

Oil, Heat and Climate Jobs in the MENA Region

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Introduction

The impact of global climate change on the Middle East and North Africa region is already marked and complex. In this chapter we look at three examples of this impact: Darfur since 1969, Afghanistan since 1970, and Syria since 2010. Then we discuss the politics of oil in the region and consider the possibility of campaigns for ‘climate jobs’.

We start with the long tragedy of Darfur. The rains failed in Darfur in 1969 and have never fully recovered. Some years have been worse and some better, and in the worst years there has been drought and famine. Over the last forty years a rise of 1 degree in average temperatures has contributed to reduced crop yields. Struggles over land, water and pasture have exploded into bitter conflict, and famine and war have produced a large number of refugees.¹

¹ For early work on climate change in Darfur, see N. Zeng, ‘Drought in the Sahel’, *Science* 303, 2003, pp. 1124–7; and United Nations Environment Programme, *Sudan: Post-conflict Environmental Assessment*, Nairobi 2007. More recently, there is some evidence of at least partial recovery in rainfall in the Eastern Sahel, but not in East Africa, the Horn of Africa, Western Sudan or Darfur. For an overview see I. Niang, O. C. Ruppel, M. A. Abdrabo, A. Essel, C. Lennard, J. Padgham and P. Urquhart, ‘Africa’, *Climate Change 2014: Impacts, Adaptation, and Vulnerability*, Cambridge 2014, pp. 1196–265. For more detail see A. Park Williams *et al.*, ‘Recent summer precipitation trends in the Greater Horn of Africa and the emerging role of Indian Ocean sea surface temperature’, *Climate Dynamics* 39.9, 2012, pp. 2307–28. And for a study on Darfur see C. Funk, G. Eilerts, J. Verdin, J. Roland and M. Marshall, *A Climate Trend Analysis of Sudan*, United States Geological Survey 2011.

As Amartya Sen reminds us, famines are created by the neglectful actions of governments. A kaleidoscope of factors have fed the chaos in Darfur: a proxy oil war between the US and China; the wars between North and South in Sudan; splits in the Islamist military government; military interventions and destructive meddling from Chad, America, France, Libya, South Sudan, the African Union, China, and on a smaller scale from Britain, Israel, and even Eritrea; the behaviour of Chevron and Total; the NGOs and campaigns who lobbied so hard for armed American intervention; the machinations of many aspirant local warlord/businessmen; and the cruelty of the Nimieri and Bashir dictatorships in Khartoum.²

This was no simple tale of famine, refugees and climate war. The suffering of Darfuris was exacerbated by outside forces precisely because they lived in an isolated and vulnerable place, where powerful forces could safely play with other people's lives. But underlying the vulnerability was the change in climate. In Darfur, settled farmers and migrant pastoralists had long shared water and grazing in traditional arrangements. The long years of low rainfall, and the fierce drought of 1984–1985 finally broke those arrangements, and famine was followed by war. There is not space here to follow the twists and turns of what followed. We can say, however, that at the centre of the long ordeal was a fight between small nomads and small farmers, killing each other for disappearing grass.

Darfur is just one case. There is, however, a tendency in recent literature to assume that climate change is the central driving force in most conflicts in the region and beyond Africa.³ But we have to be careful; the situation in Chad seems

2 For more on climate change, war and politics in Darfur see A. de Waal, *Famine that Kills: Darfur, Sudan*, Oxford 2005; D. Keen, *The Benefits of Famine: A Political Economy of Famine and Relief in Southwestern Sudan, 1983–1989*, Princeton 1994; J. Flint and A. de Waal, *Darfur: A Short History of a Long War*, London 2005; G. Prunier, *Darfur: the Ambiguous Genocide*, Ithaca NY 2005; J. Neale, *Stop Global Warming: Change the World*, London 2008; J. Tubiana, 'Darfur: A War for Land', *War in Darfur and the Search for Peace*, ed. A. de Waal, Cambridge MA 2007, pp. 68–91; M. O. Akasha, *Darfur: A Tragedy of Climate Change*, New York 2013; M. Mamdani, *Saviors and Survivors: Darfur, Politics and the War on Terror*, New York 2009; A. De Juan, 'Long-term environmental change and geographical patterns of violence in Darfur 2003–2005', *Political Geography* 45, 2015, pp. 22–33; A. de Waal, *The Real Politics of the Horn of Africa: Money, War and the Business of Power*, Cambridge 2015.

3 Many of the best of these books, such as C. Parenti, *Tropic of Chaos: Climate Change and the New Geography of Violence*, New York 2011, are uneven in their analysis but consistently interesting. The great strength of Parenti's work is that it is not Malthusian, and that he deals with mediated complexity. For an astringent view of what is wrong with the growing, and frankly silly, literature that tries to make statistical associations between climate and conflict, see T. Forsyth and M. Schomerus, *Climate Change and Conflict: A Systematic Evidence Review*, London School of Economics 2013. For a good survey

to have much in common with Darfur. Southern Sudan and Somalia have also suffered from serious, long running climate change, although explanations for the tragedies occurring in those countries are more complex.

Our second example, Afghanistan, is different. The drought and famine of 1970–1972 and the long drought of 1998–2004 were very probably the result of climate change. The drought of 2013–2014 certainly was, and the long-term outlook for both pastoralists and farmers is not a pleasant one.⁴ The royal government's policies turned the first of those droughts into a famine, and the resulting anger and disgust were partly responsible for the fall of the monarchy soon afterwards.

Bayakhan, a young Pashtun from north-central Afghanistan, wept as he spoke of the drought and famine and the terrible winter of 1971–1972:

In the autumn, it became clear that it was going to be a bad winter. There was no grass left in the steppe where the sheep were grazing, it was all dust, just like the tracks. Then for two nights there was a foul dust storm. The first night, a whirlwind came from downriver. You couldn't see your hand in front of your face. In the morning when we went out to the steppe to look for the animals, they were all over the place – and so were the wolves.

The carcasses stacked up. That was the sort of year it was. None of our animals died at first, but later they went hungry. Once a sheep 'falls from its stomach', it'll drop dead.

In other years, new grass was up by late February and the sheep and camels grazed their fill. This year the grass didn't grow until late March. At first you could find fodder here, at a price. But by late February it had ran out completely. My job was to find straw and take it to the sheep.

and bibliography of that literature, and of some qualitative studies in Africa, see T. Ide, 'Research methods for exploring the link between climate change and conflict', *Wiley Interdisciplinary Reviews: Climate Change*, January 2017.

⁴ The evidence is patchy. But see M. Savage, B. Dougherty, M. Hamza, R. Butterfield and S. Bharwani, *Socio-Economic Impacts of Climate Change in Afghanistan*, Stockholm 2013; V. Thomas, *Climate Change in Afghanistan: Perspectives and Opportunities*, Kabul 2016; A. K. Alim and S. S. Shobair, 'Drought and Human Suffering in Afghanistan', *SAARC Workshop in Drought Risk Management in South Asia*, Kabul 2010; United Nations Environmental Program, *Climate Change in Afghanistan: What Does It Mean for Rural Livelihoods and Food Security*, 2016; Parenti, *Tropic of Chaos*, pp. 97–112; J. Shroder, 'Characteristics and Implications of Climate Change in Afghanistan and Surrounding Regions', *Transboundary Water Resources in Afghanistan: Climate Change and Land-Use Implications*, eds. J. Shroder and S. J. Ahmad, Oxford 2016, pp. 145–60; and M. Barlow and A. Hoell, 'Drought in the Middle East and Central-Southwest Asia During Winter 2013/14', *Special Supplement to the Bulletin of the American Meteorological Society* 96, 2015, pp. 76–83.

My trousers were frozen stiff. It was so cold you couldn't raise your arms from your sides. When we went by night to places like the main valley, we could hear wolves howling out in the snow. Once, on our way back, we were with some Omarzai, and one of them fell behind; we saw some wolves on top of a ridge and we said, 'Watch out that fellow doesn't get eaten!' We watched, but he didn't make it.⁵

In the last forty years increased heat and droughts have added considerably to people's stress. It may well be the case that farmers would have suffered far more if it had not been for foreign tolerance of a large and lucrative market for opium as a cash crop ever since the 1980s. For the time being, the impact of heat and drought has not been on the same scale as the effects of Soviet and American invasions. Bombing covers the land in unexploded ordnance, well over a million Afghans have died, another million have been maimed, and across two generations over fifteen million Afghans have been forced into exile or internal displacement.⁶

Our third example is Syria. In 2015, Colin Kelley and several other American scientists published a careful and measured paper, showing that from 2008 onwards climate-change induced drought has pushed at least a million and a half rural Syrians into migration to the cities. Western media has suggested that drought was the cause of the 2011 uprising, and in some quarters there is an argument that the wave of Syrian refugees into Europe were fleeing climate change.⁷

5 R. Tapper and N. Lindisfarne-Tapper, *A Golden Tent-Peg: Stories from an Afghan Tribal Community* (forthcoming).

6 There are now a great many books on the Afghan tragedy. Particularly useful among these are G. Dorronsoro, *Revolution Unending: Afghanistan – 1979 to the Present*, London 2000; A. Klaitis and G. Gulmamadova-Klaitis, *Love and War in Afghanistan*, New York 2005; J. Rico, *Blood Makes the Grass Grow Green: A Year in the Desert with Team America*, New York 2007; S. Cowper-Coles, *Cables from Kabul: The Inside Stories of the West's Campaign*, London 2011; and B. D. Hopkins and M. Marsden, eds., *Beyond Swat: History, Society and Economy along the Afghanistan-Pakistan Frontier*, London 2012. For regular, careful reports, see *Afghanistan Info*, published by the Swiss Committee for the Support of the Afghan People until 2017.

7 For the original, reasonable article that started the controversy, see C. P. Kelley, S. Mohtadi, M. A. Cane, R. Seager and Y. Kushnir, 'Climate change in the Fertile Crescent and implications of the recent Syrian drought', *PNAS* 112 .11, 2015, pp. 3241–6; and for a balanced judgement, see A. Randall, 'The role of climate change in the Syria crisis: how the media got it wrong', *New Internationalist blog* 10 June 2016. See also A. Voski, 'The Role of Climate Change in Armed Conflict across the Developing World and in the Ongoing Syrian War', *Carleton Review of International Affairs* 3, 2016, pp. 1201–40; S. Saleeby, 'Sowing the Seeds of Dissent: Economic Privation and the Syrian Social Contract Unravelling',

This is not what Kelley *et al* maintain. More importantly, this argument glosses over the forty-six-year rule of the Assads, and the deep hatred of most Syrians for that regime. This one-party, one-family rule has been extraordinarily repressive, during the course of which many people have disappeared, or have been killed in secret prisons.⁸ The public measure of the brutality took place in 1982, when there was a popular uprising against the regime led by the Muslim Brotherhood in the major city of Hama. This was quelled by Assad (the father) through bombing and killing some 20,000, perhaps even 40,000 citizens. The violence was so comprehensive, and effective, that it has never been possible to establish exactly how many Syrians perished. This onslaught was known internationally, but more or less ignored. Inside Syria, the massacre in Hama served to terrify the population, who remained relatively quiescent until 2011.

In 2011 hope was contagious during the Arab Springs, and Syrians, like others across the region rose up to rid themselves of a tyrannical regime. In the five years of civil war since close to half a million people have died – the majority of whom were killed by Assad’s forces, local and foreign sectarian militias, and Russian and American bombers. Syrians have been killing each other, but not because of climate change.⁹ As Karim Bergaoui and colleagues wrote in the *Bulletin of the American Meteorological Society*, ‘While the extent to which the 2007/08 drought in the Levant region destabilized the Syrian government continues to be debated, there is no questioning the enormous toll this extreme event took on the region’s population.’¹⁰ It was one more factor, and not a small one, which was followed by a further drought in 2014.

In Darfur, then, climate change was arguably the main driver in a long tragedy. In Afghanistan and Syria it was a cause for additional suffering. Looking forward, however, we can see similar climate disasters playing out again in those countries,

Jadaliyya 16 February 2012; and D. Verner and C. Breisinger, eds., *Economics of Climate Change in the Arab World: Case Studies from the Syrian Arab Republic, Tunisia and the Republic of Yemen*, Washington 2013, pp. 34–48 and 80–90.

8 The photographic evidence of the extent and horror of torture and murder in Assad’s prisons is overwhelming. See G. le Caisne, ‘“They Were Torturing to Kill”: Inside Syria’s Death Machine’, *The Guardian* 1 October 2015.

9 See R. Yassin-Kassab and L. Al-Shami, *Burning Country: Syrians in Revolution and War*, London 2016; J. Alford and A. Wilson, eds., *Khiyana: Daesh, The Left and the Unmaking of the Syrian Revolution*, London 2016; S. Yazbek, *A Woman in the Crossfires: Diaries of the Syrian Revolution*, London 2011; and S. Yazbek, *The Crossing: My Journey to the Shattered Heart of Syria*, London 2015.

10 K. Bergaoui, D. Mitchell, R. Zaaoul, R. McDonnell, F. Otto and M. Allen, ‘The contribution of human induced climate change to the drought of 2014 in the Southern Levant Region’, *Special Supplement*, 2015.

but elsewhere too, and in a much hotter world. It is useful to discriminate between three possible future effects of climate change. One is conflict and war. The second is famine. The third is long-term economic suffering. Betsy Hartmann has argued for some time that the discourse of climate refugees and climate wars serves to conceal the reality of invasions and normal capitalist economic suffering. More recently, in a brilliant essay in the *London Review of Books*, Alex de Waal has reminded us that for more than a century the truly terrible famines have occurred when a military force decides to starve a population as a weapon of war. He calls attention to the famines unfolding in Yemen and Somalia in 2017 as examples of just such manufactured starvation. ‘Starve’, he writes, can be a transitive verb.¹¹

And, of course, both Hartmann and De Waal are right. Even so, we need to keep in mind both their points *and* the reality of climate-driven economic degradation. As suggested so far for the cases of Darfur, Afghanistan and Syria, there is no pure climate disaster. But equally, there will be no pure military or political disasters in future. There is always a balance of causes, tipping more one way or another in different situations. And as global warming bites harder, the balance will shift more toward climate change as a cause for disaster. Moreover, even if we downplay the threat of climate as a cause of war or famine, we are still left with the reality that the livelihoods of many millions are being destroyed. This will, in the long term, bitterly increase inequality in any society. And even if people do not rebel or wars are started, these will be catastrophes in the lives of the population effected.

Future impacts

The region will see two other important climate-change impacts in future. One is already beginning to unfold: urban heat. We are now seeing a marked jump in global warming. By June 2016 we had seen fourteen straight months of record temperatures. The fifteen years from 2001 to 2015 saw fifteen of the hottest sixteen years since records began (the outlier was 1998). And the earth is warming faster than climate scientists expected. Temperatures have been particularly high in the Gulf region. Through June and July Iraq and Kuwait saw the highest temperatures ever, often over 50 degrees, and reaching 54 in Kuwait, 53 in Basra, and

11 A. de Waal, ‘The Nazis Used It, We Use It: Famine as a Weapon of War’, *London Review of Books* 15 June 2017; and B. Hartmann, ‘Rethinking Climate Refugees and Climate Conflict: Rhetoric, Reality and the Politics of Climate Discourse’, *Journal of International Development* 22, 2010, pp. 233–46.

52 in Gotvand, Iran. A 2016 article by Pal and Altahir of MIT predicts periods with temperatures of over 60 in much of Southwest Asia throughout the present century – recent measurements suggest this may happen earlier than anticipated.¹²

The key thing to understand here is that temperature rises as usually stated are an average. With current emissions, we can expect a rise of at least four degrees. But this will be higher on particular days, in summer, in particular places, and higher in large cities by two to four degrees. So an increase of four degrees may well be an increase of ten or twelve degrees from time to time in Baghdad or Basra. Moreover, these cities are no longer built of the old materials adapted to the local climate. People live in concrete buildings, and in great heat they will depend on electricity for air conditioning. In Iraq electricity is already intermittent. At very high temperatures, electricity supply systems in many cities will break down, partly because of the level of demand, and partly because of the effects of heat on generation plants. When electricity breaks down, the supply of water will break down as well. This is a recipe for summers from hell.¹³

The other major likely impact from climate change will be economic collapse in countries dependent on oil revenue. There is little doubt that at some point governments will want to take decisive action. A global move to electric vehicles may be the telling moment, because such a move will permanently destroy the oil economy and take the price of oil well below the cost of production. The question is when, and after how much suffering, the shift away from oil occurs. But the price of oil will collapse long before the full shift happens. That collapse only requires enough movement out of oil to create marked over-capacity in the oil industry. The effects will be abrupt, and in some countries devastating.

A whole spate of recent books, like Chris Goodall's *The Switch*, Steve Levine's *Powerhouse*, Tony Serba's *Clean Disruption of Energy and Transportation*, and Ashlee Vance's *Elon Musk*, have recently argued that the moment of that collapse is not all that far away. Care is needed with all these books, and even more so with media reports on solar power and batteries, because there is a strong element of boosterism. But their general argument appears increasingly sound. They point to the very sharp falls in recent years in the price of solar power, and argue that similar falls will accelerate in the making of car batteries. The cost of developing a new car model for the global market is enormous. When the price of batteries

12 J. S. Pal and E. A. B. Eltahir, 'Future temperature in Southwest Asia projected to exceed a threshold for human adaptability', *Nature Climate Change* 6, 2015, pp. 197–200.

13 See E. Klinenberg, *Heatwave: A Social Autopsy of a Disaster in Chicago*, Chicago 2002, for an account of the devastating effects of a far less drastic heatwave on the urban population of Chicago in 1995.

falls below a certain point, and the number of miles they can power a car without recharging rises above a certain point, manufacturers are likely to decide that all new investment should go into electric cars.¹⁴ In the summer of 2017 that moment seemed to be growing nearer. Volvo became the first major car manufacturer to announce that from 2019 all their new cars would be hybrid or wholly electric. In the same week, the new government in France announced plans to require all new cars in the country to be electric by 2040. Norway has already announced similar plans for 2015. Germany and India are also considering – but so far only considering – imposing similar rules by 2030. Political and economic competition has had a lot to do with this shift. The French initiative was explicitly framed as a riposte to Donald Trump's attempt to withdraw from the Paris climate agreement. And while Volvo is in most people's minds a Swedish car company, it is in fact owned by Geely, a Chinese holding company. Volvo announced that at first all the new electric and hybrid cars would be made in China. Although Volvo did not explicitly admit it, such a plan would serve to cement China's current lead in battery manufacture over the American corporations, and particularly over Elon Musk. This lead is the result of the kind of directed planning and continued support by the state that have made China the dominant force in global solar PV energy. Such political and economic pressures are not likely to abate. Rather, they are likely to push the technology on faster.¹⁵

Technological head starts, government support, and a number of years of very large investment will be crucial in adjusting the world to a disrupted and reconfigured auto manufacture and energy market. If the countries in the MENA region wait until the moment of disruption is upon them, the shock to state finances and migrant remittances will make it very difficult indeed to switch course. Taking action before that moment comes would save everyone a great deal of grief.

The centrality of oil

We have reviewed some of the climate related consequences of the global burning

14 C. Goodall, *The Switch*, London 2016; S. Levine, *Powerhouse: America, China and the Great Battery War*, New York 2015; T. Seba, *Clean Disruption of Energy and Transportation*, Beta 2014; and A. Vance, *Elon Musk: How the Billionaire CEO of SpaceX and Tesla is Shaping our Future*, London 2016.

15 A. Vaughan, 'All Volvo cares to be electric or hybrid from 2019', *The Guardian* 5 July 2017; A. Chrisafis and A. Vaughan, 'France to ban sales of petrol and diesel cars by 2040', *The Guardian* 6 July 2017; H. Sanderson, T. Hancock and L. Lewis, 'Electric cars: China's battle for the battery market', *Financial Times* 5 March 2017.

of fossil fuels for the region. Now we turn our attention to the consequence of the global burning of fossil fuels for the politics of the region. There is a complex interaction between oil and inequality, foreign invasions, wars and dictatorships that have afflicted the region for the last century. Understanding the profound connection between oil politics and climate change is now imperative, but still a new field of research. We have written on this at greater length elsewhere. In this chapter we can only hope to provide some food for thought.

There are three useful ways of understanding the development of capitalism. One is to observe it as an international system of inequality between states backed by force – a perspective brilliantly developed in Sven Beckert's *Empire of Cotton: A New Global History of Capitalism*. A second approach is to look at the extraordinary dynamism and the class conflicts of an industrial revolution based on the accumulation of capital through competition and exploitation – the traditional Marxist method. The third, and more recent approach, is to understand capitalism as the story of fossil fuels, first coal and then oil. Three very good recent works of the last sort are Timothy Mitchell, *Carbon Democracy: Political Power in the Age of Oil*, Jason Moore, *Capitalism in the Web of Life*, and Andreas Malm, *Fossil Capital: The Rise of Steam Power and the Roots of Global Warming*.¹⁶ All three approaches are necessary to understand both the world, and the region. We concentrate here, however, on the central importance of fossil fuels to the development of capitalism. There is, in particular, the importance of oil in war and to empires. This is partly a matter of controlling resources – as is often said, the decisive battle of the Second World War took place in Stalingrad because the Soviet Union had to stop the German army reaching the oil in Baku. There has been a somewhat similar scenario in the history of the American Sixth Fleet in the Gulf and the Mediterranean. But also, modern warfare – tanks, shock and awe, drones and all – would not be possible in a world of solar power and wind turbines. In that sense, all wars are now oil wars.

The centrality of oil to the growth of global capitalism also has had another effect. A focal part of the political conquest of the world by the shifting array of great powers has been the domination of the largest oil reserves. This, and not simply the interests of the oil companies, explains much of colonialism, but also of the unfolding tragedy since 2001. It is often said that recent US interventions

16 S. Beckert, *Empire of Cotton: A New Global History of Capitalism* London 2014; T. Mitchell, *Carbon Democracy: Political Power in the Age of Oil*, London 2011; A. Malm, *Fossil Capital: The Rise of Steam Power and the Roots of Global Warming*, London 2016; and J. Moore, *Capitalism in the Web of Life: Ecology and the Accumulation of Capital*, London 2015.

happened because America did not enjoy ‘energy independence’. This is to put the car before the horse. The United States has always consumed only small amounts of Middle Eastern oil, and uses even less now. ‘Energy dependence’ is a fiction used to justify wars to an American public who would rather not be involved. But it is true that domination of the world’s oil reserves has long been a key part of global authority. Indeed, the exposure of American weakness in the region since 2001 has been a key part of the decline of US power. A similar trajectory has been true of Soviet, and then Russian, policy in the region. The Russian state has always needed Central Asian oil, but the prize further south is global influence.

Oil also increases social inequality within countries. There are several reasons for this. The point we are making is related to, but not the same as, Timothy Mitchell’s convincing argument that, for a variety of reasons, workers in the oil industry find it much harder to exert trade union power than workers in coal or manufacturing. And where the unions in the central national industry are weak, this will affect all the unions. This in turn increases inequality, because workers find it harder to defend their incomes. We would add to this by maintaining that the oil industry requires a smaller number of workers. One result is that a small elite can monopolise a significant amount of wealth. This again reinforces inequality. Class inequality, and the transparent injustice of it, can only be held in place with a strong apparatus of repression. And, as Richard Wilkinson and Kate Pickett have discussed, the greater the inequality the unhappier the population, and the more social problems of all kinds. Unhappiness, in turn, increases tension in society.¹⁷

There is another turn of the screw. Linda MacQuaig has persuasively argued that the goal of imperial power has *not* been to keep the price of oil high to keep profits high.¹⁸ In 1928, the three largest global oil companies reached a secret agreement at Achnacarry Castle in Scotland, and the four other oil majors soon joined. The agreement shared the market between them and lasted for decades. As MacQuaig puts it, ‘Too much oil would drive the price down, which they obviously didn’t want; on the other hand, too little oil would drive the price up, potentially creating a serious downturn in the world economy, which they also didn’t want.’¹⁹ It was this cartel structure that OPEC took over in the 1960s. Except for one brief period, the American government has been able until very recently to persuade

17 R. Wilkinson and K. Pickett, *The Spirit Level: Why Equality is Better for Everyone*, London 2009.

18 L. MacQuaig, *It’s the Crude, Dude: War, Big Oil and the Fight for the Planet*, Toronto 2004. See also J. Blair, *The Control of Oil*, New York 1978; and the discussion of ‘cheap nature’ in Moore, *Capitalism*, p. ???.

19 MacQuaig, *It’s the Crude*, p. 211.

OPEC to continue keeping the price down, relying on their Saudi allies to open the taps when necessary to reduce the price of oil. More recently, the Saudi government has opened the taps to keep the price of oil low and drive fracked American oil off the market.

At first sight, these policies make no economic sense for oil producers. But there is a logic here. Not just oil, but cheap oil, is essential to capitalist development. American, British, Dutch and Saudi oil executives have always behaved as if they were obliged to respect a deeper need to keep the world economy expanding. The logic behind this is not just to secure the profit of one corporation or one industry, but to ensure the survival of the system. Nevertheless, the need to keep the price down pits the needs of the majority of the population in these countries against the policies of both local rulers and global powers. The commonality between national and global elites eats away at the legitimacy of the local rulers. That and the gross inequalities made possible from the great oil profits combine to increase repression in oil-rich countries. Reading Robert Fisk's magisterial and heart-breaking history, *The Great War for Civilisation*, there comes a moment when the reader stops, overwhelmed by the endless repetition of the same repressive relationships under so many different regimes.²⁰ It seems as if there are many ways of being the head of a state, but only one way to be an interrogator. And indeed, the similarity exists because everywhere the state stands between the majority of people and the oil wealth.

Our analysis falls into three parts. The first part focuses on small and great wars for the competition to control oil, producing invasions and civil wars that fuel each other, and how people are broken and degraded by the experience of war, repression, corruption and inequality. It is not only the oil and gas countries that pay a price. The countries that are geographically situated in-between are always 'strategically important', and are therefore often occupied or repressed. In all of this, the immediate causes of such tragedy and great grief are obvious, and so glaring that they become even harder to bear.

Our second focus is on resistance. Wars and violence may have been more bearable if Arabs, Turks, Iranians or Afghans conformed to the Orientalist trope of welcoming hierarchy and firm leadership. But conflicts tend to be fierce since the region's people, like people everywhere else, value liberty and equality. The latter fact fuels resistance, as we have seen for instance in the Arab Spring, but also many times before, throughout the whole of the 20th century, in national independent movements, Arab socialism, the revolution in Iran, and Islamism across the

20 R. Fisk, *The Great War for Civilisation: The Conquest of the Middle East*, London 2006.

region. In response to these internal conflicts, imperial and local powers invade, divide and rule, sell arms, and fight proxy wars. Sometimes various powers come together, as they have in Syria today, to stamp out any memory of the Arab Spring.

Finally, we must not forget oil corporations.²¹ These corporations, through Cheney and Bush, were key instigators of the invasions of 2001 and 2003, but they had done so much else before. We need not rehearse the details here. Moreover, the oil and other carbon corporations are global powers in their own right. The top ten companies in the Fortune Global 500 list in 2016, measured by revenue, included five oil corporations (China National Petroleum, Sinopec, Shell, Exxon Mobil, and BP), two car producers (Volkswagen and Toyota), one electricity producer (State Grid of China), one vast parking lot (Walmart) – and Apple.²² This formidable array of corporate power has, as we know from the work of Naomi Oreskes and Erik Conway, been mobilised to spread climate denial in the United States. More importantly, Oreskes and Conway point out, the corporations have been aiming not for outright denial but for muddying the waters for the majority of the audience.²³ Even more significant, however, has been the influence of oil corporations on American climate diplomacy in its various disastrous forms throughout the 20th century, and most recently under Bush the father, Clinton, Bush Jr. and then under Obama .

In sum, the burning of fossil fuels has had a plethora of impacts on the region. And there is worse to come, unless an alternative can be found. In the rest of this chapter we will sketch out that alternative and suggest which social forces might be able to put it into practice.

Climate jobs

We begin this section by explaining the concept of climate jobs, and then proceed to explore how it might apply in the region.²⁴

There are now climate jobs campaigns in Canada, South Africa, Mauritius, Portugal, Norway, Britain, and the state of New York. Most of these campaigns began with climate organisations, but most also have strong support from national

21 See particularly N. Klein, *This Changes Everything: Capitalism vs. the Climate*, London 2014.

22 At beta.fortune.com/global500.

23 N. Oreskes and E. Conway, *Merchants of Doubt*, London 2010.

24 Information on the various national campaigns is posted regularly at the Global Climate Jobs website: www.globalclimatejobs.wordpress.com.

trade unions. The idea is quite simple.²⁵ To halt climate change, we need to turn to a very low carbon economy. Globally, this requires thousands of strategies. But four steps will make the difference: first, we have to cover the world with renewable energy, mostly solar and wind power, so that we can replace all fossil fuels in the manufacture of electricity; second, we need a massive switch from cars to public transport, and we need to run almost all transport on renewably generated electricity; third, we need to convert all housing and commercial buildings in the cooler and the hottest countries in such a way that much less energy – in the form of renewable electricity – is required for heating and cooling; and finally, in many countries we need to conserve and extend dense tropical rainforests.

These measures would, it is often said, be enormously expensive. But stop and think for a moment. Enormously expensive ventures entail the creation of a very large number of jobs – that is the expense. Instead of thinking of a low-carbon world as a cost for business and governments, we should think of it as a gain for working people – and the climate. Climate jobs campaigns have conducted detailed studies in several countries so far. On a global level, they estimate that about 140 million workers could cut greenhouse gas emissions by more than 80% in twenty years, using the technology we have now. These would have to be public projects. Only governments have the necessary resources, or the necessary motivation. This will not work on the scale required simply through market forces. Government regulation will be necessary.

This would be an expensive measure, but the money can be found. Some of it could be repaid in electricity bills and bus and train tickets. In richer countries, much of the cost of increased public employment would be recouped in lower benefits and higher tax payments. The remainder of the money could be raised by taxing the income or the wealth of the very rich. This is an ambitious plan,

25 For more details on how the idea of climate jobs could work in practice, see J. Neale, ed., *One Million Climate Jobs: Tackling the Environmental and Economic Crises*, London 2014; *One Million Climate Jobs: A Just Transition to a Low Carbon Economy to Combat Unemployment and Climate Change*, Cape Town 2012; A. Ytterstad, *100,000 Climate Jobs and Green Workplaces Now: For a Climate Solution from Below* (in Norwegian), Oslo 2013; H. Ryggvik, *Norwegian Oil and the Climate: An Outline of Cooling Down* (in Norwegian), Oslo 2013; A. Ytterstad, ed., *Broen til Framtiden*, Oslo 2015; Bizi!, *Demain, 10 000 emplois climatique in Pays Basque nord*, Bayonne 2015; H. Min Cha and L. Skinner, *A Climate Jobs Programme for New York State: Reversing Inequality, Combatting Climate Change: Preliminary Recommendations*, New York 2016; M. Mineo-Paluello, *Jobs in Scotland's New Economy*, a report commissioned by the Scottish Green MSPs, 2015; Attac, *Un million d'emplois pour le climat*, Paris 2017; and J. Neale, *Our Jobs, Our Planet: Transport Workers and Climate Change*, Climate and Capitalism 2012.

but expenditure on this scale is what governments do when something matters to them. It is exactly what happened when belligerents on all sides transformed their economies during the Second World War. And during the 2008 financial crash we learned that the Federal Reserve Bank could come up with 400 billion dollars in one day if they had to. If the Earth was a bank, they would already have saved her. The climate jobs campaign's motto is 'Earth is too big to fail'.

One enormous advantage of the climate jobs campaign is political. The mainstream environmental approach to climate change has been to demand generalised sacrifice – often called 'degrowth' – to solve the problem. There is an intellectual problem with this solution. We have to decrease global emissions by at least 80% to 90%, and cuts on this level cannot be achieved by reducing consumption. The great majority of the cuts have to be done through using energy differently. Indeed, a reduction of 98% could be achieved by simply using energy differently. But there is an even bigger political difficulty with the 'degrowth' approach. Demands for cuts for sacrifice and degrowth are coming from a largely white, affluent movement, overwhelmingly from the richer countries. Calls are for small falls in the standard of living in the Global North, and an absolute block to poorer countries catching up. These calls, moreover, ring out in a context of austerity, while the majority of ordinary people in many countries are already sacrificing a great deal.

Things are changing. There are carrots and sticks. Investment in renewables is happening all over the world. Portugal kept its lights on with renewable energy alone for four consecutive days in April 2016. In Britain, the Crown Estate has joined the debate about the Hinkley Point by 'pointing out that offshore wind-farms are already being built at cheaper prices than the proposed atomic reactors for Somerset'. In Saudi Arabia, the cabinet is backing a far-reaching plan to unshackle the economy from reliance on oil. Many more examples can be given. On the other hand, because of huge public opposition, France, Bulgaria, Germany and Scotland have made fracking illegal, Obama vetoed the Keystone pipeline from the Canadian tar sands to Texas, the Ogoni resistance has paralysed Shell, and the US coal giant Peabody has filed for bankruptcy, which experts have seen as 'a sign that the most carbon-intensive fossil fuel was threatened by tightening environmental regulation'.²⁶

26 A. Neslen, 'Portugal reaches clean energy milestone', *The Guardian* 19 May 2016; T. Macalister, 'US coal giant Peabody files for bankruptcy as prices fall', *The Guardian* 14 April 2016; T. Macalister, 'Crown estate says future is in wind, not Hinkley', *The Guardian* 15 August 2016; I. Black, 'Saudi cabinet backs far-reaching plan to unshackle economy from reliance on oil', *The Guardian* 26 April 2016.

But although things are changing, they are not changing fast enough. For example, in Morocco, some 20% of electricity will soon be produced by renewable energy, but this is only 2% of the energy used in the economy as a whole. And a second example is perhaps even more disturbing. A considerable proportion of oil produced in the Middle East is used for domestic consumption. To cover these energy requirements and leave more oil for export, a number of Middle Eastern countries, including Saudi Arabia, Iran and Algeria, are now investing in nuclear rather than sustainable wind or solar power.²⁷ We will not find it easy to decarbonise the world. The leaders of the world and the corporate powers are not taking the necessary actions. We need to build a mass movement to force them to act. This may not be impossible, but will certainly be difficult. More than half of global emissions now come from the poorer countries. These emissions cannot be reduced without the enthusiastic support of majorities in those countries. We will never get that support for degrowth. And – crucially – we do not need to.

A place where the argument for sacrifice will go absolutely nowhere is the Middle East and North Africa. This is obvious in the poorer countries like Sudan and Afghanistan. But it is equally true in Iraq, Saudi Arabia, the Gulf and Algeria, the oil and gas producers, which face the prospect of economic collapse. We need an alternative that allows growth in a different economy with different fuels, that provides jobs and hope for ordinary people. There are obvious difficulties in applying a climate jobs perspective in the MENA region, and we will return to these challenges. First, though, let us look at some of the ways a strategy for nearly total decarbonisation makes particular technical sense in this region.

²⁷ *Middle East Solar Outlook for 2016*, Middle East Solar Industry Association 2016; *Evaluating Renewable Energy Manufacturing Potential in the Mediterranean Partner Countries*, International Renewable Energy Association 2015; C. Roselund, 'Solar in the Middle East and North Africa: Potential and Development', *Solar Server* 2016; A. Neslen, 'Morocco to switch on first phase of world's largest solar plant', *The Guardian* 4 February 2016; D. Cusick, 'Solar Power Invades Oil-Rich Middle East', *Scientific American* 28 September 2015; and E. Brutto and F. Abdul Magid, *Solar Energy Market in Middle East and North Africa 2016: Overview of the Solar Heat Market Trends*, DNV GL – Energy 2016. But see also the words of warning in O. Reyes, *Maps and Legends: A Critical Look at Desertec*, Devon 2012. For nuclear expansion, see B. Parkin and J. Jones, 'Petrocide: Oil in the Context of Imperialism, Resource Conflicts and Environmental Crisis', paper presented at the Historical Materialism Conference, School of Oriental and African Studies, London, 5–8 November 2015. For more recent developments in solar power, see I. Tsarpas, 'Building Big in MENA', *PV Magazine* 21 February 2017; and for Turkish plans for large scale domestic manufacture of PV cells behind a tariff wall, see I. Clover and I. Tsagas, 'Analysis: UGW Konya deal in Turkey could mark beginning of new manufacturing capacity', *PV Magazine* 21 March 2017.

On one level this is obvious – there is an enormous amount of sun in the region, and large amounts of empty space. Vast expanses of desert lands are not enough, however. Both main methods in use for generating solar power – i.e. photovoltaic cell arrays and concentrated solar power – require considerable amounts of water. However, there is still plenty of space. Moreover, the region is particularly fitted to Concentrated Solar Power (CSP). CSP is now a great deal more expensive than PV arrays, but it has the great advantage of being able to store heat throughout the night and then produce large amounts of electricity at night – PV arrays cannot do this. CSP also needs much less land. This is important because an energy system that uses some renewable energy cannot rely on solar power alone. An energy system run completely, or almost completely, on renewable energy confronts the problem of irregular supply. The sun shines only during the day, and the wind blows strong and weak in any one area. But the wind blows when the sun is not out, and when the wind falls in the Nile Delta, it is likely to be picking up in northern Sudan and Turkey. A mixture of various kinds of supply, and a mixture of supplies over long distances, is essential. That is entirely possible with modern long-distance cables. In this context, the wind resources of the region matter. There are substantial possibilities offshore everywhere. There are also enormous wind resources in Turkey and in Kazakhstan.

One consequence of this necessity to mix energy is that, contrary to common wisdom, no ‘solar revolution’ can be decentralised. This is partly because renewable energy cannot be entirely solar. But it is also because models of decentralised solar energy always focus on the provision of domestic energy, while more than half the electricity we need services transport and industry. However, there are two ways in which decentralised solar suits the region particularly well. First, it can be of use in poorer countries where the grid does not reach many villages. The portable tent top solar units utilised by yak herders in Tibet can be used as an example of a system that could work. But perhaps more importantly, local roof-top solar systems are a very good fit for urban air conditioning – you need air conditioning when the sun is shining, and in proportion to the heat. Second, renewable energy carries the possibility of transforming the economies of countries without oil or gas. To understand this, we need to think of local, national industrial capacity. The enormous renewable energy reserves of the Sahara are usually discussed in terms of potential for exports to Europe. However, for countries like Morocco, Tunisia, and Syria very large amounts of renewable electricity would make it possible for the countries to reduce the enormous cost of imported oil to almost nothing – and to power considerable industrial growth.

Transport and industry matter a great deal. On a global level, and in the Middle

East, domestic electricity is a less important end user. After all, in a post-carbon world, the oil rich and oil poor countries of the region will each still need to have an economy. These are mostly highly urbanised countries. They will need industry. That must be partly a matter of diversified manufacturing. But renewable energy manufacture, operations and export will also have to be part of that picture.

Finally, there is the matter of state action and financial reserves. Projects on the scale we are talking about can only possibly work in the necessary time scale with massive government intervention and expenditure. In this respect, many countries in the region are relatively well-placed. The oil and gas states have traditions of massive government intervention. These states have developed urban systems, secondary and higher education, health provision, and much more, sometimes from almost nothing to world-class standards. And there are very large sovereign wealth funds in some of the region's countries, as well as untapped tax bases in others. In several countries, it would make far more sense to use those funds to decarbonise the economy and build a new industrial base.

The problem of agency

That all sounds very nice. But the barriers to any such transformation of the region are numerous. These are political, and not technical, barriers. The great powers who dominate the region are committed to fossil fuels. As are the more powerful national governments, the global and national oil corporations and most of the elites. We should not underestimate the importance of the fact that all the foreign and local military forces are utterly dependent on machinery driven by fossil fuels, to which there is no real alternative.

This situation may be extreme, but it mirrors a much broader problem around the world. The Paris climate talks in 2015 made it quite clear that national governments and global elites in general are not prepared to act. The Paris agreement, in fact, provides for rising emissions every year from now to 2030. Difficult as it may be, only mass movements will be able to force governments to reduce emissions, country by country. Such conclusion makes things look particularly bleak in the MENA region. Trade union movements are relatively weak and sometimes illegal, and NGOs are often hemmed in. Mass popular movements face enormous obstacles and dangers. They have quite different, pressing, immediate concerns, and they look to ideologies quite different from northern environmentalism. Almost all movements of resistance would say they have more important things than climate change to cope with at the moment.

There are reasons enough to despair. We all know that. Any yet, the popular

movements of the region keep coming back, again and again, in ever changing forms, after defeat, after betrayals, after all the blood, because the region's people insist upon fairness and freedom. It is not time, quite yet, to write-off the possibility of democracy and equality in the MENA region. And if there is a resurgence in the power of ordinary people in the region, then it would be possible to make the argument for climate action. That could work – if the matter is framed as an argument for hundreds of thousands, and millions, of jobs now, and for an alternative to economic collapse later. And if the transformation is framed as an alternative to a world run by global oil companies, global military powers and their local allies. That could, just possibly, seize the imaginations of many people.

Summary and conclusion

We can now summarise the argument proposed in this chapter. Oil is the main problem in the MENA region, because of climate change, and because the regional economy is based on it. Heat is the consequence which will make life in much of the region very difficult, and in some places impossible. Creating climate jobs is a solution which offers the region an economic and environmental alternative. And oddly enough, oil can also be the solution, because the wealth accumulated from oil makes a swift transition to wind and solar power possible.

We are, however, still stuck in a hard place, between a menacing future and a hope which may well not come into fruition. What we need is a middle ground, a more realistic and likely scenario for the future. The difficulty is that there is no middle ground. In much of life and politics, there can always be compromises. No matter how flawed, grudging or temporary, those compromises and peace deals often allow people to muddle through. But this works only when negotiation is between people. In the current case, one negotiator is the atmosphere of the Earth. And the physics of the atmosphere do not compromise, do not listen and do not forgive. This closes the middle ground, which does not mean we should throw up our hands and insist on our revolution or nothing. The argument for climate action has been a long one, and it will stretch some time into the future. Along that journey every debate, every plan, every wind farm and solar array matters.

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