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ENVIRONMENT AND WELL-BEING

A Perspective from the Global South

I WRITE THIS FROM Bengaluru, during the lockdown imposed by the Modi government to tackle the COVID-19 pandemic. The lockdown has triggered two contrasting streams on social media. On the one hand, images of a cleaner Yamuna River, of the Himalayas newly visible from the hitherto polluted industrial towns in Punjab, and even of Mount Everest, which can now be seen from villages on the Gangetic plain, elicit comments like ‘Mother Earth is healing’ and ‘How can we retain the green dividend of COVID-19?’ On the other, the footage of hundreds of thousands of now-jobless migrant workers, confined in transit camps or desperately setting out to walk hundreds of miles to their villages, reveals the seamy underbelly of capitalist economic growth and the discrimination that runs deep in our society. In this context, with economies shattered and a global depression looming, the ongoing ‘green strategy’ debate in *NLR* may seem irrelevant. But I will argue that it is only if we engage in this debate, while using a broader, integrated socio-environmental perspective, that we can understand why ‘Mother Earth’ cannot heal herself as things stand, and why retaining the ‘green dividend’ of COVID-19 is intertwined with the fate of workers.

So far, the discussion in *NLR* has largely been restricted to the question of whether the ‘egalitarian green growth’ or ‘green new deal’ proposed by Robert Pollin should provide the road map for environmental strategy, or whether the steady-state economy propounded by Herman Daly or in fact degrowth are essential.¹ In the process, some confusion has arisen about what we mean by ‘growth’. More importantly, the debate has skirted the vital questions of what we really want—human well-being and social justice, as well as saving the planet—and how these three societal goals

are interconnected. Though written from the perspective of the Global South, I believe the arguments that follow have a general application.

I. PROBLEMS OF GROWTH

What exactly do we mean by terms like ‘growth’ and ‘steady state’? For Daly, the economy is an expanding subsystem, functioning within a finite eco-sphere; the economy’s growth is measured in terms of its increasing ‘biophysical throughputs’, which threaten to encroach upon the operation of the overall earth system. Daly calls for limits both to population growth and to the depletion of natural resources (fossil fuels, minerals; potentially water, air and soil pollution) to maintain the economic subsystem in a ‘steady state’. Since biophysical throughput is ‘coupled’ with GDP, these limits to quantitative expansion would involve a moratorium on GDP growth, although he argues that this need not jeopardize our quest for well-being, which could come from qualitative development.²

For Pollin, on the other hand, growth means rising GDP—that is, an increase in economic activity. This is inherently desirable because it is causally linked to job creation and higher incomes—and thus, implicitly, to overall well-being. His concern is that climate change threatens ecological disaster: ‘there is a non-trivial possibility that the continuation of life on earth as we know it may be at stake.’³ So he proposes an environmental strategy—a trillion-dollar global investment in clean-energy sectors, a dramatic contraction in fossil-fuel use—focused on reducing carbon emissions by 80 per cent over the next thirty years, as mandated by the IPCC, to ‘stabilize’ the climate in a way that won’t reduce aggregate income and may indeed increase it: his studies suggest clean-energy investment at this scale (1.5 per cent of GDP) will lead to significant job creation. Conversely Pollin opposes degrowth, which he understands as

¹ See Herman Daly, ‘Ecologies of Scale: Interview by Benjamin Kunkel’, NLR 109, Jan–Feb 2018; Troy Vettese, ‘To Freeze the Thames: Natural Geo-Engineering and Biodiversity’, NLR 111, May–Jun 2018; Robert Pollin, ‘De-Growth vs a Green New Deal’, NLR 112, July–Aug 2018; Mark Burton and Peter Somerville, ‘Degrowth: A Defence’, NLR 115, Jan–Feb 2019; Mary Mellor, ‘An Eco-Feminist Proposal: Sufficiency Provisioning and Democratic Money’, NLR 116/7, Mar–Jun 2019. For an overview of the debate, see Lola Seaton, ‘Green Questions’, NLR 115, Jan–Feb 2019.

² Daly, ‘Ecologies of Scale’, pp. 88–92, 101.

³ Pollin, ‘De-Growth vs a Green New Deal’, p. 5.

a contraction of GDP, and which he believes will lead to a deep recession, precipitating mass unemployment, falling living standards and a consequent decrease in well-being. As a double whammy, he estimates that even a GDP contraction of 10 per cent, far deeper than the 2008–09 recession, will only reduce carbon emissions by a tenth, not the 80 per cent required. Pollin's single-minded focus is thus on reducing the throughput of one kind of material—fossil fuel—but in a way that keeps GDP high and growing through green investment.⁴

As with Daly, the main concern of degrowthers Mark Burton and Peter Somerville is material throughput. Growth for them means a relentless quest for resource extraction, consuming not only fossil fuels but water, air, forests, croplands and fishing grounds. They argue that the material footprint of aggregate human activity is currently 1.7 times the earth's biocapacity. Hence, rather than more growth, or even Daly's steady state, they want to see economic activity shrink by some 40 per cent through drastic cuts to industrial production, construction, agriculture (fossil-fuel-dependent monocultures) and distribution (sea, air and road transportation systems). Their explicit target is the Global North, where consumption levels would be severely circumscribed. The contraction of GDP is a necessary consequence of degrowth, but they hope it can be managed equitably: 'in theory', contraction might be limited to the rich, since 'high emissions are strongly correlated with concentrations of wealth and income.' Moreover, if consumption is to be reduced, who needs the higher income? Like Daly, they assume that well-being can be decoupled from income and material consumption, especially in the high-income countries of the Global North.⁵

Examined from a Southern perspective, the relative limitations of each approach become clear. First, as Pollin himself acknowledges, 'development' cannot be reduced to GDP growth, even in developing countries. Furthermore, as many of us have long argued, GDP growth in itself is neither sufficient nor necessary to ensure true development.⁶ Since GDP is an average measure that ignores inequality, it can increase while

⁴ Pollin, 'De-Growth vs a Green New Deal', pp. 8, 17, 21–2.

⁵ Burton and Somerville, 'Degrowth: A Defence', pp. 100, 104, 102.

⁶ See Lele, 'Sustainable Development: A Critical Review', *World Development*, vol. 19, no. 6, 1991, pp. 607–21; Jeroen van den Bergh and Giorgos Kallis, 'Growth, A-Growth or Degrowth to Stay within Planetary Boundaries?', *Journal of Economic Issues*, vol. 46, no. 4, 2014, pp. 909–20.

the poor remain poor—as in Brazil, for example—or be stagnant while the well-being of the poorest rises dramatically, as the Kerala model in India has shown. The goal therefore must always be the enhancement of individual and community well-being, measured by actual physical and social outcomes across the socio-economic spectrum, and not by using average income as a proxy. Pollin’s focus on GDP—and, worse, on continued GDP growth in the Global North—is thus untenable. The moment when well-being decoupled from income has long since passed, and the North is clearly mal-developed and overgrown. GDP growth, whether as an objective in itself or a proxy for development, must be rejected once and for all.

The real question from a developing-country perspective is whether Daly’s goal of a steady-state economy with no growth in material throughput would constrain development too much. The answer is probably: yes, it would. However ‘soft’ or non-material one’s developmental strategy, it is difficult to visualize how the vast population of poor people in the Global South can achieve a modicum of development without some increase in the use of material resources for cooking, housing (including some protection from the heat) and clothing, not to mention education and travel. No doubt, the environmental impact of the 2 or 3 billion global poor moving out of poverty and achieving a ‘decent living standard’ will be small compared to the damage wreaked by present levels of (over)consumption in the Global North.⁷ Nevertheless, a strategy based on a steady state in material throughput is not appropriate at this stage for developing nations as such.

At the same time, a steady state in throughput in the rich world is not going far enough; there, degrowth—or reducing consumption—is the only tenable approach. The typical middle-class citizen in the Global North is consuming at completely unsustainable levels, on multiple fronts: carbon footprint, water use, land despoliation, destruction of biodiversity and so forth. Beyond environmental considerations, many in high-income countries suffer from the physical and psychological maladies of over-development. Reducing their problem solely to a question of excess carbon emissions which can then be solved through a transition to renewables is simply a sleight of hand. In other words, the focus everywhere must be on multi-dimensional well-being. For this, the

⁷ Narasimha Rao and Paul Baer, “‘Decent Living’ Emissions: A Conceptual Framework”, *Sustainability*, vol. 4, no. 4, 2012, pp. 656–81.

South must concentrate not on economic growth but on development to raise its level of well-being, while minimizing its environmental impact. The North must work out what's needed for it to transition to multi-dimensional well-being without further economic growth, while decisively reducing its material throughput.

2. DEFINITIONS OF WELL-BEING

At this point, we need to unpack the idea of well-being. The idea of a steady-state or sustainable economy puts constraints on material throughput, but does not tell us what life in such an economy would be like. Daly touches on this when he says that 'life ought to have some purpose beyond economic growth', and draws a distinction between 'quantitative' growth and 'qualitative' development: something can get better without getting bigger. But his approach to measuring well-being remains largely economicist: the Index of Sustainable Economic Welfare (ISEW) that he and John Cobb put forward in 1989 proposed simply to correct GDP by including unpaid domestic work and deducting 'defensive' expenditure and the depreciation of natural capital caused by environmental harm.⁸

The idea of well-being has come a long way since the appearance of Daly's ISEW, or its still-economicist successor, the Genuine Progress Indicator. Much of the initial thinking came from the development debates in the context of the Global South. At a conceptual level, Manfred Max-Neef's nine fundamental human needs were followed by Amartya Sen's notion of 'development as freedom'.⁹ In terms of metrics, the simplistic Human Development Index—life expectancy, literacy, income—has given way to more complex, multi-dimensional measures, no longer limited to the Global South: the Gross National Happiness Index, the OECD's Better Life Index, the World Happiness Report and the Social Progress Indicator (SPI), based on Sen's idea of development as freedom, which includes basic human needs (nutrition, water, sanitation, shelter, personal safety), foundations of well-being (access to

⁸ Daly, 'Ecologies of Scale', pp. 88–9. See also Herman Daly and John Cobb, *For the Common Good: Redirecting the Economy toward Community, the Environment and a Sustainable Future*, Boston MA 1989.

⁹ Manfred Max-Neef, Antonio Elizalde and Martin Hopenhayn, 'Development and Human Needs', in Ekins and Max-Neef, eds, *Real-Life Economics: Understanding Wealth Creation*, London 1992, pp. 197–213; Amartya Sen, *Development as Freedom*, New York 1999.

knowledge, information, health, environmental quality) and opportunity (individual rights, personal freedom, inclusiveness, access to advanced education). Degrowthers have also embraced the idea that well-being is not about consumption but about enhancing the quality of life through tranquillity, conviviality and rich experience. Clearly, well-being has both material and non-material dimensions.

A detailed discussion of well-being theory is beyond the scope of this article, but two points should be noted. First, Max-Neef and Sen have distinguished between the ultimate forms of well-being (health, affection, understanding, leisure) and the conditions needed to achieve them (clean air for health, for example, or green spaces for leisure), yet many measures of well-being conflate these.¹⁰ For our purposes, it is best to focus on indices of ultimate well-being. Second, many recent conceptualizations of multi-dimensional well-being implicitly include three aspects—individual, social and environmental. This can be confusing. For instance, in the SPI, while nutrition or health can be measured at the individual level, many other indices—political rights, freedom of expression, access to justice, equality of opportunity, non-discrimination on grounds of gender, sexual orientation, class or race/caste—relate to community or social relations. They fall under the broad rubric of an equitable and just society, rather than individual well-being specifically, as they are about how human beings treat each other. Similarly, the SPI includes measures of environmental quality, some of which have a direct bearing on individual well-being (such as air quality, which immediately affects individual health), while others (greenhouse gas emissions, for example) are about future planetary well-being. Similarly, ‘justice’ has often been expanded to include not only intra- and inter-generational justice, but even inter-species and procedural justice. While these ideas are important, they render the term ‘justice’ somewhat unwieldy.

To clarify matters, it may be useful to start from the position that a ‘good society’ has three distinct goals. The first is individual well-being, which has both material and non-material aspects, and is measured in terms of their level of satisfaction in the present. The second is equity, which speaks to intra-generational justice of all kinds. The third is sustainability, which

¹⁰ An egregious example is the Human Development Index, which includes life expectancy—an integral part of a better life—as well as income, which is only a possible means to one.

addresses the temporal dimension—the desire to have non-declining well-being, both for oneself and for future generations.¹¹ A ‘good society’ will aim to ensure all three. However, recognizing that ideas about individual well-being, equity and sustainability will differ among individuals, communities and cultures, we also need to specify what processes will be followed in reconciling different values and interests. Ideas of democratic decision-making, procedural justice and rights of recognition need to be foregrounded as an additional concern.

3. BEYOND SUSTAINABILITY

What is the relationship between the environment and this three-dimensional idea of a ‘good society’? The NLR discussion so far seems to treat environmental concerns as largely synonymous with sustainability. It starts with Daly’s steady state of throughput, intended to ensure sustainable, non-diminishing welfare. This is echoed in Pollin’s focus on carbon emissions as the mother of all environmental problems, one that again threatens *future* (aggregate) economic welfare due to *current* (aggregate) carbon emissions. Burton and Somerville expand the discussion to include the earth’s diminishing assimilative capacities in general, as well as the depletion of resources, but their project is still bounded by ‘ecological sustainability’—that is: our ability to continue to do in future what we are doing today.

This reduction of ‘environmentalism’ to ‘sustainability-ism’ is not new. Originating in renewable-resource management—the ability of a resource to remain as productive in the future as it is today—the term has become a green buzzword, so that ‘being sustainable’ means ‘saving the planet’ in some generalized sense, while ‘unsustainable’ means doing something today that is harming tomorrow. Clearly, the underlying ethical concern is for the future. Admittedly, the term ‘sustainability’ seems to have an appeal that ‘eco-development’ or ‘environmental soundness’ lack. It provides a positive goal and taps into a motherhood-and-apple-pie notion—concern for one’s children and grandchildren. But framing all environmental problems as sustainability issues—or

¹¹ See Lele et al., ‘Framing the Environment’, in Lele et al., eds, *Rethinking Environmentalism: Linking Justice, Sustainability and Diversity*, Cambridge MA 2018, pp. 1–22.

claiming that the entire goal of the environmental movement is to create a sustainable society—sidelines other ethical concerns that have been central to environmental thinking and that are quite distinct from concern for one's future. Two additional, semi-independent dimensions we need to consider are equity or justice, and conservation.

Environmental justice

Concern for equity, or justice, has been central to environmentalism. Many environmental conflicts are rooted in the fact that one person's actions—setting up a factory, building a dam—adversely affect someone else's well-being (health, livelihood) through inter-linked environmental processes: industrial effluents blowing downwind, or flowing downstream; village lands submerged for a dam. If the villagers, or the people living downwind from the factory, have rights to life, livelihood and a clean environment, anything that impinges upon these rights constitutes an environmental or biophysical injustice. If anyone is asked why having to breathe toxic fumes spewed by someone else is wrong, they are likely to say, 'Because it's unfair'—not, 'Because it's unsustainable.'¹²

Similarly, because natural resources are limited—environmentalism's core assumption—their distribution is a zero-sum game, which means their misallocation can be a source of injustice. If the water transported from the dam to an agricultural community is then allocated in proportion to land ownership, ignoring the rights of the landless—or when city water boards supply fee-paying households, while excluding slum-dwellers, or for cultural or historical reasons supply water to one town at the expense of another—it constitutes an issue of resource inequity, or environmental/biophysical injustice. Note that in these cases, the injustice—whether purely environmental or also social—is occurring here and now, not over a future timeframe: it is an intra-generational issue. Note, too, that the scale on which this injustice occurs is often quite localized. Notwithstanding the attempts to cast *all* environmental problems in global terms,¹³ many are actually sub-global in both their proximate causes and their impact.

¹² One could stretch the idea of 'sustainability' to say, for example, of the person dying of respiratory disease that the fumes were 'unsustainable' for them, but this framing is not consistent with commonly held values.

¹³ See, for instance, Johan Rockström et al., 'A Safe Operating Space for Humanity', *Nature*, vol. 461, no. 7,263, 2009, pp. 472–5.

I use the term ‘environmental injustice’ here in a somewhat different sense to that popularized by Robert Bullard’s *Dumping in Dixie*. What I am calling environmental or biophysical injustice refers simply to the unfair impacts of an environmental process, without reference to the social status of the polluter, or pollutee. Bullard’s pioneering work pointed out that there is almost always an additional layer of unfairness in cases of environmental injustice—what I would call ‘social injustice’—in that pollutees tend to be socially marginalized communities. Without denying that social justice often correlates with biophysical injustice, I suggest it is more useful to keep the two analytically distinct, so as to clarify the source of the inequity.¹⁴

Of course, many environmental problems have both spatial and temporal dimensions. Climate change is a classic example. Although typically framed in Garrett Hardin’s terms as a tragedy of the commons—or, more precisely, of open access to the global commons—climate change involves serious temporal and spatial asymmetries. The temporal question is well recognized—today’s emissions affect the climate over hundreds of years—hence the prevailing framing of climate change as a global-sustainability problem. But, as Anil Agarwal and Sunita Narain pointed out, there are multiple spatial asymmetries as well.¹⁵ The CO₂ that has accumulated in the global atmosphere so far has been largely the product of post-1850 emissions by the North—emissions that underpinned the prosperity it currently enjoys.¹⁶ Moreover, per capita emissions in the North are still five to ten times higher than those in the Global South. Even holding the South solely responsible for its population growth and so discounting this growth from per capita statistics—by using, say, 1990 population figures in the denominator—does not significantly change this inequity. Finally, the impacts of global warming are going to be felt more in the South, starting with the island states and monsoonal sub-tropics, than in many temperate countries; tundra-bound Canada or Russia may even welcome rising

¹⁴ Robert Bullard, *Dumping in Dixie: Race, Class and Environmental Quality*, Boulder CO 1990; and Lele, ‘Sustainable Development Goal 6: Watering Down Justice Concerns’, *WIREs Water*, vol. 4, no. 4, 2017.

¹⁵ Anil Agarwal and Sunita Narain, ‘Global Warming in an Unequal World: A Case of Environmental Colonialism’, Centre for Science and Environment, New Delhi 1991.

¹⁶ Even today, a large fraction of China’s emissions should actually be ‘debited to’ the Global North, because China is producing goods for satiating the appetites of Northern consumers.

temperatures. Add to this the social (in)justice component—that the capacity to take adaptive action is severely limited in poor countries—and one can see why most in the South talk of climate as a *justice* issue. Stepping back from parochial positions, North or South, one would say that climate change is simultaneously an environmental-sustainability and an environmental-justice question.¹⁷

This points again to the problems of the ‘equitable green growth’ position, which models aggregate emissions and aims for an ‘under 2°C world’ without foregrounding the distribution of benefits and costs. Global models of energy use and climate change typically ‘grandfather in’ the existing, asymmetrical pattern of energy use and emissions, and then speak of aggregate reductions towards some climate-stabilization goal. The 2015 Paris Accord effectively ratified this highly inequitable approach by leaving it to each country to set its own mitigation targets; the US aggravated the injustice by pulling out of even this. At the end of his piece, Pollin acknowledges that even the transition to clean energy that he proposes will end with the average US citizen emitting five times more carbon than their counterpart in India, and recognizes the gross injustice of this. But he rejects any practical possibility of equalizing emissions globally, and argues that the only feasible way of introducing an element of fairness would be to require the US to provide large-scale financial assistance to poorer countries to effect their own transition to clean energy.¹⁸ The willingness to sacrifice concern for justice on the altar of ‘global climate sustainability’ has been a hallmark of green growth thinking; what is more surprising from a Southern perspective is that Pollin calls his strategy ‘egalitarian green growth’.

A tunnel-vision approach in which CO₂ becomes the only focus risks imposing other environmental injustices.¹⁹ For instance, Pollin talks of supplementing solar and wind energy with hydropower, just when the environmental movement thought it had finally won the battle, with the World Commission on Dams Report (2000) exposing the devastating

¹⁷ John Byrne, Young-Doo Wang, Hoesung Lee and Jong-dall Kim, ‘An Equity- and Sustainability-Based Policy Response to Global Climate Change’, *Energy Policy*, vol. 26, no. 4, 1998, pp. 335–43.

¹⁸ Pollin, ‘De-Growth vs a Green New Deal’, p. 21. This suggestion seems at least as politically ‘unrealistic’ as asking for equitable emission reductions.

¹⁹ Navroz Dubash, ‘Environmentalism in the Age of Climate Change’, *Seminar*, vol. 601, 2009, pp. 63–6.

socio-environmental impact of dams, especially in the Global South. Indeed, the Indian government has seized on the opportunity presented by climate change to justify its incredibly destructive and risky large dams in the north-east in the name of ‘clean energy’. In its extreme form, carbon-centric environmentalism offers *carte blanche* to the nuclear-energy industry.²⁰

A similar tunnel vision afflicts calls to solve the climate problem through reforestation, as in Vettese’s NLR contribution. Again, the focus on reducing global CO₂ concentrations means grandfathering in current emission patterns, and ignores the fact that large-scale afforestation can impose high costs on forest- and grassland-dependent communities in the densely populated and not-yet-industrialized South. Our analysis shows that the Modi government’s Paris Accord commitment to sequester 2.5–3 billion tonnes of CO₂eq in India’s forests can only be achieved by reversing the recent achievements in decentralized governance, restoring power to the neo-colonial forest departments and significantly damaging livelihoods.²¹ Vettese uncritically supports a particularly egregious afforestation-based solution, E. O. Wilson’s ‘half earthing’, which attempts to address climate and biodiversity concerns simultaneously. Unsurprisingly, the ‘half’ of the earth to be put under ‘protection’ happens to be largely in the Global South, which has led to heavy criticism of the proposal as both unjust and ineffective.²²

The ends of conservation

When Rachel Carson’s *Silent Spring* drew attention to the connection between DDT and the decline of the bald eagle, was she thinking about the future of humankind or that of these iconic birds? What motivates campaigns to save the tiger, the whale or the butterfly? At root, the desire to preserve beautiful biota seems to stem from a spiritual or aesthetic concern (biodiversity campaigners typically do not fight for the preservation

²⁰ M. V. Ramana, ‘Second Life or Half-Life? The Contested Future of Nuclear Power’, in Thijs van de Graaf et al., eds, *The Palgrave Handbook of the International Political Economy of Energy*, London 2016, pp. 363–96.

²¹ Navroz Dubash, Radhika Khosla, Ulka Kelkar and Lele, ‘India and Climate Change: Evolving Ideas and Increasing Policy Engagement’, *Annual Review of Environment and Resources*, vol. 43, no. 1, 2018, pp. 395–424.

²² Vettese, ‘To Freeze the Thames’, pp. 65–7. See also Bram Büscher et al., ‘Half-Earth or Whole Earth? Radical Ideas for Conservation and their Implications’, *Oryx*, vol. 51, no. 3, 2016, pp. 407–10.

of rare pathogens or endangered viruses).²³ Some argue that human beings have an inherent 'biophilia', others that biota endow a sense of 'place' or 'relational value'; a more radical position accords nature the 'right' to exist independently of human well-being.²⁴ Animal-rights campaigners have raised the question of inter-species justice—the ethical imperative that we treat all sentient beings with respect. Conservation, then, may involve a combination of (spiritual) well-being and justice. Even the notion of preserving wildlife for future generations to enjoy is only meaningful if we care about these living things ourselves.

Yet as with sustainability, an exclusive focus on biodiversity can obscure questions of human, intra-generational justice.²⁵ The half-earth example illustrates this tension. By contending that biodiversity loss has reached a 'global tipping point', half-earth ecologists forget that the greatest loss of wild habitats has been in the developed North; moreover, framing biodiversity loss as a 'global' phenomenon, akin to climate change, is incorrect in that loss of biota in one place may not materially affect people elsewhere. Those advocating that 'half the earth' should be reserved as wilderness fail to consider the privileged position from which this solution emerges: to enjoy biodiversity in this way first requires the ecotourist to be living in a domesticated environment, enjoying a privileged lifestyle that is actually harmful to both climate and wilderness.

In short, environmentalism speaks to all dimensions of well-being: material and spiritual, individual and distributive, present and future. The environmental aspect has to do with the role of biophysical processes, whether in providing materials for food, shelter and clothing, or in furnishing the conditions for non-material well-being, such as

²³ The concept of 'ecosystem services' focuses on the material benefits, direct and indirect, resulting from the conservation of natural ecosystems. Its critics charge it with aiming at a 'commodification of nature'. See Kathleen McAfee, 'Selling Nature to Save It? Biodiversity and Green Developmentalism', *Environment and Planning D: Society and Space*, vol. 17, no. 2, 1999, pp. 133–54.

²⁴ Stephen R. Kellert and E. O. Wilson, *The Biophilia Hypothesis*, Washington DC 1995; Madhav Gadgil, 'Why Conserve Living Diversity?', *The Hindu*, March 29 1998, pp. 6–7; Kai M. A. Chan et al., 'Why Protect Nature? Rethinking Values and the Environment', *Proceedings of the National Academy of Sciences*, vol. 113, no. 6, 2016, pp. 1,462–5. For a critique, see Hayward, *Political Theory and Ecological Values*, New York 1998.

²⁵ See Ramachandra Guha, 'Radical American Environmentalism and Wilderness Preservation: A Third World Critique', *Environmental Ethics*, vol. 11, no. 1, 1989, pp. 71–83 for an early critique of uni-dimensional 'deep ecology' thinking.

green surroundings or wildlife; or in linking upstream polluters with downstream pollutees in a river basin, or connecting current generations to future ones through climate change or resource depletion. ‘Sustainability’ does not capture these diverse concerns, while calling them ‘extra-ecological’, as Seaton does, is part of a long history of misleading compartmentalization: ‘sustainability’ or ‘conservation’ as the environmental question; ‘justice’, whether distributive or procedural, as the social question; and ‘productivity’ or ‘efficiency’ as the developmental question.²⁶ We need to frame the definition of a good society in more inclusive and inter-connected terms.

Not climate alone

Mis-framing the climate crisis as solely a matter of global sustainability is one part of the problem; framing it as the ‘only’ environmental crisis, or as the ‘mother’ of all ecological problems, is the other part. Many environmental problems pre-date the climate crisis and continue to threaten current and future well-being across the world, especially in the South. Water scarcity, for example, is arguably a more urgent problem in India and many other countries in the South than the risks posed by climate change.²⁷ Indiscriminate groundwater pumping has already exhausted aquifers in peninsular India and some of its northern regions, while the ill-considered construction of dams and promotion of surface irrigation has resulted in declining river flows—especially baseflows, which are critical to aquatic life—and aggravated upstream-downstream conflicts. Lack of clean drinking water and sanitation is a major driver of ill-health in the subcontinent. Yet the link between the water crisis and climate change is tenuous, while water pollution has more to do with sewage management and lax enforcement than with rising global temperatures.²⁸

Countries in the Global North have ‘solved’ many of their local environmental problems, partly by exporting their production to China and their waste to Africa, but partly also by building strong environmental

²⁶ Seaton, ‘Green Questions’, pp. 110–11.

²⁷ Veena Srinivasan et al., ‘The Nature and Causes of the Global Water Crisis: Syndromes from a Meta-Analysis of Coupled Human-Water Studies’, *Water Resources Research*, vol. 48, no. 10, 2012.

²⁸ Lele et al., ‘Why Is the Arkavathy River Drying? A Multiple-Hypothesis Approach in a Data-Scarce Region’, *Hydrology and Earth System Sciences*, vol. 19, no. 4, 2015, pp. 1,905–17.

movements in the 1970s. For many in the North, climate change—which seemed to come out of nowhere, laying bare their continuing vulnerability—became *the* environmental crisis. But many communities in the South are already ‘vulnered’: freed only a few generations ago from colonial exploitation, they are struggling with the double blow of crushing poverty and regional environmental problems. Maybe climate change will aggravate these, but given their small carbon footprint *vis-à-vis* the North, what sense does it make for them to engage in discussions about reducing their emissions, or indeed their ‘material throughput’ as a whole to achieve a steady-state economy? And what sense does it make to focus exclusively on climate-change adaptation when farmers are committing suicide by the thousands, a million deaths per year are attributed to air pollution, millions of families spend arduous hours each day collecting water for their domestic needs, and many more lose their livelihoods as their land is taken by mining, dams and other ‘development’ projects?

There is an analogy here with the questions being raised about the importance attributed to COVID-19—a disease that came to India through international travellers, and hit the upper classes before percolating to the poor—compared to, say, tuberculosis, which continues to kill more than 300,000 Indians every year. From where I sit, we cannot think of ‘unsustainability’ as the only problem, climate change as its only cause—and renewables as the only solution. We need consistently to frame the problem as an integrated, multi-dimensional environment-cum-development crisis. Climate mitigation and adaptation must come as a ‘co-benefit’ of policies that promote locally and regionally sustainable and equitable development.²⁹

4. IDENTIFYING THE PROBLEM

To develop strategies to tackle this environment-development crisis, we must first ask ‘why’. What are the causes of under-development in the South and mal-development in the North—characterized by low levels of well-being and high levels of inequality and environmental injustice, undermining our individual and collective future? The answers are of

²⁹ Navroz Dubash, D. Raghunandan, Girish Sant and Ashok Sreenivas, ‘Indian Climate Change Policy: Exploring a Co-Benefits Based Approach’, *Economic and Political Weekly*, 1 June 2013.

course complex, and there is space here to discuss only a few of the aspects raised in the debate so far: capitalism, power relations, technology, fossil fuels—and values.

First, it's worth recalling the NLR contributors' responses to this 'why', which focused on population growth (Daly) and consumption (Daly, Vettese, Burton and Somerville) as the proximate drivers of climate change, and technology (Pollin) or lifestyle changes (Vettese) as possible solutions. This is reminiscent of the Ehrlichs' formula from the 1970s, which sees environmental impact (I) as the product of population (P), affluence/consumption (A) and technology/efficiency (T)—summarized as 'I=PAT'.³⁰ Part of the problem with this equation is that it suggests that population, affluence and technology are causal variables, each capable of driving environmental impact. For those located in the Global North, it may appear that 'the decision about how many children to have' is being taken by individuals. In the Global South, however, the vast majority have no such agency; high fertility rates are closely linked to poverty, gender discrimination and poor provision of healthcare, education and social welfare.³¹ Population growth is best understood not simply as a cause of environmental damage, but as a symptom of deeper societal pressures. We therefore need to examine the ultimate drivers of poverty, over-consumption and resource depletion.

Capitalism is clearly one of the ultimate drivers. Capitalism not only allows for profit to accrue through private ownership of capital, but obliges owners of capital to actively pursue returns in competition with each other. This imperative requires the economy to be constantly growing, meaning consumption must continually increase too, even—or perhaps especially—in countries that are already affluent. Previous contributors have examined the role played by capitalism 'writ large'—'financialized monopoly capitalism, geared towards continuous growth and concentration of income', as Daly put it.³² To this I would add that as a form of social relationship, the capitalist system is based, *inter alia*, on legitimizing the conversion of 'savings'—accumulated labour value—into 'capital' on which one expects to earn returns. This makes all of

³⁰ See Paul R. Ehrlich, Anne H. Ehrlich and John P. Holdren, *Ecoscience: Population, Resources, Environment*, San Francisco 1977.

³¹ See, for example, Lourdes Arizpe, M. Priscilla Stone and David C. Major, eds, *Population and Environment: Rethinking the Debate*, New York 2019.

³² Daly, 'Ecologies of Scale', p. 96.

us who have money in the bank (which is being lent out to earn interest) and who invest in mutual funds (which invest in companies to earn returns) complicit in capitalism. So to break down the system, we will for starters have to give up any expectation of ‘earnings’ from our savings, and ask all bankers to do the same. This tiny step would itself require a revolution in our way of thinking.

But capitalism is not the only explanation; other ‘semi-independent’ factors are at work.³³ Looming large from a Global South perspective is colonialism’s role in enabling accumulation in the North and perpetuating poverty in the South; neo-colonialism, in the form of disadvantageous terms of trade, continues today. Moreover, many post-colonial states have oscillated between outright dictatorships and pseudo-democracies (as recent events show, the Global North may be heading in the same direction). The ‘state’ in most Southern countries is looked upon with deep suspicion, as more likely to perpetuate colonial injustices and indulge in crony capitalism than ameliorate the lot of the poor. This combination of colonialism, neo-colonialism and internal colonialism needs to be kept in mind as semi-independent from capitalism. Likewise, there are other oppressive social structures that cause inequalities of power—racism, caste-ism, patriarchy—which often lead to environmental injustice. While colonialism can be seen as an extension of capitalism, and racism has clearly been intertwined with both at various points, forms of discrimination based on race, caste and gender existed long before modern-day capitalism took shape and must as such be recognized as semi-independent factors.

The only way to counter these systems is by deepening both the idea and the structures of democracy. But as the case of India shows, the scale of the task should not be underestimated. Even as India proudly proclaims itself the world’s most populous democracy, the quality of the inherited ‘Westminster model’ leaves much to be desired and is eroding further as we speak. Nor can undemocratic functioning be attributed simply to capitalist manipulation. India’s power structures retain many vestiges of colonial rule which strengthen the power of the state against the common citizen. For a country more than twice as populous as Europe,

³³ I use the term ‘semi-independent’ to acknowledge the significant interplay and often mutual reinforcement between different ‘ultimate’ factors. See Lele, ‘Rethinking Sustainable Development’, *Current History*, vol. 112, no. 757, 2013, pp. 311–16.

and four times more so than the US, there are effectively no tiers of reliably democratic government below the level of the provinces, which in many cases are the size of a large European nation. Undemocratic decision-making is not just the product of capitalism but is rooted in other histories and practices—the traditions of social discrimination mentioned above, but also the absence of a deep-rooted belief in the democratic process (beyond elections) and in the ideas of transparency and accountability that go with it. Undemocratic government therefore needs to be addressed semi-independently of capitalism.

Third, (reductionist) science and (inappropriate) technology are further drivers of environmental degradation that need to be seen as semi-independent factors in themselves. The industrial revolution marked a sea change in our understanding of nature—and in our ability to manipulate it. For the first time, we were able to convert fossil energy into mechanical, and later electrical, power. Subsequently, there were the revolutions in chemistry (including the development of DDT), microbiology (including antibiotics), nuclear power and, most recently, information technology and genetics. This dramatic expansion in our capacity to manipulate nature has not been matched by an expanded understanding of the ‘external’ effects of such manipulation: how DDT might accumulate in the food web; the waste-management risks associated with nuclear energy; the socio-cultural and psychological effects of IT use. In some instances, prescient warnings were ignored: the Swedish climate scientist Svante Arrhenius predicted in 1896 that the burning of fossil fuels would cause the earth’s temperature to rise. In most other cases, the environmental and health effects of our inventions were discovered long after the fact. Carson’s work on DDT, for example, points to the absence of any preliminary testing for the ecological consequences of introducing such a powerful chemical into the environment—thoughtlessness that stemmed in part from a reductionist postwar technological triumphalism. Though the corporate manufacturers of DDT naturally spent large sums trying to discredit Carson’s revelations, the problem cannot be said to have originated in capitalism.

Nuclear power provides a comparable case. In India, as in many other countries, the nuclear-energy sector is completely state-owned. Its champions have been scientists, motivated by fame or national pride, and driven by their faith in technological solutions and their arrogance in being set above rigorous public scrutiny of their budgets or of the

harm that uranium mining is doing to indigenous communities in India's hinterland. Once formed in this mode of thinking, no amount of data on birth defects or the costs of radioactive-waste disposal will shake their faith in nuclear technology. The role of private capital in this story is minimal.

Or again, take the exploitation of water. Until the 1970s, groundwater in India was basically open-well water, consumed largely for domestic use. The advent of borewell-drilling technology led to a 'revolution', and India is today by far the world's largest consumer of groundwater, mostly for irrigation. Consequently, large parts of the country are now seeing declining water tables. Almost all the innovation and scientific research has concentrated on 'developing' this resource—new means for detecting groundwater reserves, estimating (immediate) yields and pumping from greater depths. Very little attention, either in India or globally, has been paid to understanding where it comes from—crudely speaking: is it fossil groundwater, or annually recharged?—and where it goes—how much actually flows into rivers or oceans?—or to how we can measure its movement, monitor its consumption and so on.

But the blame for this lopsided scientific development can hardly be laid at the door of capitalism. Most of the initial prospecting and drilling was publicly funded, and though the drill and pump manufacturers are capitalist firms with vested interests, the impetus to drill and pump ultimately comes from the individual farmer trying to grow a more profitable crop or an individual household trying to secure its water supply—under market conditions, of course; but the market economy in food existed long before industrial capitalism came into being. There is an interesting parallel between the over-exploitation of fossil fuels and that of groundwater in India: groundwater began to be exploited because a technology was developed that gave us access not only to its renewable, but its non-renewable (fossil) component. As with fossil fuel, the immediate gains far outweighed the long-term costs, and as a society, we were not able to put institutional arrangements in place rapidly enough to prevent us from undermining our future.

There is indeed a fundamental relationship between technological change and industrial capitalism. All economic systems are about who controls the surplus value left over from the production process once the elementary needs of the labourers have been met. Fossil energy

dramatically increased the quantum of surplus. Once unleashed by technologies of conversion into mechanical and electrical power, this concentrated energy source was so cheap that one could scale up production without significantly increasing labour input—shifting from hand looms to power looms, in the classic example. As the technological revolution penetrated beyond energy generation and thermodynamics into the fields discussed above (metallurgy, biochemistry, microbiology, genetics, IT), it generated an ever-greater surplus, creating in the process an illusion of unlimited technological possibilism. Of course, social relations of production had to legitimize the appropriation of this surplus by the owners of the means of production rather than, say, by the whole community. But the availability of cheap fossil energy is what made it possible.³⁴

Few societies could anticipate the implications of this huge surplus and establish institutional arrangements to absorb it more equitably. For most, the upshot was—Marx would say, inevitably—industrial capitalism. But nobody, capitalist or communist, paid much attention until about the 1970s to whether the fossil resource that was powering much of this technological revolution would run out, or—Arrhenius notwithstanding—to whether its use might adversely affect the environment. One cannot blame capitalism for what appears to be a ‘normal’ human response—refusing to look a technological gift horse in its mouth. We see this with fossil fuels and, at a smaller scale, with groundwater.

It may be more accurate to say that industrial capitalism co-evolved with fossil fuel and other technologies: while the initial surplus came from coal, capitalism drove innovation towards harnessing other fuels—liquification of natural gas, off-shore oil rigs, fracking—and ‘post-industrial’ technologies; in the process, capitalism itself has changed, as the IT revolution allows finance to move at speeds unimaginable a couple of decades ago. This co-evolution means that we need to address, not capitalism alone, but the nature of the surplus that fossil fuels help to generate and the best approach to it. Should we splurge it all now, on the assumption that we will always find another source of cheap energy somewhere, or use it sparingly in the North, to enable the

³⁴ For a detailed, if perhaps exaggerated, argument about the energy-economy linkage, see Mansoor Khan, *The Third Curve: The End of Growth as We Know It*, Mumbai 2013.

South to raise its standard of living, while also preserving most of it as a buffer for future generations? We need to engage in a similar fashion with the other mixed blessings unleashed by modern technologies—biological, nuclear, IT: insisting upon much greater democratic control over the innovation process than capitalism and technological hubris has hitherto allowed.

The place of values

This brings us to the question of values. Even if capitalism aggravates our predilection to consume, we cannot explain all consumption as a consequence of capitalism. It is a fundamental part of human nature to want an easier life and to be rid of drudgery—initially, by exploiting slaves and coerced labour, liberally used by the Global North under colonialism. If the overthrow of slavery was in good part a result of revolts by the exploited themselves, it also involved a broader recognition that slavery was inhuman, its practice a matter of guilt, to be condemned. Unless those who revolted acknowledged a higher principle than their own self-interest, they would likely go on to become slave-owners themselves. Similarly, to pay for saving tigers through payments-for-ecosystem-services schemes, we must care about wildlife. To lobby for public transport in the teeth of pressure from the car industry, we must first care about future generations and then know something about the impact of fossil-fuel consumption on their lives. To generate technologies that are socially useful, we must first understand and internalize ideas of social usefulness, not deify curiosity and inventiveness for their own sakes. To stop a factory polluting a river, we need a sense of environmental justice—and, ideally, we need the polluter to share it, too.

The multi-dimensional crisis we face requires changing values on multiple fronts: our ideas of well-being (unlimited material wealth or subsistence, affection and freedom?), of fairness, and how we view and value nature or non-human life-forms. We also need an ethics of ‘process’ to govern the inevitable trade-offs between stakeholders with different values and interests. Moreover, many of the ‘solutions’ to the crisis are plagued with uncertainty, so decision-making needs to be open and accountable. But how to set about changing values, if we are largely socialized into them? Constantly bombarded by messages glorifying consumerism, violence and competition, how do we embrace frugality, peace and cooperation without changing the structures responsible

for the bombardment? Many educationists have argued that change begins in the individual and then adds up to the aggregate. Historically, transformations in values were often brought about by charismatic religious leaders. Today, the change must come about in a more horizontal, dispersed fashion, and education offers one of the possible routes.³⁵ Other approaches—persuasion through public debate, learning by doing or practical action—need to be explored as well. As critics of the voluntary simplicity movement have argued, the point is not to stop at individual change but to begin there and then organize ‘outwards’.³⁶ Structural change will not follow automatically; it will have to be fought for. The point is to keep alive the process of constant reflection on one’s own values in the course of struggle and organization, to see how they are influenced by our actions and by the new structures we create. In Gandhi’s words, ‘there cannot be a system so good that the individuals in it need not be good’.

5. UTOPIAS, NOT PRAGMATICS

What then of strategies? I do not propose any panaceas here. Looking for pragmatist solutions, as Pollin does, forces us into a narrowed framing of the problem: one value (sustaining future generations), one problem (climate change), one goal (reduce carbon emissions) and one solution (renewables).³⁷ Once we open out the debate to include not only sustainability but justice, well-being, conservation and democratic processes, it becomes impossible to think in terms of simple strategies or single-technology solutions. We need to think of strategies that are, as Seaton says, not pragmatic but utopian³⁸—because the pragmatic is a seductive pathway to the status quo. These strategies will necessarily be partial, addressing multiple levels from multiple directions.

³⁵ ‘The goal of education is not mastery of subject matter, but of one’s person’: David Orr, ‘What Is Education For?’, *In Context*, vol. 27, 1991, pp. 52–5.

³⁶ See Ken Conca, Thomas Princen and Michael Maniates, eds, *Confronting Consumption*, Cambridge MA 2002, especially the chapter by Maniates.

³⁷ Doubts have also been raised about the technical feasibility of the type of energy transition Pollin proposes. See, for example, Ted Trainer, ‘Can Renewables Meet Total Australian Energy Demand? A “Disaggregated” Approach’, *Energy Policy*, vol. 109, 2017; and Vaclav Smil, ‘A Global Transition to Renewable Energy Will Take Many Decades’, *Scientific American*, vol. 310, no. 1, January 2014.

³⁸ Seaton, ‘Green Questions’, pp. 126ff.

First, we need a shift in our thinking. We have to counter the hold on our collective minds of economic growth-ism, technological hubris and Adam Smith's idea of individual self-interest automatically leading to societal good. We must reject established hierarchies of thinking, in which economists and engineers rule the roost, social scientists are in a sorry second place, and the humanities are nowhere in the picture.³⁹ We must reopen the question of values, asking what we mean by a good society and making the case for why we should care about our fellow humans, future generations and the natural world. Our analyses must be equally multi-dimensional, avoiding the trap of mono-causality, or trying to explain everything through Marxism, feminism, or some other system. It is vital to bridge the structure–agency divide, to explore how our actions in production, consumption and the deployment of our 'savings' implicate us in the very system we are struggling against.

Second, we need concrete structural changes. On the economic front, while universal basic income may be a starting point, the end-goal must be transferring ownership of productive assets. There are real opportunities for this in the Global South, not least in devolving control of state-owned forests to local communities—Nepal took a big leap in the early 1990s, and India is moving in the same direction through its landmark Forest Rights Act.⁴⁰ These shifts combine a transfer of control over the means of production with a democratization of environmental decision-making, as local communities get a say on development projects such as mines and dams. This could be made into a stepping-stone towards co-design and co-ownership of those projects. Simultaneously, COVID-19 has reopened the discussion on progressive taxation, if only to generate resources to fight the pandemic. Instead of falling prey to the rhetoric of needing 'financial packages to restart the economy', we should be asking, 'how can we shape a different economy?'

On the political front, the battle is clearly to create deeper democratic processes and to align them with environmental problems. Fully participatory democracy may be a far cry, but the principle of environmental and social subsidiarity—that is, to federate upwards only those functions that cannot be discharged at a lower level—could help to strengthen

³⁹ Manfred Max-Neef's pyramid of disciplines is illuminating in this regard: Max-Neef, 'Foundations of Transdisciplinarity', *Ecological Economics*, vol. 53, no. 1, 2005.

⁴⁰ See the special section on the Forest Rights Act in *Economic and Political Weekly*, 24 June 2017.

transparency and accountability. Democratization must include public oversight of science and technology, but we also need to educate our scientists and engineers in ethics and sociology, to help them understand the challenges we face on the socio-environmental front and to hold them accountable for their actions.

Education will be essential to all the proposals discussed above. The purpose of education is not an instrumentalist 'skilling' to produce bidable masses for current economic and political systems to exploit. Its purpose is transformative: to imbue everyone with broad human values and critical thinking abilities. Only then can we overcome the confines of race, caste, gender and other prejudices, reconnect with our environments and become politically aware and active citizens. The glimpse of Mount Everest from Bihar is likely to be ephemeral, as the power plants in the region resume full operations after lockdown, burning coal mined by backbreaking labour, in pits that ravage the surrounding forests of indigenous peoples, in order to feed the appetites of consumers in the urban centres of India and the world. But with new thinking on the environment-development conundrum, with concepts like *buen vivir* and *vikalp sangam*⁴¹ on which to ground new coalitions, we can hope to glimpse a better future for humanity and nature alike.

⁴¹ See Ashish Kothari on 'Radical Ecological Democracy' and other essays in Julien-Francois Gerber and Rajeswari Raina, eds, *Post-Growth Thinking in India: Towards Sustainable Egalitarian Alternatives*, New Delhi 2018.