure, and the displacement of millions, depriving children of their education and making families dependent on inadequately resourced external aid. In 2019, six of the 10 countries with a military burden of 4.0 per cent or more of gross domestic product (GDP) were in the Middle East.[32]

[20] United Nations Environment Programme (UNEP), *State of Environment and Outlook Report for the Occupied Palestinian Territory 2020* (UNEP: Nairobi, 2020).

[21] Waha, K. et al., 'Climate change impacts in the Middle East and Northern Africa (MENA) region and their implications for vulnerable population groups', *Regional Environmental Change*, vol. 17, no. 6 (Aug. 2017).

[22] International Labour Organization (ILO) (ed.), *Working on a Warmer Planet: The Impact of Heat Stress on Labour Productivity and Decent Work* (ILO: Geneva, 2019).

[23] Wallace, P. and Al Ansary, K., 'Record heat sets off a cascade of suffering in Baghdad', Bloomberg, 3 Aug. 2020.

[24] Schwartzstein, P., 'The authoritarian war on environmental journalism', Century Foundation, 7 July 2020.

[25] ESCWA (note 11).

[26] ASDA'A BCW, *Arab Youth Survey: A Voice for Change* (ASDA'A BCW: 2020).

[27] International Labour Organization (ILO), 'High female education and low labour participation rates: IFAD and ILO tackle the "MENA gender paradox"', 19 July 2017.

[28] O'Driscoll, D. et al., *Protest and State-Society Relations in the Middle East and North Africa*, SIPRI Policy Paper no. 56 (Stockholm International Peace Research Institute: Stockholm, Oct. 2020).

[29] Malka, H., *Water Pressure: Water, Protest, and State Legitimacy in the Maghreb*, Analysis Paper (Center for Strategic and International Studies: Washington, DC, June 2018).

[30] United Nations Economic and Social Commission for Western Asia (ESCWA), *Trends and Impacts in Conflict Settings, No. 6: Developing a Risk-Assessment Framework for the Arab Region* (ESCWA: Beirut, 2019).

[31] ESCWA (note 30).

[32] Tian, N. et al., 'Trends in world military expenditure, 2019', SIPRI Fact Sheet, Apr. 2020.

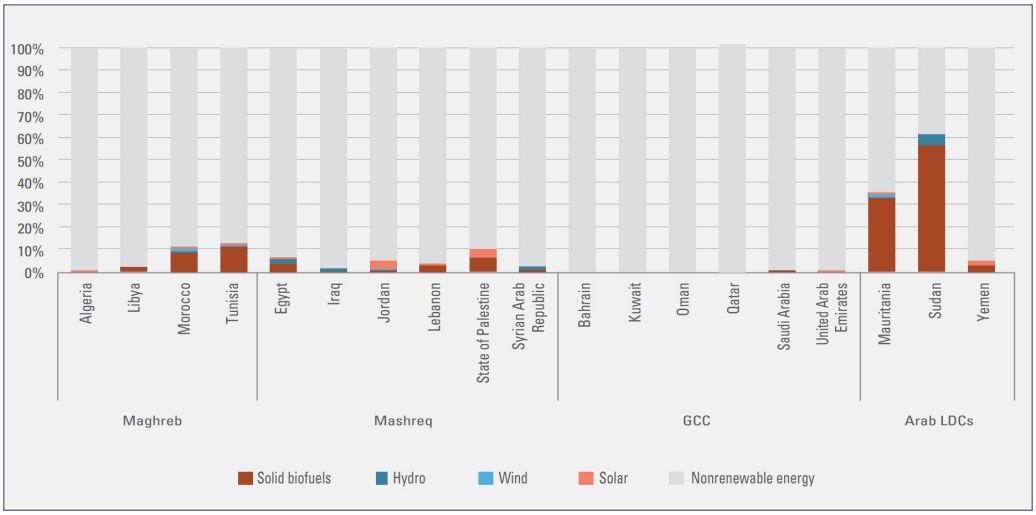

Figure 8.1. Share of renewable energy in Arab countries' energy mix, 2017

Source: United Nations Economic and Social Commission for Western Asia (ESCWA), *Advancing SDG7 in the Arab Region* (ESCWA: Beirut, 2020).

In summary, the MENA region faces increasingly serious environmental and climate threats, while suffering governance weaknesses and intersecting tensions and conflicts that cripple its ability to address them.

The current and anticipated transition

Is it possible to define what transition means in a region as heterogenous and diverse as the Middle East and North Africa? This is where some of the world's most affluent and poorest countries coexist, some in relative stability, others fragile, in violent conflict or under occupation, most being governed by authoritarian and repressive regimes and very few being open democracies. Clearly, transition must be defined and approached in different ways depending on the individual country. But the countries of the region are also connected: in addition to sharing transboundary rivers and aquifers through often contentious political and economic links, in ways that make them interdependent in all their diversity. What constitutes a just and peaceful transition in one country cannot be separated from what happens in other countries.

From a transition perspective, it is often desirable to avoid the frequently siloed and separate treatment of mitigation and adaptation.[33] But in a region on which the world has depended for decades for the production of fossil fuels, and where the Gulf Cooperation Council (GCC) group of countries have built their wealth on rents from oil exports, it is logical to maintain a distinction between mitigation and adaptation. The region can then be approached as three groupings of countries based on their relationship to the oil commodity: first, the affluent oil-producing GCC monarchies of Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates (UAE), all affected by the global transition away from fossil fuels but also with distinct adaptation needs; second, the high-population oil producers of Iran and Iraq, embroiled in tense domestic, regional and global politics and affected by the changing oil market, but also with very significant environmental and climate change impacts and adaptation needs; and third, the resource-poor, oil-importing countries of Jordan, Lebanon, Egypt, Tunisia, Morocco, Mauritania, all with high adaptation needs, particularly related to water.

A few countries are difficult to put into these categories: Algeria, exporting oil and gas, water depleted, a republic under military rule for decades; and the conflict-affected Syria, Yemen and Libya. Among the latter, conflict-affected countries, Syria and Yemen produce limited amounts of oil that have declined during ongoing conflicts, and all three have limited current capacity to articulate transition policies and strategies because of state fragility and weak institutions.

[33] Newell, P. et al., *Towards Transformative Climate Justice: Key Challenges and Future Directions for Research*, IDS Working Paper no. 540 (Institute of Development Studies: Brighton, 3 July 2020).

A general articulation of what transition means for the heterogenous MENA region can thus be made: countries need to reduce their dependence on the production and consumption of fossil fuels; they need to protect their people, and natural and built-up environments through adaptation to climate change; and they need to reverse their overuse of water.

Oil producers

The first group of countries identified above, oil producers, is affected by the global transition away from fossil fuels, which reduces the demand and price of oil and negatively impacts export revenue. The sudden drop in oil prices in 2014 and early 2020 are harbingers of what will come.[34] But these countries also seek to reduce their own domestic dependence and extremely high consumption of fossil fuels, with some of the world's highest per capita carbon footprints, and increase the share of renewable energy production. Their domestic transition is happening with investments in solar, wind and nuclear energy, but at a slow pace and inconsistently, unlikely to lead to reductions in emissions (see figure 8.1).[35] A recent analysis indicates that what domestic renewable energy production frees up in terms of fossil fuels is being used to increase exports rather than as a contribution to reducing global emissions,[36] and is driven by economic and security-of-supply rather than climate change concerns, even if it is communicated as part of a greening strategy.[37] Rating their climate strategies and contributions to the Paris Agreement's goal of keeping the temperature increase below 1.5 degrees Celsius, the Climate Action Tracker finds Saudi Arabia 'critically insufficient' and the UAE 'highly insufficient'.[38]

But whatever motivates them, transition strategies are in place in most countries in this group to manage the effects of the weakening fossil fuel markets and reduction in export revenue. They include lowering food, water and energy subsidies,[39] in some cases replaced by cash transfers or in-kind support to protect lower-income citizens,[40] together with increases in value-added taxes. Efforts at reducing migrant labour have led to the expulsion of migrants for the purpose of enrolling a larger proportion of citizens in the workforce to take jobs formerly held by migrants.[41] If efforts at reducing the dependence on migrant labour become widespread, and not only through expulsion campaigns in Saudi Arabia, this will lead to cuts in remittances sent to migrants' countries of origin.[42]

The reduction in fossil fuel rent has also entailed a drastic reduction in financial transfers from GCC countries to strategically important, resource-poor allies in the region, such as Jordan, Lebanon and others, affecting their ability to uphold price subsidies for consumers.[43] The global transition away from fossil fuels, although still slow, has significant knock-on effects in ways that change the nature of the social contract between state and citizens. In affluent GCC states, the social contract, coupled with repressive measures, may be elastic enough to endure reduced benefits, whereas the unrest now seen in other parts of the region (see figure 8.2) seems clearly linked to a weakening of states' ability to uphold their part of the social bargain in return for people's political acquiescence.[44]

For the region's oil-producing states, the contentious topic of climate change thus has an almost existential dimension by touching the very core of their economies and social contract. In negotiations under the UNFCCC, the Arab Group is led by Saudi Arabia, which tends to give priority to the interests of the oil producers, to which the convention gives special reference in recognizing the needs of countries dependent on the production of fossil fuels, who may be impacted by 'response measures' to reduce GHG emissions.[45] Their strategic aim has often been to

[34] Yaron, L., 'Will 200 rich Arab men save the world from the climate crisis?', *Haaretz*, 13 Feb. 2021.

[35] Climate Action Tracker, 'UAE', 27 Nov. 2020.

[36] Al-Sarihi, A. and Mason, M., 'Challenges and opportunities for climate policy integration in oil-producing countries: The case of the UAE and Oman', *Climate Policy*, vol. 20, no. 10 (Nov. 2020).

[37] Mills, R., 'A fine balance: The geopolitics of the global energy transition in MENA', eds M. Hafner and S. Tagliapietra, *The Geopolitics of the Global Energy Transition*, Lecture Notes in Energy, vol. 73 (Springer International Publishing: Cham, 2020).

[38] Climate Action Tracker (note 35); and Climate Action Tracker, 'Saudi Arabia', 22 Sep. 2020.

[39] Arezki, R., 'Reforming Arab economies in times of distrust', Brookings, 17 Jan. 2020.

[40] Mills (note 37).

[41] Frouws, B., 'Mass deportations looming: Saudi Arabia gears up to expel millions of migrants . . . again', Mixed Migration Centre, 12 May 2017.

[42] Pilling, D. and England, A., 'Saudi Arabia repatriating thousands of migrants back to Ethiopia', *Financial Times*, 12 Apr. 2020.

[43] Muasher, M., 'The next Arab uprising: The collapse of authoritarianism in the Middle East', *Foreign Affairs* vol. 97, no. 6 (Jan. 2019).

[44] O'Driscoll et al. (note 28).

[45] United Nations Framework Convention on Climate Change (UNFCCC), 1992, Article 4(8)(h).

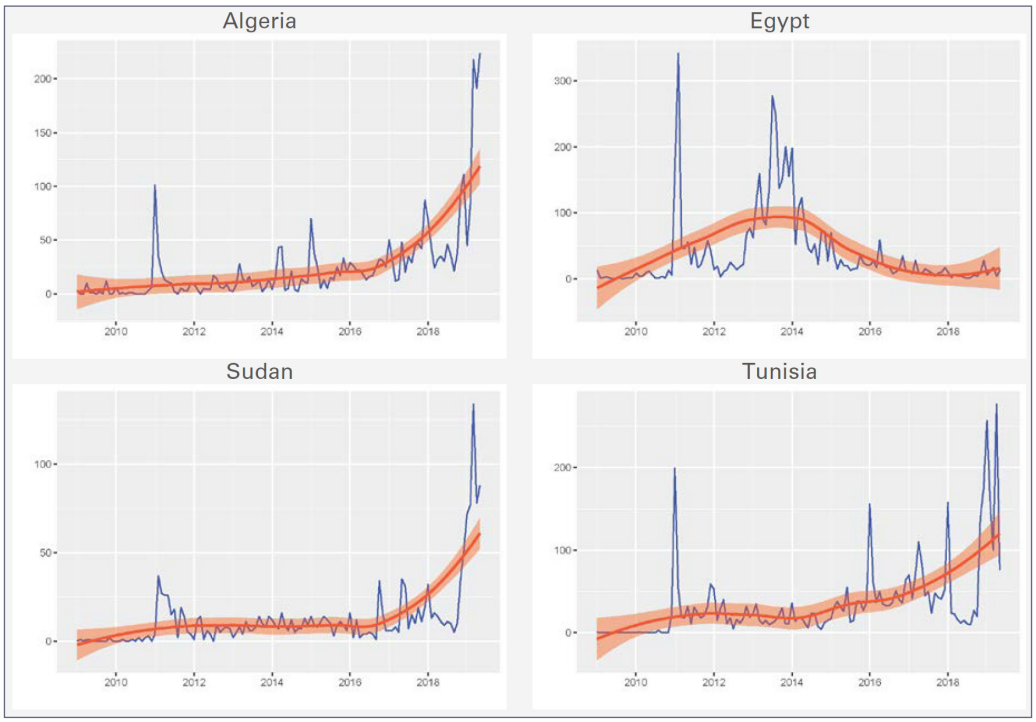

Figure 8.2. Trends in monthly riots and violence in Algeria, Egypt, Sudan and Tunisia, 2009–19

Source: United Nations Economic and Social Commission for Western Asia (ESCWA), *Trends and Impacts in Conflict Settings, No. 6: Developing a Risk-Assessment Framework for the Arab Region* (ESCWA: Beirut, 2019).

delay and minimize commitments to reduce emissions. In essence, 'GCC countries have been, and still are to some extent, an opposing force to global agreements related to low-carbon economic growth or climate change combat'.[46]

Iraq and Iran

The second group of countries, the high-population oil producers of Iraq and Iran, is facing the same declining fossil fuel markets and it also has massive adaptation needs. The two countries are affected by more frequent droughts, at the same time as agriculture remains an important employer. Further, the lingering consequences of conflict in Iraq and tensions around Iran's regional role and its nuclear programme are having decisive impacts on their transition.

Due to political instability, recurrent unrest and more than 1.5 million internally displaced people, Iraq has not been able to develop and instigate transition policies away from its dependence on oil.[47] Iraq only submitted an Intended NDC (INDC) with few details to the UNFCCC at the time of the Paris climate conference in 2015, not a finalized NDC. Its ambitious Strategy for Water and Land Resources 2015–35 remains unimplemented until now.[48] The central importance of the Euphrates and Tigris rivers for its rural economy makes Iraq highly exposed to transboundary infrastructure developments in Turkey, the riparian hegemon, and Iran, where tributaries originate.

With a high carbon footprint, and being among the world's ten largest emitters, Iran has developed a national climate change strategy.[49] In its INDC submitted in 2015, Iran declared that the implementation of mitigation measures is contingent on the removal of sanctions. Its natural resource management practices are rooted in unsustainable development policies, exacerbated by efforts at reducing the impact of sanctions and achieving economic independence, including

[46] Al-Saidi, M., Zaidan, E. and Hammad, S., 'Participation modes and diplomacy of Gulf Cooperation Council (GCC) countries towards the global sustainability agenda', *Development in Practice*, vol. 29, no. 5 (July 2019).

[47] Internal Displacement Monitoring Centre, 'Iraq', accessed 6 July 2021.

[48] Alwash, A., 'Iraq's climate crisis requires bold cooperation', Century Foundation, 14 Dec. 2020.

[49] Friedrich, J., Ge, M. and Pickens, A., 'This interactive chart shows changes in the world's top 10 emitters', World Resources Institute, 12 Oct. 2020.

through boosting food self-sufficiency, which have accelerated environmental degradation.[50] Investments in dams have had a serious hydrological impact and led to other environmental problems such as the increasing frequency of large-scale and devastating floods. Environmental degradation is exacerbated by the effects of sanctions.[51] Dam building directly affects water availability in southern Iraq, where Basra has suffered repeated water shortages during recent years.[52] Thus, sanctions against Iran have indirect and transboundary effects on Iraq.

It is clear that for Iraq and Iran, transition cannot be addressed separately from their respective economic, political and security contexts.

Resource-scarce states

The third group, resource-scarce countries, is highly dependent on fossil-fuel imports. These countries have relatively small GHG emissions but extensive adaptation needs, particularly due to a climate-related reduction in rainfall and unsustainable agricultural and water policies, leading to the depletion of shallow and deep aquifers. In this group, there are countries with some of the most ambitious climate change strategies and plans in the region, but there are also countries which are among the most exposed and vulnerable to climate change. Morocco, Tunisia and Egypt stand out, but for different reasons.

Morocco is perceived as a leader in renewable energy through its investments in photovoltaic and concentrated solar power. It is one of the few countries being rated 'Paris Agreement 1.5°C compatible' by Climate Action Tracker.[53] Consequently, it offers a test case for the economic and social implications of a seemingly successful transition trajectory. Investments are being made in large-scale, centralized solar plants connected to the national grid and with plans for future electricity exports to Europe. It was estimated that a total of 23 000 jobs would have been created in the renewable energy sector by 2020.[54]

Although Morocco contributes to making a dent in the global GHG emissions curve, while reducing its fossil fuel imports and enhancing energy security, these gains do not necessarily translate into positive outcomes for local communities in the rural areas where solar power plants are built. There is limited capital or legal provisions to promote local and small-scale solar installations that would enhance local energy production and autonomy.[55] A recent overview of studies on the social and economic impacts of renewable energy investments in Morocco finds that they have been made in accordance with long-established authoritarian power structures, reinforcing existing social and economic inequalities, and 'challenging assumptions that a low-carbon energy transition is inherently progressive'.[56]

Tunisia also faces a costly dependence on imported fossil fuels and increasingly felt climate change impacts, including reductions in precipitation with a projected drop in agricultural output, livestock productivity and cultivated area. Its NDC focuses on transiting to a decarbonized society through investments in renewable energy and increasing energy efficiency.[57] The strategy also has a strong emphasis on adaptation, such as investments in water conservation and new agricultural practices.

The attention given to Tunisia's exposure and vulnerability to climate change after the 2011 revolution found expression in the 2014 constitution, where Article 44 notes that the state shall '*provide the means necessary to guarantee a healthy and balanced environment and contribute to the climate's integrity*'.[58] Tunisia will be highly dependent on international financial support for its transition, which so far has been limited. In its Third National Communication to the UNFCCC, submitted in 2019, Tunisia mentions receiving external capacity-building support, such as for

[50] Madani, K., *Iran under Sanctions: The Unintended Environmental Implications of Iran Sanctions* (John Hopkins School of Advanced International Studies: Washington, DC, 2020).

[51] Madani (note 50).

[52] Badawi, T., 'The impacts of climate change and sanctions on Iran's water-food security nexus', ed. L. Narbone, *Revisiting Natural Resources in the Middle East and North Africa* (European University Institute: Florence, 2020).

[53] Climate Action Tracker, 'Morocco', 30 July 2020.

[54] United Nations Economic and Social Commission for Western Asia (ESCWA), *Case Study on Policy Reforms to Promote Renewable Energy in Morocco*, E/ESCWA/SDPD/2017/CP.6 (ESCWA: Beirut, 2018).

[55] ESCWA (note 54).

[56] Aoui, A., el Amrani, M. A. and Rignall, K., 'Global aspirations and local realities of solar energy in Morocco', Middle East Research and Information Project, 20 Oct. 2020.

[57] Tunisian Ministry of Local Affairs and the Environment, *Tunisia's Third National Communication as Part of the United Nations Framework Convention on Climate Change* (Ministry of Local Affairs and the Environment : Tunis, 2015).

[58] Constitution of the Republic of Tunisia, 2014.

developing its NDC, but its mitigation and adaptation needs for 2017–30 are estimated at close to $14 billion, and that does not include the infrastructure investments necessary for protecting coastlines and relocating industries and human settlements.[59] The Tunisian revolution produced an open and democratic society but expectations on a higher standard of living remain unmet, which has led to a resurgence in sometimes violent local grievances against high unemployment and failing services (see figure 8.2).[60]

Egypt is the MENA region's most populous country, just having surpassed 100 million people. Its geopolitical predicament is strongly linked with the Nile, as illustrated by the heightened tension around Ethiopia's plans for filling the Grand Ethiopian Renaissance Dam (GERD), which will strongly influence downstream Egypt and its rural economy. More than a quarter of Egypt's population is employed in agriculture and more than three quarters of the poor live in rural areas.[61] With its high degree of irrigation, Egypt has considerably higher agricultural productivity than the rest of the region but still needs to import around one third of its wheat consumption, being the largest wheat importer in the world.[62] Egypt has experienced recurrent food riots when the price has gone up or government subsidies have been reduced.[63]

Most of Egypt's agricultural production and its industrial base are concentrated in the fertile Nile Delta, which is increasingly threatened by sea level rise, inundations and salt water intrusion. The growing precariousness of livelihoods in the delta contributes to migration to Cairo and other population centres.[64] Being potentially self-sufficient in oil and natural gas, with small investments in renewable energy, Egypt is less dependent on a low-carbon transition than Morocco and Tunisia.[65] But with its dependence on a continued regular and predictable flow of the Nile, and its large agricultural sector and high level of food imports from Russia and other countries, Egypt's transition is partly linked to factors beyond its own control, including successful adaptation in the agricultural sector in the countries from where it imports its food supply.

Egypt's NDC from 2017 presents no quantitative targets but mentions adaptation priorities in the form of new agricultural practices, cropping patterns and water management.[66] Its mitigation actions focus on energy efficiency, the reduction of energy subsidies and investments in renewables. One project funded by the Green Climate Fund (GCF) states a goal of 20 per cent renewable energy generation by 2022.[67] The priority given to the Nile Delta is expressed in another GCF-funded project, which aims to protect the delta and the North Coast from flooding and sea level rise.[68]

Algeria

The hydrocarbon industry has played a prominent role in Algerian domestic politics in recent years. Algeria is a major producer and exporter of natural gas, being the 5th largest producer in the world in 2015.[69] Natural gas represents 98 per cent of Algeria's export earnings and 60 per cent of government revenue, although exports have declined in the face of increasing domestic consumption.[70] Algeria's INDC was submitted in 2015 and provides a relatively sketchy account of its ambitions to increase renewable energy to 27 per cent of electricity production and reduce

[59] Tunisian Ministry of Local Affairs and the Environment (note 57).

[60] Forum Tunisien pour les Droits Economiques et Sociaux (FTDES) issues a report on such events on a trimester basis. The issue for the third trimester of 2019 reported 1986 collective protests.

[61] United Nations Economic and Social Commission for Western Asia (ESCWA) and Food and Agriculture Organization of the United Nations (FAO), *Arab Horizon 2030: Prospects for Enhancing Food Security in the Arab Region: Technical Summary*, E/ESCWA/SDPD/2017/1/SUMMARY (United Nations: Beirut, 2017).

[62] 'Egypt increases imports, encourages domestic production to maintain food security amid pandemic', *Egypt Independent*, 13 Oct. 2020.

[63] Abdelrahman, 'Food riots and the Arab Spring', Something About Everything, Medium.com, 11 Aug. 2019.

[64] International Organization for Migration (IOM), *Pilot Project: Assessment and Strategy Development to Respond to Sea Level Rise on Human Mobility in Abu Qir, Egypt* (IOM: Cairo, 2014).

[65] US Energy Information Administration (EIA), *Country Analysis Brief: Egypt* (EIA: Washington, DC, 24 May 2018).

[66] Egyptian Government, *Egyptian Intended Nationally Determined Contribution*, United Nations Climate Change, Nationally Determined Contributions Registry (Egyptian Government: Cairo, 2017).

[67] Green Climate Fund, 'FP039', GCF-EBRD Egypt Renewable Energy Financing Framework, accessed 6 July 2021.

[68] Green Climate Fund, 'FP053: Enhancing Climate Change Adaptation in the North Coast and Nile Delta Regions in Egypt', Funding Proposal, B.18/08, 2 Nov. 2017.

[69] Worldometer, Algeria natural gas reserves, production and consumption statistics, accessed 6 July 2021.

[70] Boersma, T., Vandendriessche, M. and Leber, A., *Shale Gas in Algeria: No Quick Fix*, Policy Brief (Brookings: Washington, DC, Nov. 2015).

emissions by 7 per cent by 2030, contingent on external financial support.[71] The INDC emphasizes the lower emissions of natural gas compared to oil, thus arguing that Algeria already contributes to global emission reduction targets.

In the wake of the oil price collapse in 2014, the government was eager to increase its natural gas production and exports, planning to use fracking technology to access shale gas in the southern parts of the country. Concerns about contamination of shallow ground water and fossil aquifers led to intense and non-violent popular protests with anti-colonial overtones as French companies were involved in piloting fracking.[72] The government responded with both repressive and co-optation measures, but ultimately the protests resulted in the government announcing a halt in fracking activities in May 2015, which is still in effect.[73]

The experiences from the anti-fracking movement, and its evoking the theme of sustainable management of Algeria's natural resources, have been carried forward and played central roles in the popular Hirak uprisings, with demands for change in the closed and autocratic political system.[74] Algeria thus constitutes an exception in the MENA region, as environmental concerns have become a central political issue, although they are merged with broader social, economic and political grievances that remain unresolved.[75]

Syria, Yemen and Libya

Even if open armed conflict has abated somewhat during the past year, Syria, Yemen and Libya are still in a fragile state, with a number of obstacles standing in the way of initiating and implementing transition strategies. This is a situation they share with other fragile and conflictual states, which find themselves among the world's most exposed and vulnerable to the impacts of climate change. Large-scale displacement, weak and fractured institutions and damaged infrastructure are among them. Syria submitted an NDC in 2018, with a narrative which turned against an international community that 'supports terrorism' by sanctioning the repressive state.[76] Yemen submitted an INDC in 2015. Libya has not submitted any commitment document to the UNFCCC, although an assessment of adaptation and mitigation needs was done by the UN in 2018.[77]

All three countries are faced with increasing temperatures and declining rainfall, finding themselves in situations of dwindling water resources that predate climate change impacts.[78] Individually, they are embroiled in the climate and environmental crises in ways that have to do with their governance and history of conflict. In Syria, much has been made of the long and climate change-related drought preceding the outbreak of civil war in 2011, and whether the ensuing migration of destitute farming families to the cities was a causal effect behind the conflict. But several studies have convincingly found that political factors in a repressive environment were behind the uprising, although displaced farmers were indeed a very vulnerable group at the time.[79] In Yemen, increasing pressure on natural resources, particularly land and water, had led to social tension and local conflicts during the years before the civil war, factors that have been little recognized in the analysis of the current conflict.[80] Finally, Libya, depending solely on oil exports for its revenue and for its domestic energy consumption, has the highest per capita carbon footprint in Africa.[81] Control over the oil industry and the role of the National Oil Corporation are elements in the ongoing conflict and in the involvement of external powers. The unsustainable use of the vast fossil Nubian Sandstone Aquifer, not recharged, and shared with Egypt, Sudan and Chad, adds a contentious transboundary element to its current predicament.[82]

[71] Algerian Government, *The People's Democratic Republic of Algeria: Intended Nationally Determined Contribution*, United Nations Climate Change, Nationally Determined Contributions Registry (Algerian Government: Algiers, 3 Sep. 2015).

[72] Sowers, J., 'Environmental activism in the Middle East and North Africa', *Environmental Politics in the Middle East* (Oxford University Press: Oxford/New York, 1 Nov. 2018).

[73] Belakhdar (note 7).

[74] Belakhdar (note 7).

[75] International Crisis Group, 'Algeria', accessed 6 July 2021.

[76] Syrian Government, *Nationally Determined Contributions under Paris Agreement on Climate*, United Nations Climate Change, Nationally Determined Contributions Registry (Syrian Government: Damascus, Nov. 2018).

[77] United Nations, *Libya Joint Country Assessment 2018: Pathways towards a Stable and Resilient Libya* (UN: New York, 29 Aug. 2018).

[78] ESCWA (note 3).

[79] Daoudy, M., *The Origins of the Syrian Conflict: Climate Change and Human Security* (Cambridge University Press: Cambridge/New York, 2020).

[80] Lackner, H. and Al-Eryani, A., 'Yemen's environmental crisis is the biggest risk for its future', Century Foundation, 14 Dec. 2020.

[81] United Nations (note 77).

[82] United Nations (note 77).

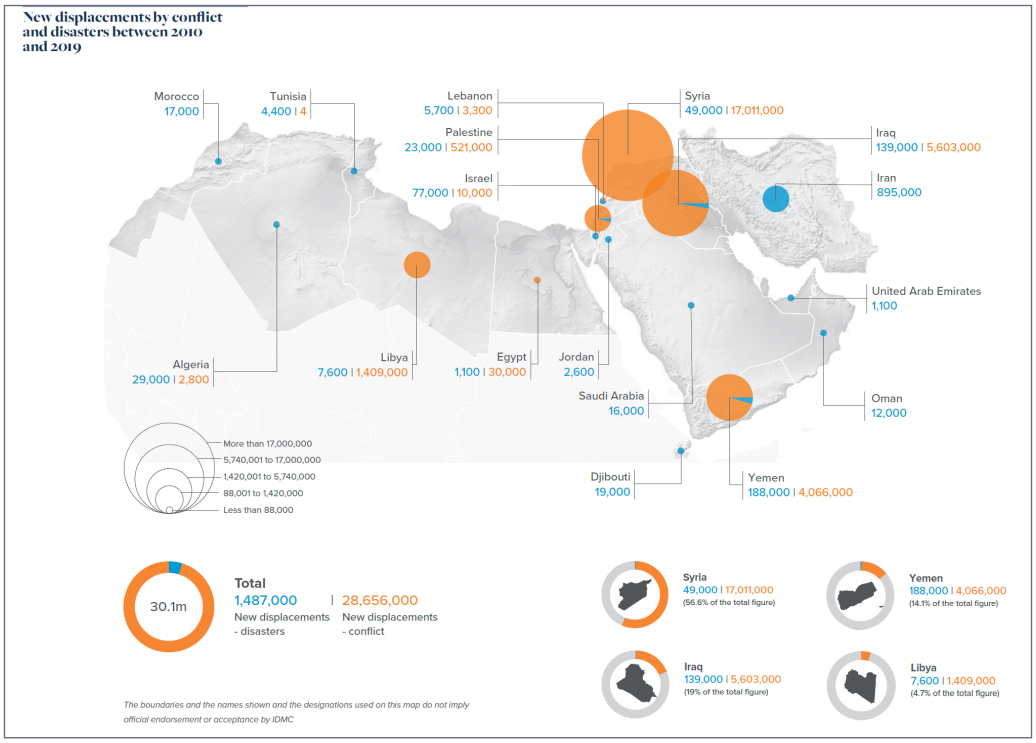

Figure 8.3. Number of displaced persons by conflict or natural disasters in MENA, 2009–19

Source: Anzellini, V. et al., *A Decade of Displacement in the Middle East and North Africa* (Internal Displacement Monitoring Centre: Geneva, 2020).

In all three cases, it is necessary to incorporate the management of natural resources and the current and likely future impacts of climate change in efforts at stabilization, recovery and peacebuilding. This is important not least when planning for the return of refugees and the internally displaced to their communities of origin, in order to minimize the risk that the seeds of renewed conflict have been built into peace agreements and recovery plans.

In summary, the MENA region is seriously impacted by different aspects of the climate and environmental crises, facing bleak scenarios that will make life increasingly difficult. With some exceptions, such as in Morocco and Tunisia, climate change and the environment play minor roles in government planning and investments. Transition actions are more often taking place by default than design, as autonomous responses to weakening oil markets, energy dependence, drought, water scarcity and heat stress, rather than the result of deliberate and comprehensive transition policies and strategies. Still, the international discourse on sustainable and low-carbon development does have an impact on national agendas, although the frequent stifling of open debate involving independent media and civil society is an obstacle to policy progress. The following section will address who is at risk in the transition that does take place.

Who is at risk and who will benefit from current and future change?

How can we identify those at risk and those who stand to gain from climate and environmental change and from transition measures, in a region which has seen such an increase in human insecurity and vulnerability over the past decades? The inescapable starting point is to look at current broad categories of vulnerable groups and assume that they are inherently exposed to the additional burden of climate and environmental change and their social, economic and political implications, as well as to possible unintended effects of transition strategies. In the near absence of comprehensive national transition strategies, vulnerable groups will engage in autonomous action, employing traditional risk management, which will have limited value as the crises they face gradually go beyond anything they and their communities have experienced in the past.

The following is not intended as a complete inventory of these vulnerable groups, but rather a suggested approach to the identification of risk and vulnerability in the context of adaptation

and transition. Special attention is thus given to (*a*) those displaced by conflict, (*b*) the rural and urban poor, and (*c*) migrants. A fundamental premise is that their vulnerability is exacerbated by climate change and that enhancing their resilience and adaptation, and their transition to a low-carbon society, must be done through one integrated approach.

Refugees and the internally displaced

This first group includes 16 million people uprooted and displaced by conflict, either as internally displaced persons (IDPs)—11.7 million, representing 3 per cent of the region's population[83]—or as refugees in neighbouring countries—2.7 million.[84] Many of them have been displaced two or three times, sometimes because of floods in their area of refuge (see figure 8.3). Whether their status as refugees is recognized by host countries or not, they have been deprived of their livelihoods and depend on humanitarian relief. Registered refugees should enjoy the protection of host countries as defined in international law, whereas IDPs should enjoy the normal rights and protection of citizens defined in national legislation, which is regularly compromised, either because they are regarded as hostile by their governments due to their ethnicity or for other reasons, or because the state simply does not exercise territorial control. The most exposed are non-recognized refugees, particularly in countries where international organizations such as the UN High Commissioner for Refugees (UNHCR) have difficulties operating. All three categories of forcibly displaced—recognized refugees, non-recognized refugees and IDPs—exist in the MENA region.

The vulnerability of the displaced to climate change is closely connected to their uprootedness, being deprived of land or other assets and cut off from the social networks of their communities of origin. In addition to their direct exposure to extreme weather events, living in what is often inadequate shelter in high-risk areas, there are other, systemic and long-term effects of protected displacement. As administrative systems are often area-based, the displaced tend to be excluded from local and national political decision-making processes and lack access to support mechanisms. Few countries in the region have protection policies, which can lead to destabilizing friction with host communities. Governments often see return to places of origin as the only solution to displacement, excluding efforts at local integration or resettlement.

The immediate annual cost in MENA of providing the services they need is estimated at $8 billion.[85] In addition to that are the so far unestimated long-term costs of household loss of income and the loss to households and society of children who will receive inadequate or no education.

These excluding mechanisms lead to marginalization and alienation, rather than the kind of stabilizing consolidation of communities that climate change adaptation and longer-term transition policies need to rest on. Thus, long-term transition measures including the displaced must be integrated into strategies aimed at enhancing their protection, resilience and recovery. Stabilization strategies with this purpose have been launched in the region, notably by the UN Development Programme (UNDP).[86]

A special group of refugees in the region are Palestinians, uprooted from their land and property and displaced by Israel in 1948, and their descendants, under the protection of the UN Relief and Works Agency for Palestine Refugees in the Near East (UNRWA) in Gaza, the West Bank, Lebanon, Jordan and Syria. With no access to land, and without permission to enter the formal labour market in Lebanon and Syria, their existence has become increasingly precarious during UNRWA's funding crisis over the past years, triggered by the withdrawal of the USA as a lead donor.[87]

Many forcibly displaced in the region find work in the informal labour market, particularly in countries where their refugee status is unrecognized, as documented in a research project at the

[83] Anzellini, V. et al., *A Decade of Displacement in the Middle East and North Africa* (Internal Displacement Monitoring Centre: Geneva, 2020).

[84] United Nations High Commissioner for Refugees (UNHCR), *The Middle East and North Africa* (UNHCR: Geneva, 21 May 2020).

[85] Anzellini et al. (note 83).

[86] Khoday, K., *SDG Achievement in Crisis Contexts: Climate Change, Energy and Nature Based Solutions for Conflict Affected Communities in the Arab Region* (United Nations Development Programme: Amman, 2018).

[87] United Nations, 'UNRWA faces greatest financial crisis in its history following 2018 funding cuts, Commissioner-General tells Fourth Committee', Press release, 9 Nov. 2018.

American University in Beirut.[88] Their income will thus fluctuate with the state of the economy in host countries, including during climate-related market impacts, and as illustrated by the serious downturn during the Covid-19 pandemic in 2020.[89]

Within the group of displaced, women often face additional vulnerability under stressful conditions, as domestic violence increases and their rights and voice are excluded.[90] Displacement tends to reinforce pre-existing discrimination and socio-economic disadvantages, impacting on women's ability to secure decent livelihoods, find shelter and security, and access education and healthcare. Women are also more likely to flee in the face of conflict, violence and natural disasters, and are therefore at greater risk of displacement.[91]

The rural and urban poor

Second, the rural and urban poor constitute increasingly vulnerable groups. Although agriculture only contributes to a small portion of GDP in many countries in MENA, it is still the leading employer, particularly in the most populous ones, such as Egypt, Morocco, Syria and Yemen.[92] Rural and urban households are not distinct and separate categories, but rather connected in an internal migration dynamic which has a rural and an urban dimension. When a rural household extends its livelihood options by sending one or several household members, temporarily or permanently, to urban centres, it diversifies its economic base and distributes and reduces risk by participating in both rural and urban economies. In cities, they tend to end up in the informal sector with little access to services and social protection,[93] while the rural poor face increasingly precarious conditions as MENA states' investments in agriculture stagnate and productivity wanes.[94] In addition, climate change affects productivity and food security, particularly in areas dominated by rainfed farming.

Agricultural adaptation to hydrological and temperature change, as well as to extreme weather events, happens when farmers change agricultural practices and their choice of crops or varieties and increase irrigation (when possible). Some of these measures are autonomous and within the reach and experience of farmers but, as climate change impacts become more tangible, they increasingly depend on external support and state intervention. Access to agricultural insurance is generally very low in the region.

The large cities where rural migrants arrive tend to grow without planning and adequate housing, leaving the poor exposed to extreme weather events, floods in particular, air pollution and poor services, notably water and energy.

Migrants

A third and heterogenous vulnerable group consists of migrants, other than the forcibly displaced above, although it is sometimes difficult to make clear distinctions between the two groups.

Cross-border migration patterns in MENA are complex. They include people originating from both outside and within the region who seek employment as regular or irregular migrants, most often in GCC countries. Some of them come from the Horn of Africa and travel through Yemen on their way to Saudi Arabia and other Gulf countries.[95] Additionally, people from sub-Saharan Africa transit through migration hubs, particularly Libya and Egypt, in search of refuge and/or employment in Europe.

Analysis of current and future climate change impacts on migration in MENA needs to identify the effects both on *existing* patterns, where climate-related developments in migrants' countries of origin outside MENA may impact their decision to migrate, and on *new* internal and international migration. This means migratory movements to, from and within the MENA region. Although

[88] Yassin, N., Mourad, Y. and Baroud, M., 'Understanding informal adaptive mechanisms, resilience, and agency among Syrian refugees working in the informal economies of Lebanon and Jordan', American University of Beirut, [n.d.].

[89] Kattaa, M., Kebede, T. A. and Stave, S. E., *Impact of COVID-19 on Syrian Refugees and Host Communities in Jordan and Lebanon*, Evidence brief for policy (International Labour Organization: Beirut, 2020).

[90] Cazabat, C. et al., *Women and Girls in Internal Displacement* (Internal Displacement Monitoring Centre: Geneva, Mar. 2020).

[91] Cazabat et al. (note 90).

[92] ESCWA and FAO (note 61).

[93] Kattaa, Kebede and Stave (note 89).

[94] Kattaa, Kebede and Stave (note 89).

[95] United Nations Economic and Social Commission for Western Asia (ESCWA) and International Organization for Migration (IOM), *2015 Situation Report on Internal Migration*, E/ESCWA/SDD/2015/1 (ESCWA: Beirut, 2015).

most environmental or climate-induced migration to date is internal, it is to be expected that such factors will play an increasing role in the future.[96]

Thus, there is also the need to identify possible interaction between climate change and conflict that causes forced displacement or mixed migration. Further, any analysis of climate change impacts on migrants must recognize that migrant vulnerability has a strong gender dimension, particularly given that women constitute a large portion of migrant workers in the Middle East.[97]

With clear implications for migration, a place of special concern in the region is the densely populated Nile Delta in Egypt, with its coastal front on the Mediterranean, which hosts more than one third of the rapidly growing Egyptian population. As mentioned above, this is where a major part of Egypt's agricultural production and industrial activities take place. A 2014 study by the International Organization for Migration (IOM) found that the delta is seriously threatened by sea level rise, salt water intrusion and subsiding land.[98] If the flow of the Nile should be reduced due to the construction of the GERD in Ethiopia, climate change or for other reasons, the risk of salinization will increase further, undermining agricultural productivity and livelihoods, and possibly increasing mobility among the very young population in the absence of other employment opportunities. In the 'Where the Rain Falls' project, internal migrants from the Nile Delta, now living in the slums in Old Cairo, were interviewed and 70 per cent mentioned both land degradation and water shortages as some of the drivers that shaped their decision to migrate.[99]

The vulnerability of migrants in the MENA region is related to violations of their rights as they travel through or reside in countries not governed by the rule of law, and their exposure to increasingly hazardous conditions as construction or agricultural workers. When there is no binding global or regional migration regime ensuring safe and orderly migration—only the important but non-binding Global Compact on Migration—it means that there are no guard rails to protect human dignity in an era of probable increasing mobility and migration.

It is difficult to identify those among the ordinary citizens of MENA countries who will gain from adaptation and transition. But there will be opportunities for investors and entrepreneurs of different kinds if an enabling business climate is at hand, including those that will benefit from the immense potential in renewable energy, solar in particular, and innovations in a green economy. Those with personal wealth will have the resources to invest in comfortable indoor temperatures, access to water, energy and food, and personal protection. There will also be opportunities in corrupt environments for those who are in positions to benefit from new investment capital flowing towards renewable energy, including nuclear power. Without structural change, all this is likely to reinforce existing disparity and inequality.

As for the groups discussed above, their inherent vulnerability is likely to increase when options and resources for autonomous measures run out; they may not be able to sustain their livelihoods, and the risk is that they resort to negative coping strategies and maladaptation. Therefore, planned adaptation and transition must be based on analyses of these vulnerabilities, to ensure enhanced resilience and the promotion of justice. The following section will explore the potential for a just transition in MENA.

A just transition in MENA: The applicability of concepts

The discourse on climate justice has become increasingly expansive during the past decade, as the pace and impacts of climate-related change are becoming more tangible and concrete and as the need for transitional change becomes overwhelming.[100] The recognition that climate change has an inherent dimension of justice—or injustice—is already expressed in the UN Climate Convention, which states that addressing climate change is a 'common but differentiated responsibility'; and it places the main burden of mitigation and supporting adaptation on developed countries, which historically have contributed the main part of atmospheric GHG build-up through burning of

[96] Burkett, M. and Risi, L., 'Reorienting perceptions of climate change', *Migration and Displacement* (Wilson Center/Adelphi: Washington, DC, [n.d.]).

[97] International Labour Organization (ILO), 'Labour migration (Arab States)', [n.d.], accessed 7 July 2021.

[98] International Organization for Migration (note 64).

[99] Warner, K. and Afifi, T., 'Where the rain falls: Evidence from 8 countries on how vulnerable households use migration to manage the risk of rainfall variability and food insecurity', *Climate and Development*, vol. 6, no. 1 (Jan. 2014).

[100] Newell et al. (note 33).

fossil fuels, although China now has the largest carbon footprint.[101] Therefore, climate justice is generally understood as a normative stance that those who carry the primary responsibility for climate change and its impacts should accept accountability. Those least responsible for carbon emissions are often the most affected and vulnerable to its impacts and they risk being further disadvantaged by responses to climate change, all of which may reproduce or worsen current inequalities.[102]

It has been claimed that current law and policy infrastructure are not fit to deal with a phenomenon such as climate change, which leads into a world of 'continual, unpredictable and non-linear transformations of complex ecosystems'.[103] Existing environmental and natural resources law assume that system stability can be preserved and restored. Also, the underprivileged now most at risk did not have a seat at the table in the colonial world of post-World War II, when current international law was drafted and agreed. Thus, 'historical injustice saturates the problem of climate change'.[104]

In addition to this, comes the complexity of assigning responsibility for the detrimental effects of burning fossil fuels that were initially unintended, but where science has led to growing awareness and insight about causal relationships, while the deliberate production, marketing and use of fossil fuels have continued, thus gradually building indisputable responsibility and accountability.[105]

On this basis, while recognizing the need to adapt existing law and develop new law fit for the era of unpredictable climate change, the discourse on climate justice generally agrees on a typology distinguishing between its procedural and distributional aspects.[106] Procedural justice deals with the way decisions are made and the extent to which those concerned are informed and able to participate and influence decisions. Distributional justice addresses issues around the fair and equal allocation of resources. Sometimes additional categories are added, such as intergenerational[107] and restorative justice.[108]

In this section, the transition to a low-carbon and climate-resilient society in MENA is discussed recognizing the close links between climate and transitional justice. Whereas the climate justice discourse originates in identifying historical responsibilities for emissions and the obligation of industrial countries to support developing countries in their mitigation and adaptation, transition justice has its roots in trade union advocacy for green jobs in the change away from fossil fuels and into green technologies.[109] But the two need to converge as climate and transition policies are addressing a set of related policy issues. States are likely to articulate their transition ambitions in the framework of NDCs, where international climate finance is becoming a prominent source of transition funding. Also, transitional justice efforts have much to learn from the rapidly growing experience in pursuing climate justice in very concrete terms. And in both cases the same two aspects are critical: how are burdens and benefits shared, and how and by whom are decisions made. The applicability of procedural and distributional climate and transitional justice in MENA is thus discussed below.

A two-track pursuit of climate justice

The practical pursuit of climate justice is generally happening along two tracks. One takes place at the global level, seeking agreement on mechanisms and commitments to ensure a concrete and resourced manifestation of justice by states parties to the UNFCCC. Its most prominent expression is the discussion on 'loss and damage', that is, the effects of climate change that go over and beyond what can be handled through adaptation.[110] This has led to the establishment of a special mechanism under the UNFCCC, albeit without a financial mechanism, which addresses

[101] Union of Concerned Scientists, 'Each country's share of CO2 emissions', 12 Aug. 2020.
[102] Newell et al. (note 33).
[103] Burkett, M., 'Behind the veil: Climate migration, regime shift, and a new theory of justice', *Harvard Civil Rights*, vol. 53 (2018).
[104] Humphreys, S., 'Climate justice: The claim of the past', *Journal of Human Rights and the Environment*, vol. 5 (2014).
[105] Rich, N., *Losing Earth: The Decade We Could Have Stopped Climate Change* (Picador: London, 2019).
[106] This would lead to 'dispensing with the victim/perpetrator dichotomy and replacing it with wrong or owed parties, on the one hand, and withholders of equitable relief on the other'. Burkett (note 103).
[107] Newell et al. (note 33).
[108] McCauley, D. and Heffron, R., 'Just transition: Integrating climate, energy and environmental justice', *Energy Policy*, vol. 119 (Aug. 2018).
[109] McCauley and Heffron (note 108).
[110] Burkett, M., 'Reading between the red lines: Loss and damage and the Paris outcome', *Climate Law*, vol. 6, nos 1–2 (May 2016).

issues such as slow-onset events, non-economic losses and climate-related displacement.[111] Other manifestations of developed country responsibilities include contributions to financial mechanisms directed towards developing countries, such as the Least Developed Countries Fund (LDCF), the Adaptation Fund (AF) and the Green Climate Fund (GCF).[112] The progressive evolution of funding modalities to provide access not only through multilateral organizations but directly to national and subnational entities in developing countries is also a practical manifestation of justice principles.

The second track uses existing legal frameworks, both international human rights law and national jurisdiction, where citizens, groups of citizens or civil society organizations litigate against states and corporations, holding them responsible for the impact of climate change at the individual level. Some 1500 such cases have been registered to date, most of them in the USA and Europe, where governments are held accountable for not doing enough to curb GHG emissions or not taking responsibility for climate change impacts.[113]

A landmark case of the second track is *Urgenda Foundation vs the Government of the Netherlands*, where the tort of negligence was successfully used to hold the government liable for failing to adequately put in place prevention and mitigation policies to effectively tackle climate change.[114] The defendants successfully argued the need to pass legal obligations that extend beyond international treaties and include specific legal obligations towards citizens. Many other such cases are now under way.

A recent overview of research in this field found that only 1 out of 129 studies had a MENA focus, demonstrating a conspicuous absence of the region from the climate justice discourse.[115] There are many reasons for this, including limits on the freedom of expression and the immediate preoccupation of people and governments with political and social crises and security, although for many of them, the very fact of being subjected to the threat of violence and other coercive practices increases their vulnerability to climate change.[116] If resilience means bouncing back to an existence of oppression and injustice, it becomes a deeply flawed concept.[117] In fact, the MENA region is a universe where all manifestations of climate justice or injustice are present. It is the source of a large portion of global fossil fuel production. It is also the region where some of the most detrimental climate scenarios are envisaged. And it is a region where some of the world's most vulnerable and least responsible for climate change live. Building on recent developments in the climate justice discourse, it is instructive to approach the MENA universe from the procedural and distributional justice perspectives.

Procedural justice

Ensuring a just transition and minimizing undesired impacts requires open and democratic participation in policy development and planning by a wide range of actors and stakeholders, such as consumers, civil society groups, media, the private sector, political parties, and local and national government institutions.[118]

Thus, a just transition in the MENA region has to confront weak rule of law, non-inclusive politics and the lack of freedom of expression. Most MENA states are defined by the V-Dem project at Gothenburg University as closed autocracies or electoral autocracies, less than 10 per cent are liberal democracies (see figure 8.4).[119] According to the Freedom House index, most of them are not free, or only partly free.[120]

When policies to increase investments in renewables have been formed in the MENA region, they are the result of top-down 'authoritarian environmentalism' rather than bottom-up, inclusive

[111] United Nations Framework Convention on Climate Change (UNFCCC), 'Introduction to loss and damage', accessed 7 July 2021.
[112] United Nations Framework Convention on Climate Change (UNFCCC), 'Climate Finance in the negotiations', accessed 7 July 2021.
[113] Displacement Solutions (note 4).
[114] Displacement Solutions (note 4).
[115] Newell et al. (note 33).
[116] Mason, M., Zeitoun, M. and Sheikh, R. E., 'Conflict and social vulnerability to climate change: Lessons from Gaza', *Climate and Development*, vol. 3, no. 4 (Oct. 2011).
[117] Schaar, J., 'Resilience—Equilibrium or justice?', ALNAP, 8 Feb. 2018.
[118] Bickerstaff, K., Walker, G. and Bulkeley, H., 'Introduction: Making sense of energy justice', eds K. Bickerstaff, G. Walker and H. Bulkeley, *Energy Justice in a Changing Climate* (Zed Books: London, 10 Oct. 2013).
[119] Lührmann, A. et al., *Democracy Report 2020: Autocratization Surges—Resistance Grows* (University of Gothenburg, Varieties of Democracy Institute (V-Dem): Gothenburg, Mar. 2020).
[120] Freedom House, 'Countries and territories', Database, accessed 7 July 2021.

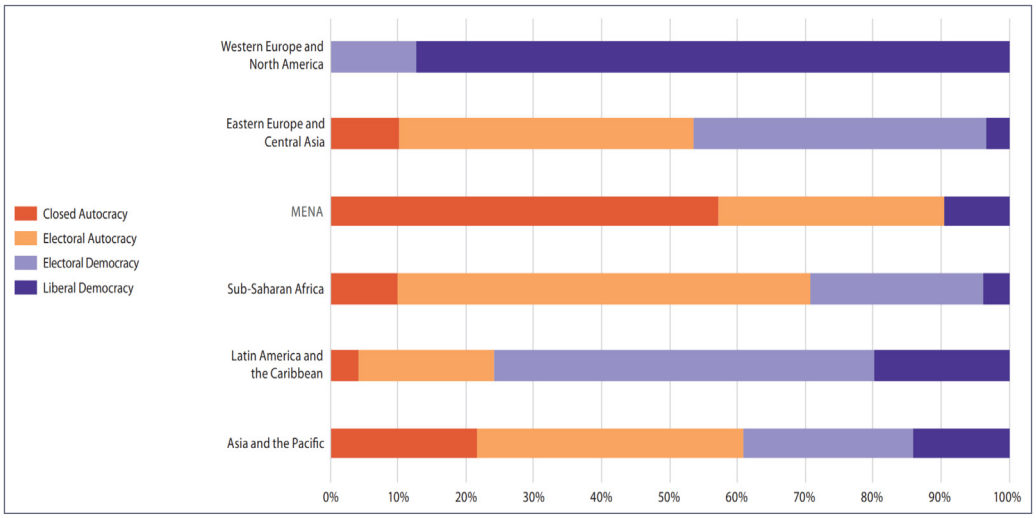

Figure 8.4. Regime types by region, 2019

Source: Lührmann, A. et al., *Democracy Report 2020: Autocratization Surges—Resistance Grows* (University of Gothenburg, Varieties of Democracy Institute (V-Dem): Gothenburg, Mar. 2020).

policy formation.[121] This is the case for the GCC countries Egypt and Morocco. The exception in the region is Tunisia. Popular protests with an environmental focus but directed at deeper governance problems have been largely unsuccessful, such as during the Lebanon waste crisis or against fracking in Algeria.

If there are deep problems with regard to procedural justice at the national level in MENA, its positioning and action during global climate negotiations have not either been to advance the mitigation agenda. Sometimes identified as spoilers, Saudi Arabia and Kuwait joined Russia and the USA in watering down the approval of the landmark UNFCCC report on the need to keep global warming below 1.5ºC.[122] In fact, representatives from other MENA states have expressed their frustration at being confined to the Arab group when their national climate interests so clearly diverge from those of the GCC.[123]

Distributional justice

Distributional justice is about how burdens and benefits of climate change or transition are allocated across society, that is, what is distributed, how and to whom, whether intended or unintended.[124] This includes investments, the role of mediating and representative institutions involved, and the policies and principles that guide allocations.

Allocation of financial resources can be based on revenue through national budgets or from international contributions, off or on budget. Although a low priority is given to adaptation and transition in many MENA countries, with the exception of market-driven increases in renewable energy investments, it is still relevant to look at national climate strategies and the priorities and constituencies that they identify. The more elaborate and concrete NDCs from MENA states are those from the non-oil producing countries already suffering severe climate impacts, such as Jordan, Morocco and Tunisia. They identify their priorities in the areas of energy, agriculture and water management for agricultural and household needs. They tend to have a sector focus, rather than on the intersectoral and integral needs of vulnerable communities or groups.

These states express the need for external financial support to implement climate strategies, thus effectively taking on the role of mediating and distributing climate justice, albeit in the form of the limited funds available through external contributions. Several states have applied for and received funding from the AF and GCF, although projects in MENA funded by them are relatively few compared to other regions. Five countries receive AF funding for one project each: four in

[121] Sowers, J. L., 'Institutional change in authoritarian regimes: Water and the state in Egypt', eds S. van Deveer and P. Steinberg, *Comparative Environmental Politics: Theory, Practice, and Prospects* (MIT Press: Cambridge, MA, 2012).
[122] Watts, J. and Doherty, B., 'US and Russia ally with Saudi Arabia to water down climate pledge', *The Guardian*, 9 Dec. 2018.
[123] Official from an environmental ministry in a non-oil producing MENA state, Personal communication with the author, Jan. 2020.
[124] McCauley and Heffron (note 108).

agriculture and one rural development; in three of the cases, this is implemented by international organizations—the World Food Program (WFP) and the International Fund for Agricultural Development (IFAD).[125]

The better resourced GCF supports mitigation, adaptation and cross-cutting projects, including at the subnational level, seeking to support local government to meet contextually defined needs. The fund's foremost adaptation results area is the 'most vulnerable people and communities'.[126] Fifteen MENA states receive project or capacity-building support from the GCF, the most active applicants are Morocco with 9 and Tunisia with 6 projects.[127] Many MENA projects are implemented in partnership with international organizations, such as UNDP, the UN Food and Agriculture Organization (FAO) and the European Bank for Reconstruction and Development (EBRD), with a focus on food security, water, risk reduction and renewable energy. Projects include mobilizing private capital and developing gender action plans as part of project implementation.

A deeper analysis would show to what extent implementing multilateral partners with a strong vulnerability focus and a culture and record of inclusive and participatory practices are able to influence and shape procedural justice, including in countries with authoritarian and top-down systems. If partners succeed in giving voice to vulnerable groups and communities who hold grievances against corrupt or ineffective authorities, does this result in tensions between these partners and local and national authorities? The growing number of projects in MENA supported by international climate finance provides an important area of study to elucidate the circumstances of procedural and distributive justice in rapidly changing contexts.

The analysis of the effects of large-scale renewable energy investments, referred to above, shows the potentially problematic socio-economic impact in local communities when large areas of land are taken over, the use of scarce water increases and no benefits are provided in terms of decentralized energy production.[128]

A further risk of distributional injustice is found when Gulf states extensively procure or lease land in other regions to secure their food supply, mostly in Africa, which can lead to displacement of the local population.[129] This was one of the grievances expressed by demonstrators during the uprising that led to the toppling of the government in Sudan in 2018 (see figure 8.2).[130]

The use of social protection measures is given increasing global recognition as climate-related crises, including extreme weather events, take a growing toll. In MENA, social protection has traditionally taken the form of general subsidies for food, water and energy, which have limited effectiveness in achieving poverty alleviation or resilience building.[131] In the wake of the 2008 food crisis and the 2014 drop in oil revenue, subsidies are gradually being phased out and replaced by targeted cash transfers, although their reach and coverage is still limited, particularly with regard to rural households and most often excluding informal workers and women.[132] Such transfers are a potentially effective instrument of social justice, but they are not yet a central element for that purpose.

Conclusions

In conclusion, justice related to climate change and transition is not a prominent part of any regional or national discourse in MENA, with the current focus on ongoing crises and security. A recent analysis, with a point of departure in the repressive response to the Covid-19 crisis of many MENA countries, finds that transitional justice must be based on the evolution of environmental

[125] The Adaption Fund, 'Adaption fund', [n.d.].
[126] Green Climate Fund, 'Themes', [n.d.].
[127] Green Climate Fund, 'Countries', [n.d.].
[128] Aoui, el Amrani and Rignall (note 56).
[129] Schaar (note 10).
[130] Schwartzstein, P., 'One of Africa's most fertile lands is struggling to feed its own people', Bloomberg, 2 Apr. 2019.
[131] United Nations Economic and Social Commission for Western Asia (ESCWA), *Social Protection Reform in Arab Countries*, E/ESCWA/SDD/2019/1 (ESCWA: Beirut, 2019).
[132] Lorenzon, F., Impiglia, A., and Food and Agriculture Organization of the United Nations (FAO), *Social Protection in Near East and North Africa Region, Regional Trends: Social Protection and Rural Development in the NENA Region: Regional Initiative on Small-Scale Family Farming* (FAO: Rome, 2016).

law that can only happen through a harmonious relationship between state and citizenry, which is not at hand in MENA and is even further constrained in a time of crisis.[133]

The GCC countries play a dominant role in representing MENA in climate negotiations, although the region's needs and interests vary dramatically. The fossil fuels exported by its oil-producing states, which also have very high per capita emission levels, contribute to the deep injustice experienced by the most vulnerable in poor and fragile states in the same region. Procedural justice is stifled by repressive states, an absence of the rule of law or lack of freedom of expression. Some distributive justice is mediated by governments that access limited international climate finance for adaptation and mitigation, but social policy is not geared towards building transformative resilience. Those at the receiving end of climate damage should be able to hold their governments accountable, so they do everything possible to protect them and facilitate their adaptation. But there is little recourse without the rule of law and where the hit-and-miss nature of authoritarian environmentalism, where governments may or may not get it right, is the most one can hope for. Thus, achieving justice related to climate change cannot be divorced from the broader struggle for just societies, government accountability and human rights in the MENA region.

Future action

Climate change, adaptation and transition are not at the centre of government policy in the MENA region. Existing strategies to promote renewable energy are the result of default reactions to fossil fuel dependency and volatile markets by both exporting and importing countries, rather than the deliberate pursuit of a more profound transition. And implementation is slow.

A number of large obstacles stand in the way of a different state of affairs. The immediacy of insecurity, political tension and violence tend to draw attention, policy space and human energy away from longer-term concerns, even if they inevitably and increasingly remind the region of their presence and impact. Political rivalries undermine regional institutions, curtailing their ability to help find transboundary solutions to shared environmental and natural resource problems. And authoritarian and repressive governments stifle open and informed deliberations among civil society, media, science and government institutions to develop inclusive transition policies. The authoritarian environmentalism practiced as adaptation or transition by many governments may be successful but, without transparent monitoring and corrective feedback mechanisms, could just as easily get it wrong and further deepen inequalities and vulnerability.

This milieu is not where just adaptation and transition are easily pursued. Consequently, justice in relation to climate change cannot be divorced from the broader effort to achieve social justice, the rule of law, the protection of human rights, and peace. There can be no separate policy space for climate change, the two must be one and the same.

Still, a number of conclusions and proposals can be made regarding how a just and peaceful transition can be advanced in the region, all of them intended to develop more enabling conditions for such a transition.

First, the point of departure should be the urgency to address displacement. Governments should be supported in developing inclusive and durable solutions for displacement, either as safe return, local integration or resettlement.[134] Registration of the displaced should be improved to allow them to exercise their rights as citizens, be part of the polity and access services, including education. Initiatives in support of innovations and start-ups in areas such as energy, waste management, water and food should encompass displaced communities.[135]

Second, efforts at conflict resolution should be supported and intensified, including addressing local-level conflicts linked to failing services and poor governance.

Third, progress in transition policy and action should be recognized and encouraged, including the anti-fracking movement in Algeria, food security in Sudan, legislative developments in Tunisia, enterprising innovations in energy, water, waste management and food in Lebanon and Egypt, and the immense potential for scaling up solar energy.

[133] Lokhandwala, Z., 'The fallout of COVID-19 on environmental law in the Middle East and North Africa', *Studies in Comparative and National Law* (Oct. 2020).

[134] Internal Displacement Monitoring Centre (IDMC), *Durable Solutions for IDPs: Challenges and Way Forward* (IDMC: Geneva, 11 Oct. 2015).

[135] Water and Energy for Food, 'Middle East and North Africa Regional Innovation Hub', accessed 7 July 2021.

Fourth, external partners should help create safe and protected spaces for interaction on a just transition among and between civil society, research, media and governments.

Fifth, experiences of supporting post-conflict transitional justice in the region should be revisited and learned from, from the perspective of environment and climate-related procedural and distributional justice.[136]

Sixth, MENA should be approached as a region, not as a group of individual countries, helping it overcome the weakness of its regional institutions to address shared transboundary problems and interconnected conflicts. Support for a regional dialogue working towards a security conference, addressing political as well as transition challenges, and ultimately a security framework, should be intensified.[137]

In essence, these proposals are small steps towards a just and peaceful transition in the Middle East and North Africa. It can only be led and driven by citizens and governments from within the region; recent history is full of tragic examples of external powers trying to steer its course according to their own interests. And the proposals all represent initiatives that are under way, to some extent, initiated from within the region, openly or more discretely. But MENA's transition needs external engagement and support; to succeed it must be part of a collaborative effort to address what is a shared and global challenge.

[136] Williams, R., *Judges as Peacebuilders: How Justice Sector Reform Can Support Prevention in Transitional Settings*, Discussion Paper (International Legal Assistance Consortium: Stockholm, 2018).

[137] Zogby, J., 'Biden should think big in the Middle East', *The Nation*, 12 Jan. 2021; and Koch, C. and Tabatabai, A., *The Quest to Launch Regional Integration Processes in West Asia and the Arabian Peninsula* (Istituto Affari Internazionali: Brussels, Nov. 2020).