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## Adaptive Law in the Anthropocene

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# ADAPTIVE LAW IN THE ANTHROPOCENE

SHALANDA H. BAKER\*

## INTRODUCTION

*In times of extreme stress, the whole concept of fitness, at least in a Darwinian sense, loses its meaning: how could a creature be adapted, either well or ill, for conditions it has never before encountered in its entire evolutionary history? At such moments . . . the 'rules of the survival game' abruptly change. Traits that for many . . . years were advantageous all of a sudden become lethal . . . .*<sup>1</sup>

The sky has fallen. We are now firmly rooted in a new epoch scientists have named the Anthropocene,<sup>2</sup> where the activities of humans will most certainly negatively impact the trajectory of Earth and its inhabitants. What the Anthropocene fully holds is uncertain, but there are a few clues. The global ecology is shifting.<sup>3</sup> The oceans are dying.<sup>4</sup> The planet is getting hotter and drier, and its storms increasingly volatile.<sup>5</sup>

Amidst this changing climate is evidence of a failed approach to economic development in the Global South. Globally, the poor are becoming

\* Associate Professor of Law, William S. Richardson School of Law, University of Hawaii. I am tremendously grateful for this opportunity to think “outside the box,” to push the limits of legal scholarship during this critical time, and to inquire about a sustainable future assisted by innovative legal frameworks. My thanks to the conveners of this special symposium edition—Professors Frank Valdes and Tayyab Mahmud—for the invitation to participate in this important project, and to my colleagues Maxine Burkett, Andrea Freeman, and Kapua Sproat, who contributed their invaluable insights. I am grateful for the insights of Carmen Gonzalez and Ibrahim Gossama, who each thoughtfully commented on an earlier draft of this Essay. My research assistant, Sarah Sheffield, also provided invaluable research assistance on this project.

1. ELIZABETH KOLBERT, *THE SIXTH EXTINCTION* 90 (Henry Holt & Co. 2014).

2. See Joseph Stromberg, *What is the Anthropocene and Are We in It?*, SMITHSONIAN (Jan. 2013), <http://www.smithsonianmag.com/science-nature/what-is-the-anthropocene-and-are-we-in-it-164801414/>.

3. See Peter M. Vitousek, *Beyond Global Warming: Ecology and Global Change*, 75 *ECOLOGY* 1861, 1861–76 (1994) (describing the global ecological and environmental effects attributable to human-induced climate change).

4. See CALLUM ROBERTS, *THE OCEAN OF LIFE* (2012) (detailing the devastating human-inflicted changes occurring in our oceans).

5. See *The Current and Future Consequences of Global Change*, NASA, <http://climate.nasa.gov/effects/> (last visited Feb. 12, 2014) (describing the effect of global climate change on the environment).

poorer.<sup>6</sup> Inequality reigns<sup>7</sup> as the global economy shrinks.<sup>8</sup> This thought piece and Essay explores these twin issues—human-created climate change and neoliberal economic development—and argues that they are linked in ways not fully addressed by the emerging discourse on climate change adaptation.<sup>9</sup> In particular, this Essay argues that reliance on neoliberal economic development institutions and methodologies to engage in the climate change adaptation project will render states in the Global South even more vulnerable and less resilient in the face of climate change.<sup>10</sup> This Essay also offers a preliminary agenda and suggested starting points for scholars seeking to apply adaptive legal principles to international development.

Part I examines the Anthropocene, particularly the effects of Anthropogenic climate change in the Global South. Part II explores neoliberal development in the Global South and, building on the growing body of literature critiquing neoliberalism, makes the case that, in the Anthropocene, the assumptions that support its pervasive use no longer hold. The Part also exposes aspects of neoliberal development, such as reliance on private actors, requirement for a stable investment environment, and reliance on markets for growth, that may render states in the Global South even more vulnerable to climate change. Drawing on the existing literature on adaptive law, Part III proposes potential pathways for development that might better respond to the needs of the Global South during the Anthropocene. We begin with the question: What is the Anthropocene?

6. See Zanny Minton Beddoes, *For Richer, For Poorer*, ECONOMIST (Oct. 13, 2012), <http://www.economist.com/node/21564414> (noting that “the majority of the people on the planet live in countries where income disparities are bigger than they were a generation ago”).

7. THOMAS PIKETTY, *CAPITAL IN THE TWENTY-FIRST CENTURY* 294–95 (Arthur Goldhammer trans., Harvard Univ. Press 2014) (noting that “income inequality has exploded in the United States” since 1980).

8. Paul Davidson, *Global Growth Appears Stunted, IMF Chief Says, Lagarde Points to Geopolitical Fears, Inflation, Investing*, USA TODAY, Apr. 3, 2014, at 2B.

9. This is changing. In her 2014 book, *This Changes Everything: Capitalism vs. the Climate*, Naomi Klein explores these issues in depth, arguing principally for a wartime scale effort to avert climate change disaster. NAOMI KLEIN, *THIS CHANGES EVERYTHING: CAPITALISM VS. THE CLIMATE* 108, 130 (Simon & Schuster 2014). Klein’s critique centers on neoliberalism and capitalism, the culprits for the current climate disaster. Throughout the book, Klein offers several alternatives to the neoliberal model of development, including community ownership of energy production. *Id.* at 130. See also Glenn Fieldman, *Neoliberalism, the Production of Vulnerability and the Hobbled State: Systemic Barriers to Climate Adaptation*, 3 CLIMATE & DEV. 159, 160 (2011) (noting that “[r]eforms to the global neoliberal system are therefore necessary if climate-vulnerable populations are to be protected” and further, that the “institutions of the global political-economic system” are not only implicated “in the production of vulnerability, but in imposing limitations on adaptive capacity”).

10. Robin Kundis Craig distinguishes between adaptation and resilience, noting that “[r]esilience reflects a system’s ability to absorb impacts and continue to function, while adaptive capacity refers to a system’s ability to change to adjust to new conditions.” Robin Kundis Craig, “*Stationarity is Dead*”—*Long Live Transformation: Five Principles for Climate Change Adaptation Law*, 34 HARV. ENVTL. L. REV. 9, 22 (2010) [hereinafter Craig, *Stationarity is Dead*].

## I. ANTHROPOCENE IN THE GLOBAL SOUTH

The Anthropocene refers to the current geological epoch characterized by a distinctively human impact on the trajectory of life on Earth.<sup>11</sup> Man's reliance on fossil fuels for development has charted a perilous climatic path. Squarely in this path are all of us: the vulnerable.<sup>12</sup> Species are dying off at record rates.<sup>13</sup> Unprecedented storms rage, flooding entire cities and cutting off even the most sophisticated and developed among us.<sup>14</sup>

For the most vulnerable, the situation is even more dire. The most recent United Nations Intergovernmental Panel on Climate Change (IPCC) report places communities in the Global South at heightened vulnerability in this anthropogenic era.<sup>15</sup> The World Bank's 2013 report, *Turn Down the Heat*, echoes this sentiment, noting "[t]he poorest could increasingly be hit the hardest."<sup>16</sup> Developing states, those who bear the least responsibility for the troubles heralded by the Anthropocene, appear poised to suffer the brunt of its harm.<sup>17</sup> These communities in the Global South, long impacted by interventionist neoliberal development methodologies,<sup>18</sup> are already beginning to understand the Anthropocene's effects.

This Part more fully explains the Anthropocene and its most evident characteristic: man-made climate change. The final section discusses the

11. KOLBERT, *supra* note 1, at 107 (referencing Andrew Revkin's initial coining of the term as "Anthrocene", and noting that "the word 'Anthropocene' is the invention of Paul Crutzen, a Dutch chemist who shared a Nobel Prize for discovering the effects of ozone-depleting compounds."); *see also* Paul J. Crutzen, *Geology of Mankind*, 415 NATURE 23, 23 (2002).

12. Martha A. Fineman, *The Vulnerable Subject: Anchoring Equality in the Human Condition*, 20 YALE J.L. & FEMINISM 1, 1–2 (2008) (arguing that vulnerability is "universal and constant, inherent in the human condition" and that a more responsive state is needed).

13. Jurriaan M. De Vos et al., *Estimating the Normal Background Rate of Species Extinction*, 00 Conservation Biology 1, 9 (2014) (concluding that "current extinction rates are 1,000 times higher than natural background rates of extinction and future rates are likely to be 10,000 higher").

14. For example, Hurricane Sandy, the fall 2012 "super storm" that crippled much of the Northeastern United States, was the cause of forty-four deaths and led to \$19 billion of damage to New York City. Matt Flegenheimer, *De Blasio Orders a Greener City, Setting Goals for Energy Efficiency of Buildings*, N.Y. TIMES, Sept. 20, 2014, <http://www.nytimes.com/2014/09/21/nyregion/new-york-city-plans-major-energy-efficiency-improvements-in-its-buildings.html>.

15. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2014: IMPACTS, ADAPTATION, AND VULNERABILITY: SUMMARY FOR POLICY MAKERS 12–13 (2014), *available at* [http://www.ipcc.ch/pdf/assessment-report/ar5/wg2/ar5\\_wgII\\_spm\\_en.pdf](http://www.ipcc.ch/pdf/assessment-report/ar5/wg2/ar5_wgII_spm_en.pdf) [hereinafter IPCC].

16. HANS J. SCHELLNHUBER ET AL., TURN DOWN THE HEAT: CLIMATE EXTREMES, REGIONAL IMPACTS, AND THE CASE FOR RESILIENCE xi (2013).

17. *Id.* at xv. *See also* Fieldman, *supra* note 9, at 164 (highlighting the ability of the wealthy to cope with the climate-induced changes).

18. *See* HA-JOON CHANG, KICKING AWAY THE LADDER: DEVELOPMENT STRATEGY IN PERSPECTIVE 133 (Anthem Press 2002) (discussing the forcing of free trade regimes on colonial nations).

effects of the Anthropocene on the Global South along with climate change adaptation efforts.

### A. Defining Characteristics

The thread linking poverty, climate change and vulnerability is unmistakable. In its July 2014 report, *Pathways to Deep Decarbonization*, the Deep Decarbonization Pathway Project (DDPP), led by Jeffrey Sachs, notes that the risks of unabated climate change “threaten every prospect of achieving sustainable development and humanity’s fervent hopes to end poverty and achieve a decent life for all on this planet.”<sup>19</sup> Moreover, as the report makes clear, we are all vulnerable, and even those in the “developed world” will be affected, as “[c]rises in any part of the world can quickly become global, as when droughts, floods, or violence resulting from food shortages result in conflict, mass migration movements, soaring food prices, and more.”<sup>20</sup> Although the report’s authors take an optimistic view arguing that humans may be able to avert a major climate-related crisis by implementing drastic changes regarding energy efficiency and conservation, creating low-carbon electricity, and fuel switching,<sup>21</sup> the Anthropocene is here. Humans’ impact on the planet is unmistakable.

As Elizabeth Kolbert explains in *The Sixth Extinction*, Dutch chemist, Paul Crutzen, has noted that humans have effected “geologic-scale” changes on the planet in numerous ways, among them: transforming between a third and a half of the land surface of the planet; damming or diverting most of the world’s major rivers; utilizing fertilizer plants to produce more nitrogen than is fixed naturally by all terrestrial ecosystems; removing more than a third of the primary production of the oceans’ coastal waters; and using more than half of the world’s readily accessible fresh water runoff.<sup>22</sup> Moreover, the substantial effect that humans have had on the composition of the atmosphere means that the “global climate is likely to ‘depart significantly from natural behavior for many millennia to come.’”<sup>23</sup>

Finally, from a geological standpoint, the dawning of the Anthropocene is significant. It means that, millions of years from now, the layer of sediment indicating this time in our collective history will reflect a distinct epoch marked by a human-driven geological change.<sup>24</sup> This geologic record

19. ANNA SKARBK ET AL., *PATHWAYS TO DEEP DECARBONIZATION 2* (2014).

20. *Id.*

21. *Id.* at 13.

22. KOLBERT, *supra* note 1, at 108.

23. *Id.* at 108 (citing Crutzen).

24. *Id.* at 109.

will provide evidence of mass animal and plant extinctions, ocean acidification and widespread coral reef die-offs, rapid glacial melting, and relentless mining of the earth's surface for combustible fossil fuels.

The crystallization of the Anthropocene, both in academic and lay circles, heralds an opening of sorts, a clarion call for change.<sup>25</sup> Indeed, the urgency for such change has recently become a subject of both popular discourse and scholarly debate.<sup>26</sup> Whereas some have taken a particularly doomsday approach to understanding what our collective future holds, others are more optimistic. The pessimists, or pragmatists, take the view that humanity is beyond any tipping point regarding climate change and that we will suffer mightily in the century ahead; our only option is to adapt and brace ourselves for the worst.<sup>27</sup> The optimists (Jeffrey Sachs' DDPP fits into this category) suggest that we should hold off on preparing for doomsday just yet; our unique ability to innovate will save us.<sup>28</sup> In this view, humans hold the keys to the future and the challenges of the Anthropocene call upon us to be our best, most innovative selves.<sup>29</sup> For the non-committal, both versions of the future could be true. No matter what version of the future one accepts, the imperative for change, and change now, is apparent.

### B. Climate Change Mitigation

For humans, the most salient feature of the Anthropocene is climate change. Since the Industrial Revolution, humans have emitted tons of car-

25. See KLEIN, *supra* note 9.

26. Indeed, at the time of this writing, a Google search for the term "climate change" resulted in the delivery of 130 million items. A Westlaw search of law review articles revealed that the term was used 9,319 times in various law review articles, and appeared in the title of 1,244 articles.

27. See, e.g., Andrew C. Revkin, *The Good, the Bad and the Anthropocene (Age of Us)*, N.Y. TIMES (July 7, 2014, 1:39 PM), <http://dotearth.blogs.nytimes.com/2014/07/07/the-good-the-bad-and-the-anthropocene/> (debate regarding how "bad" things will be in the Anthropocene).

28. See, e.g., Justin Gillis, *Clouds' Effect on Climate Change is Last Bastion for Dissenters*, N.Y. TIMES, Apr. 30, 2012, available at <http://www.nytimes.com/2012/05/01/science/earth/clouds-effect-on-climate-change-is-last-bastion-for-dissenters.html> (citing the influential work of Richard S. Lindzen, a professor of meteorology at the Massachusetts Institute of Technology, which suggests that clouds will be able to counter the effects of climate change).

29. Geoeengineering, the large-scale deployment of interventions intended to fight greenhouse-gas emissions on the planet by reducing the sunlight absorbed by the planet or removing carbon dioxide from the atmosphere, would fit into this category. See *Geoeengineering: We All Want to Change the World*, ECONOMIST (Mar. 31, 2010), <http://www.economist.com/node/15814427> (discussing troubling lack of regulation of these planetary-scale interventions, among them reducing incoming sunlight by sending "plumes of various sulphurous fluids in the stratosphere to find out which would best produce a haze of small particles similar to those that cool the planet after a large volcanic eruption" and enriching clouds above the oceans to reduce the rays of sun hitting the earth).

bon dioxide into the atmosphere with astounding effects.<sup>30</sup> On one hand, the extraction of fossil fuels from deep within the Earth has allowed widespread prosperity for citizens of the Global North. Energy, created by combusting oil and gas, has allowed for economic development supported by large-scale production, long-range travel, and unprecedented consumption. The benefits of the Industrial Revolution were not equally distributed, however. Although the overall quality of life increased in industrializing countries, wealth generated by the productive activities of the Global North remained concentrated in a few wealthy families.<sup>31</sup>

Moreover, the Industrial Revolution created vast social and environmental externalities. Factories, mills and mines throughout the United States and Europe relied on children to work long, arduous hours.<sup>32</sup> Pregnant women and other vulnerable immigrant communities were similarly exploited.<sup>33</sup> The Earth also suffered mightily. Environmental damage spanned the spectrum as rivers, soils and previously pristine environments experienced extensive contamination during this era.<sup>34</sup> These harms comprise only part of the picture. Perhaps the greatest harm visited upon the commons during this time was the emission of carbon dioxide into the atmosphere.

At 400 parts per million, the amount of carbon dioxide currently in the atmosphere exceeds the levels of the past 800 thousand years.<sup>35</sup> The IPCC's report also indicates that "in the absence of additional commitments to reduce GHG emissions, the world is on a trajectory to increase the global mean temperature of 3.7°C to 4.8°C compared to pre-industrial levels. When accounting for full climate uncertainty, this range extends from 2.5°C to 7.8°C by the end of the century."<sup>36</sup>

Unfortunately, to date, global efforts to forestall this temperature increase have encountered great difficulty. Beginning with the United Na-

30. IPCC, *supra* note 15, at 7.

31. PIKETTY, *supra* note 7, at 10 (discussing Karl Marx' preoccupation with the "unprecedented concentration of wealth during the Industrial Revolution").

32. See Barbara B. Woodhouse, "Who Owns the Child?": Meyer and Pierce and the Child as Property, 33 WM. & MARY L. REV. 995, 1059-60 (1992) (describing change in children's work during the Industrial Revolution).

33. Jerry L. Anderson, *Protection for the Powerless: Political Economy History Lessons for the Animal Welfare Movement*, 4 STAN. J. ANIMAL L. & POL'Y 1, 23, 45 (2011).

34. Mark A. Latham, (Un)Restoring the Chemical, Physical, and Biological Integrity of our Nation's Waters: The Emerging Clean Water Act Jurisprudence of the Roberts Court, 28 VA. ENVTL. L.J. 411, 414 (2010).

35. KOLBERT, *supra* note 1, at 113.

36. SKARBEEK ET AL., *supra* note 19, at xii.

tions Framework Convention on Climate Change in 1992,<sup>37</sup> the international community has struggled to craft an effective system of climate change governance. An effective system would both penalize those who historically have emitted the greatest amount of carbon dioxide into the atmosphere—industrialized economies—and allow Southern states to pursue economic development activities with minimal impact on the environment.<sup>38</sup>

States in the Global South have also argued vociferously that they have a right to development and should not be penalized for the current state of the climate.<sup>39</sup> Any comprehensive climate change plan, they argue, must reflect their right to development.<sup>40</sup> The Kyoto Protocol attempts to address this issue by creating a two-tier structure for carbon emissions. Under the Clean Development Mechanism (CDM), new development projects in “developing” countries can generate certified emission reduction credits that can be used to offset carbon-emitting projects in “developed” or Annex B countries.<sup>41</sup>

This market-based approach, rooted in the principle of “common but differentiated responsibilities” for global environmental harm enshrined in the 1992 Rio Declaration on Environment and Development,<sup>42</sup> has its drawbacks. Namely, the same elite group of expert players within the development arena, such as large corporations and banks, generate revenue trading credits under the CDM, while many of the “green” projects developed in developing countries continue to suffer from the same flaws of traditional development projects.<sup>43</sup> With large-scale wind development in Oaxaca, Mexico, for example, indigenous communities experience the same dispossession and environmental devastation that accompanies more

37. United Nations Framework Convention on Climate Change, Mar. 21, 1994, 1771 U.N.T.S. 107 [hereinafter UNFCCC].

38. United Nations Conference on Environment and Development, Rio de Janeiro, Braz., June 3–14, 1992, *Rio Declaration on Environment and Development*, U.N. Doc. A/CONF.151/26 (Vol. I), Annex I (Aug. 12, 1992) [hereinafter *Rio Declaration*].

39. See Donald Goldberg, *As the World Burns: Negotiating the Framework Convention on Climate Change*, 5 GEO. INT’L ENVTL. L. REV. 239, 244–51 (1993) (describing the negotiations at the 1992 Framework Convention on Climate Change and highlighting the Global South’s request for a “differentiated regime under the climate convention for developing countries”).

40. See *id.*

41. Kyoto Protocol to the United Nations Framework Convention on Climate Change art. 12, Dec. 11, 1997, 2303 U.N.T.S. 148.

42. *Rio Declaration*, *supra* note 38, at princ. 7.

43. See generally Shalanda H. Baker, *Unmasking Project Finance: Risk Mitigation, Risk Inducement, and an Invitation to Development Disaster?*, 6 TEX. J. OIL GAS & ENERGY L. 273, 282–83 (2011).

traditional oil and gas development.<sup>44</sup> As we move into the discourse of adaptation, this dynamic appears poised to repeat itself.

### C. Climate Change Adaptation

The World Bank's *Turn Down the Heat* report focuses exclusively on the impacts that climate change will have on certain regions in the Global South.<sup>45</sup> The report examines Sub-Saharan Africa, South East Asia, and South Asia, and concludes that soon each region will bear specific climate-related burdens.<sup>46</sup> This section discusses a few of these burdens and notes that the solutions posed by the report mirror many of the common approaches to neoliberal development.

According to the report, each region—Sub-Saharan Africa, South East Asia and South Asia—will face extraordinary hardship.<sup>47</sup> Sub-Saharan Africa, a region whose population is expected to nearly double from 800 million to 1.5 billion people in the next thirty-five years, will experience unprecedented heat extremes that will lead to severe losses of livestock and changes in vegetative cover, along with the extinction of species and decreases in the groundwater levels in the region.<sup>48</sup>

South East Asia, a region dependent on its fisheries, faces saltwater intrusion to river delta areas.<sup>49</sup> In addition, the study notes that “[a]quaculture, agriculture, marine capture fisheries and tourism” are the areas most exposed to the impacts of climate change.<sup>50</sup> Moreover, the urban poor are the most vulnerable, as these populations live in informal settlements and are at risk of diseases associated with poor sanitation.<sup>51</sup>

Turning to South Asia, the report is no less bleak. The region already endures periods of extremely wet seasons.<sup>52</sup> More seasons of extreme precipitation are predicted; extreme wet monsoons with a chance of occurring once in one hundred years are expected to occur every ten years, adding strain to the region.<sup>53</sup> Food will be on short supply as well. The report pre-

44. *Id.* at 286–87.

45. SCHELLHUBER ET AL., *supra* note 16, at xv.

46. *Id.*

47. *Id.* at xvii.

48. *Id.* at xviii.

49. *Id.* at xx.

50. *Id.*

51. *Id.* at xxi.

52. *Id.* at 105.

53. *Id.* at xxiii.

dicts that “[t]otal crop production and per-capita calorie availability is projected to decrease significantly . . . .”<sup>54</sup>

The foregoing predictions are dire and imminent. Arguably, however, these predictions are already becoming reality around the world: Typhoon Haiyan;<sup>55</sup> Hurricane Sandy;<sup>56</sup> “hottest year on record;”<sup>57</sup> and a record drought in California<sup>58</sup> reflect changes in the stability of the climate. However, the solutions proposed incorporate approaches that arguably increase vulnerability and reduce the resiliency within affected regions. This methodological “blind spot” requires attention.

For example, with respect to Sub-Saharan Africa, a region noted for its great ecological, climatic and cultural diversity, the World Bank (Bank) poses that the region “scale up,” or increase, its crop diversification practices in order to adapt to the concerns of climate change.<sup>59</sup> This adaptive strategy raises several questions. As an initial matter, crop diversification is not new; however, the neoliberal policies of development promoted by the World Bank prior to the current climate crisis have actually limited the ability of communities to engage in traditional practices, such as crop diversification.<sup>60</sup> The Bank’s recommendation to “scale up” crop diversification is concerning. Who does the Bank suggest do the “scaling up”? Based on the policies promoted by the Bank since the 1980s,<sup>61</sup> one can only assume that neoliberal players—international financial institutions, multinational banks and corporations—will engage in the theater of climate change adaptation. This is untenable.

54. *Id.*

55. See Keith Bradsher, *Struggle for Survival in Philippine City Shattered by Typhoon*, N.Y. TIMES, Nov. 11, 2013, <http://www.nytimes.com/2013/11/12/world/asia/philippines-storm-surge-leaves-scenes-of-devastation.html> (describing the devastation of Typhoon Haiyan, considered “among the most powerful in history”); see also Henry Fountain & Justin Gillis, *Typhoon in Philippines Casts Long Shadow over U.N. Talks on Climate Treaty*, N.Y. TIMES, Nov. 11, 2013, <http://www.nytimes.com/2013/11/12/world/asia/typhoon-in-philippines-casts-long-shadow-over-un-talks-on-climate-treaty.html> (noting how some scientists and policy-makers see a connection between Typhoon Haiyan and global climate change).

56. See Alan Duke, *Superstorm Sandy Breaks Records*, CNN (Oct. 31, 2012), <http://www.cnn.com/2012/10/30/us/sandy-records/> (discussing the devastation and “unprecedented” nature of the storm).

57. See Brian Kahn, *2014 Officially Hottest Year on Record*, SCIENTIFIC AMERICAN (Jan. 5, 2015), <http://www.scientificamerican.com/article/2014-officially-hottest-year-on-record/>.

58. See Joseph Serna, *California Breaks Drought Record as 58% of State Hits Driest Level*, L.A. TIMES, July 31, 2014, <http://www.latimes.com/local/lanow/la-me-ln-california-drought-worsens-record-20140731-story.html> (explaining that most of California is under “the most severe level of drought” and that the state is also experiencing severe water shortages).

59. SCHELLNHUBER ET AL., *supra* note 16, at xviii.

60. Carmen G. Gonzalez, *Trade Liberalization, Food Security, and the Environment: The Neoliberal Threat to Sustainable Rural Development*, 14 TRANSNAT’L L. & CONTEMP. PROBS. 419 *passim* (2004).

61. See *id.* at 457.

ditional practices, such as crop diversification.<sup>60</sup> The Bank's recommendation to "scale up" crop diversification is concerning. Who does the Bank suggest do the "scaling up"? Based on the policies promoted by the Bank since the 1980s,<sup>61</sup> one can only assume that neoliberal players—international financial institutions, multinational banks and corporations—will engage in the theater of climate change adaptation. This is untenable.

The following section explains the neoliberal development project, its origins, and the aspects making it a particularly problematic approach to development in the Anthropocene.

## II. RISK, DEVELOPMENT AND THE NEOLIBERAL MOMENT

It is now becoming increasingly well understood that climate change poses grave economic, social, and environmental risks.<sup>62</sup> It is also well understood that to reduce carbon emissions, society as we know it must fundamentally adapt.<sup>63</sup> If carbon emissions remain at current levels, the best option remaining for communities, municipalities, and states, is to develop mechanisms to adapt to a world dominated by unpredictability and instability.<sup>64</sup> The question is whether the adaptation project simply refers to the physical architecture of survival, or if it means that something more essential, such as the law and institutions of development, must also become adaptive.<sup>65</sup> As yet, the

60. Carmen G. Gonzalez, *Trade Liberalization, Food Security, and the Environment: The Neoliberal Threat to Sustainable Rural Development*, 14 *TRANSNAT'L L. & CONTEMP. PROBS.* 419 *passim* (2004).

61. *See id.* at 457.

62. SKARBEK ET AL., *supra* note 19, at xi (noting that the "economic, social, and environmental risks of unabated climate change are immense"); *see* Carol Costello, *Why are We Still Debating Climate Change?*, CNN (May 28, 2014), <http://www.cnn.com/2014/02/24/opinion/costello-debate-climate-change/> (explaining that "there is a 97% consensus among scientific experts that humans are causing global warming," but that there is still a debate among Americans about the issue); *see also* JAMES INHOFE, *THE GREATEST HOAX: HOW THE GLOBAL WARMING CONSPIRACY THREATENS YOUR FUTURE* (2012) (describing the belief by some that global warming is nothing but a way for the government to increase regulations and the cost of living).

63. SKARBEK ET AL., *supra* note 19, at xiii.

64. *See* Craig, *Stationarity is Dead*, *supra* note 10 (noting that mitigation efforts alone cannot successfully combat climate change and calling for adaptation strategies, including in the legal field, to be realized).

65. *See id.* *See also* Robin Kundis Craig, *Designing Administrative Law for Adaptive Management*, 67 *VAND. L. REV.* 1 (2014); Nicholas A. Robinson, *Keynote: Sustaining Society in the Anthropocene Epoch*, 41 *DENV. J INT'L L. & POL'Y* 467 (2013); Craig Anthony Arnold & Lance H. Gunderson, *Adaptive Law and Resilience*, 43 *ENVTL. L. REP. NEWS & ANALYSIS* 10426 (2013); J.B. Ruhl, *Climate Change Adaptation and the Structural Transformation of Environmental Law*, 40 *ENVTL. L.* 363 (2010).

The dominant development narrative is so littered with this view that the *Pathways to Deep Decarbonization*'s authors state that, "[r]obust economic growth and rising prosperity are consistent with the objective of deep decarbonization."<sup>66</sup> This effectively cedes the future to a neoliberal agenda. This perspective also leaves unanswered, unexplored, and unexamined the question of how states became so vulnerable. An exploration of the roots of neoliberalism reveals that the same economic, social, and environmental risks that will increase in the Anthropocene are the risks that are left unchecked in a neoliberal frame.

### *A. Political Origins of Neoliberal Development*

The dawn of neoliberal development is often traced to the Ronald Reagan and Margaret Thatcher era.<sup>67</sup> With neoliberal development, post-colonial states in the Global South, unable to finance their own development projects and laden with debt, turned to the free market to meet their development needs.<sup>68</sup> This move was precipitated partly by need and, arguably, partly by coercion.

Early development programs designed in the North and exported to the South were focused on building the institutional capacity of states.<sup>69</sup> The court system, legal training, and liberal legal ideology were exported wholesale from North to South in the name of development.<sup>70</sup> Leaders in the Global North embarked on an essentially interventionist experiment in post-colonial states in an attempt to place such "undeveloped" and "uncivilized" states on the linear arc of modernity.<sup>71</sup> This approach failed.<sup>72</sup>

In the wake of these widespread failures, the leaders of states in the Global South were deemed too corrupt or inept to initiate development projects efficiently.<sup>73</sup> Around this time, from the 1950s into the early

66. SKARBEEK ET AL., *supra* note 19, at xi.

67. David M. Trubek, *The "Rule of Law" in Development Assistance: Past, Present, and Future*, in *THE NEW LAW AND ECONOMIC DEVELOPMENT: A CRITICAL APPRAISAL* 74, 82–83 (David M. Trubek & Alvaro Santos eds., 2006).

68. See Gonzalez, *supra* note 60, at 424, 457.

69. For a discussion of this history, see Baker, *supra* note 43, at 292–95.

70. *Id.*

71. Ruth E. Gordon & Jon H. Sylvester, *Deconstructing Development*, 22 *WIS. INT'L L.J.* 1, 79 (2004).

72. See David M. Trubek & Marc Galanter, *Scholars in Self-Estrangement: Some Reflections on the Crisis in Law and Development Studies in the United States*, 1974 *WIS. L. REV.* 1062 (discussing disillusionment with early development models).

73. See Tor Krever, *The Legal Turn in Late Development Theory: The Rule of Law and the World Bank's Development Model*, 52 *HARV. INT'L L.J.* 288 (2011). For instance, the World Bank published a study in 1981, now known as the "Berg Report," which placed the blame of African countries' poor economic performance on "bad government policies that distorted prices and resource allocation." The

1970s, states in the South were also coalescing around state sovereignty and calling for a greater role within intergovernmental organizations such as the United Nations.<sup>74</sup>

Rather than respond to the Global South's demands by granting a broader platform for states to air grievances or acquiescing to the call for less Northern intervention, structural adjustment programs emerged as the solution to the development concerns of the Global South.<sup>75</sup> In the Reagan-Thatcher era, and well into the 1980s and 1990s, states in the Global South found it difficult to finance their own infrastructure and development projects due to large amounts of sovereign debt.<sup>76</sup> With structural adjustment programs, states in the South could borrow heavily from international financial institutions such as the International Monetary Fund and the Bank; the only significant catch being that such states would also be required to implement neoliberal law reforms.<sup>77</sup> Laws protecting private property and contract rights and opening domestic markets were thus implemented on a broad scale throughout the Global South.<sup>78</sup> These reforms ushered in the neoliberal era of development. As some have argued, they also doomed the South to a cycle of dependency and unsustainable natural resource exploitation.<sup>79</sup>

### B. Risk Taking

The approach to neoliberal development is straightforward. With open markets and private law, states are primed for market entry by private actors.<sup>80</sup> These actors—corporations and private banks, with substantial technical and political support from institutions like the Bank—enter states in the Global South in the name of development.<sup>81</sup> The discourse surrounding this turn is rooted in efficiency: private actors are best positioned to handle the rampant risks of doing business in the Global South.<sup>82</sup> Moreover, such

neoliberal agenda emerged, in part, as a response to the recommendations offered in this report. *Id.* at 297.

74. Gordon and Sylvester, *supra* note 71, at 54–57.

75. See Gonzalez, *supra* note 60, at 458.

76. *Id.* at 457.

77. *Id.*

78. See Trubek & Galanter, *supra* note 72, at 1065–69 (describing the law and development movement that occurred in the Global South at the insistence of the Global North); see also M. Shamsul Haque, *The Fate of Sustainable Development under Neo-Liberal Regimes in Developing Countries*, 20 INT'L POL. SCI. REV. 197–218 (1999).

79. See Gordon & Sylvester, *supra* note 71, at 98 nn.134 & 198.

80. See Haque, *supra* note 78, at 203–06.

81. Gordon & Sylvester, *supra* note 71 at 22, 93.

82. Baker, *supra* note 43, at 275, 293.

actors require a stable investment environment in order to ensure a return on their investment.<sup>83</sup>

Not only did the Global South rely heavily on private actors for the bulk of its development activity, but the Global North also exported to the Global South complex development methods designed to reduce developers' economic risk. For example, project finance was and continues to be heavily used for development.<sup>84</sup> In project finance, sophisticated actors who are expert and repeat players in the field of development—Chevron, Texaco, or BP, for example—create multiple subsidiaries throughout a region that engage in highly risky and highly leveraged projects to garner high returns.<sup>85</sup> Within this frame, these sophisticated players are largely protected from the risks of their activities. They act behind the shield of limited liability and, for additional protection, through a complex web of contracts that effectively ensure that the environmental, social and financial risks of the activity will never impact the actor responsible for its initiation.<sup>86</sup>

The foregoing neoliberal approach to development in the Global South continues to dominate the policies advocated by the Bank and the major international finance institutions.<sup>87</sup> The discourse of risk reduction, supported by efficiency principles, allowed and continues to allow institutions in the North to pressure Southern states to adopt neoliberal law reform projects. For several reasons, however, the neoliberal approach to development fails to hold up to the needs of the Anthropocene.

### *C. Destabilization*

At the base of the three-legged stool upholding neoliberal development are a set of three key assumptions: (1) private actors are best situated to engage in the risky activity of development; (2) the environment itself is stable and static; and (3) markets will facilitate the conditions for economic growth, which in itself is limitless. The reality of the Anthropocene coupled with the empirical evidence emerging with respect to the economy not only destabilizes, but also collapses the stool upholding neoliberalism. I explore each aspect of this structure below.

83. See Krever, *supra* note 73, at 313 (stating that the neoliberal system provides a stable investment environmental and predictable market for investors).

84. See Baker, *supra* note 43, at 275–76.

85. See *id.*

86. *Id.* at 320.

87. See Krever, *supra* note 73, at 316 (stating that the World Bank and other financial institutions continue to “embrace . . . the free market and individual entrepreneurialism as the privileged agents of growth”).

## 1. Reliance on Private Actors

Limited liability has long been vilified. Diverse scholars, from environmental scholars to finance experts note, rightly, that limited liability, not even in its most perverse and effective forms, creates a moral hazard.<sup>88</sup> Risk is externalized and borne by the public. The actor who benefits from limited liability is essentially free to engage in extraordinarily risky activity knowing that it will never pay for the harm it causes.<sup>89</sup> When sought out to pay for environmental or social harm, the limited liability entity is protected by the limited liability legal fiction. If the external harm exceeds the entity's asset base, the harm is externalized and absorbed by society at large.<sup>90</sup>

In the realm of development, this dynamic is troubling. Despite emerging efforts from the United Nations and private actors themselves to foster greater corporate accountability and social responsibility,<sup>91</sup> communities in the Global South have effectively been left voiceless and with few remedies with respect to the development activities of private actors. Moreover, private actors are simply not structurally equipped to mitigate harm suffered by communities or the environment. Their purpose is to generate revenue and maximize shareholder value. Although the corporate structure has been critiqued in legal scholarship concerning corporations, there has been no real shift in thinking with respect to the primacy of profit.<sup>92</sup>

States in the Global South are particularly vulnerable to this structural concern. The premise of foreign direct investment initiated by private actors is that such activity will bring much needed wealth and job creation to an "underdeveloped" area; however, when shareholder profit is paramount, the private actor has no incentive to create lasting economic growth, safe jobs that adhere to the highest labor standards, or protect the environment from overexploitation. In this way, the capital-importing state is not only

88. See David A. Moss, *Risk, Responsibility, and the Role of Government*, 56 *DRAKE L. REV.* 541, 549 (2008) (noting that limited liability can encourage "reckless risk taking on the part of corporations and their shareholders").

89. See *id.*

90. See Brian Freedman, *Oil Spills, Limited Liability and BP: A Critical Look at Why Limited Liability is Essential to Modern Society*, 33 *WHITTIER L. REV.* 411, 428 (2012) (noting that many man-made environmental and natural resource harms—including oil spills—eventually affect and are absorbed by society at large).

91. U.N. Secretary-General, The UN "Protect, Respect and Remedy" Framework for Business and Human Rights (Sept. 28, 2010), available at <http://198.170.85.29/Ruggie-protect-respect-remedy-framework.pdf>.

92. Cf. LYNN STOUT, *THE SHAREHOLDER VALUE MYTH* (Berrett-Koehler Publishers, Inc. 2012) (arguing against idea of shareholder primacy as essential to the corporate form).

forced to rely on a private actor with limited liability who may create more harm than benefit, but this actor is principally concerned with its own bottom line and how much wealth it can extract from the developing state to pass along to shareholders. In light of these concerns, the efficiency of private actors thus does not hold as a justification for neoliberal development in the Anthropocene.

## 2. Environmental Stasis

Recent events also draw into question the stability of the second leg of neoliberalism's stool. Neoliberalism assumes that the environment itself is stable and static enough to support contract-based economic development activity.<sup>93</sup> We need not look far for illustrations of the vulnerability of this premise in the Anthropocene.

Neoliberalism privileges private actors by requiring developing states to stabilize their environmental laws.<sup>94</sup> Any changes to laws protecting the environment could lead to claims of expropriation by the investor.<sup>95</sup> Thus, neoliberalism assumes a fixed environment. Climate change has destabilized our understanding of our environment. Perhaps the only thing known with certainty is that we know very little about the environment we will inhabit in the next one hundred years.<sup>96</sup> With respect to the emerging volatility and unpredictability of the environment, flood and fire insurance alone would not seem to cover the ambit of what is to come. The stable environment assumed and required by neoliberalism thus also fails in the Anthropocene. One leg remains: the unfettered belief in markets.

93. See Krever, *supra* note 73; see also Craig, *Stationarity is Dead*, *supra* note 10, at 9 (stating that current environmental laws based on ecological stationarity will not be effective in a world influenced by climate change).

94. See Katja Gehne & Romulo Brillo, *Stabilization Clauses in International Investment Law: Beyond Balancing and Fair and Equitable Treatment* (NCCR Trade Regulation, Working Paper No. 46, 2013). Stabilization clauses are "provisions in investment contracts that accommodate the risk of regulatory changes for investors." *Id.* These provisions often conflict with states' efforts to protect their environment and the human rights of their people. *Id.*

95. See *Metalclad Corp. v. United Mexican States*, ICSID Case No. ARB(AF)/91/1, Award (Aug. 30, 2000), available at <http://www.italaw.com/sites/default/files/case-documents/ita0510.pdf>. In this case, an American landfill company bought a landfill site in Mexico but was subsequently denied building permits by the local government because of concerns about pollution and water contamination. Metalclad sued the Mexican government and was awarded millions of dollars by the International Centre for Settlement of Investment Disputes (ICSID).

96. J.B. Ruhl, *Climate Change and the Endangered Species Act: Building Bridges to the No-Analog Future*, 88 B.U. L. REV. 1, 5 (2008).

### 3. Markets and Growth

For neoliberalism to hold, the theory must maintain the fiction that markets create their own conditions for success.<sup>97</sup> Looking across the landscape of the Global South, this premise does not seem to hold.<sup>98</sup> Comprehensive empirical studies regarding the effects of neoliberal development in the Global South are few in number, but surveying the field in light of the data available, we find disappointing results. In most cases, unrestrained and open market access led to the wholesale pillaging of domestic capacity for production, thus also limiting a state's adaptive capacity.<sup>99</sup> The North American Free Trade Agreement (NAFTA), a classic neoliberal trade agreement, provides ample support for this statement.

NAFTA, with its focus on opening Mexico's markets to foster growth, has been blamed for the evisceration of its agricultural industry.<sup>100</sup> Small farmers, once thriving and selling a diverse array of agricultural products, including Mexican cultivated maize, a sacred grain in the country, are impoverished in the post-NAFTA world.<sup>101</sup> Such farmers are pressured into mono-agriculture transactions supported by large, private, agricultural companies and are now so impoverished they are unable to even afford the food they produce.<sup>102</sup> Under normal environmental conditions, these market-based approaches pose concerns. In the Anthropocene, they render states more impoverished,<sup>103</sup> incapable of crop and product diversification,<sup>104</sup> and more vulnerable to climate change.<sup>105</sup>

97. Trubek, *supra* note 67, at 6.

98. See Robinson, *supra* note 65, at 495 (discussing flawed assumptions of infrastructure development, namely, assumption that investment leads to economic growth).

99. See Carmen G. Gonzalez, *Trade Liberalization, Food Security, and the Environment: The Neoliberal Threat to Sustainable Rural Development*, 14 *TRANSNAT'L L. & CONTEMP. PROBS.* 419, 456 (2004) (examining the way in which neoliberalism has resulted in limited mono-crop production in the Global South, which exacerbates hunger, environmental degradation, and adaptive capacity in these areas).

100. See Carmen G. Gonzalez, *An Environmental Justice Critique of Comparative Advantage: Indigenous Peoples, Trade Policy, and the Mexican Neoliberal Economic Reforms*, 32 *U. PA. J. INT'L L.* 723, 755–756 (2011).

101. See *id.* at 752.

102. Laura Carlsen, *Under NAFTA, Mexico Suffered, and the United States Felt Its Pain*, *N.Y. TIMES*, Nov. 24, 2013, <http://www.nytimes.com/roomfordebate/2013/11/24/what-weve-learned-from-nafta-under-nafta-mexico-suffered-and-the-united-states-felt-its-pain>.

103. See Carmen G. Gonzalez, *Climate Change, Food Security, and Agrobiodiversity: Toward a Just, Resilient, and Sustainable Food System*, 22 *FORDHAM ENVTL. L. REV.* 493 (2011) (explaining that "climate change threatens to wreak havoc on food production by increasing the frequency and severity of extreme weather events, depressing agricultural yields, reducing the productivity of the world's fisheries, and placing additional pressure on scarce water resources").

104. *Id.*

105. *Id.*

In light of the foregoing, neoliberal development, and the institutions it supports, should adapt or be replaced to better match the existing conditions of the Anthropocene. This epoch calls into question the reliance on private actors to engage with relative impunity in the highly risky activity of development. In addition, the environment is elastic, and the risks associated with such elasticity are not easily managed in traditional private transactional structures. Finally, those developmental states that relied on neoliberal development regimes face challenges developing domestic capacity to adapt to climate change. The neoliberal stool thus collapses, and an adaptive paradigm of law and development must emerge.

### III. THE CASE FOR ADAPTIVE LAW AND DEVELOPMENT INSTITUTIONS

The foregoing discussion calls for a fair amount of soul searching. Up until now, climate change mitigation and adaptation efforts carried the embedded assumption that the same institutions, in their same form, would merely engage in the “adaptation project.”<sup>106</sup> However, it is clear that the institutions of development must themselves be a *part* of the adaptive project. The institutions must become adaptive. I suggest that the law of development as well must become adaptive.<sup>107</sup> This adaptive legal project must be rooted in a new approach to development that responds to the imminent needs of the Anthropocene.

The following Section offers examples of adaptive development approaches that begin to respond to the shortcomings of neoliberal development. Section B introduces key principles of adaptive development law that may bring more creative development solutions to countries in the Global South. The Section also offers suggested pathways to create more lasting adaptive development in the Anthropocene. Finally, the Section also provides suggested modes of scholarly inquiry to advance a comprehensive adaptive development law project. On the whole, this Part aims to fill in some of the contours of the new development approach in the Anthropocene, and provides a research agenda for creating adaptive development law in the Anthropocene.

106. See generally SKARBEK ET AL., *supra* note 19.

107. The call for a new type of governance responsive to the needs of the modern era is not new. In the late 1990s, Professors Michael C. Dorf and Charles F. Sabel called upon the academy to engage in a “new governance” project to respond to the complexity of modern life. The new governance theory spawned a complete body of scholarship that calls for reflexive governance and the incorporation of public voices into all levels of governance. This Essay suggests that vulnerabilities exacerbated by the Anthropocene call for an even more radical departure from our base case governance model. See Michael C. Dorf & Charles F. Sabel, *A Constitution of Democratic Experimentalism*, 98 COLUM. L. REV. 267, 406 (1998).

### *A. Adaptive Development*

The following sub-sections set forth two examples of adaptive development. The examples shed light on the ways in which communities and states have already begun to engage in the adaptive development project. Moreover, they offer guidance on the question of how development law and the accompanying legal principles could become adaptive to meet modern adaptive development needs.

#### 1. Energy Development

The diversity of the changing energy development landscape in the United States provides a glimpse of what adaptive development might look like in the future. Traditional energy generation in the United States relied on a centralized approach to electricity generation and transmission. For over one hundred years, large investor-owned utility companies handled the bulk of the United States' energy needs by using centrally located power plants and transmitting energy across long distances. With the instability in weather brought about by climate change, many states in the United States are now considering ways to decentralize energy production and decrease their vulnerability to climate change. Both the institutional model of energy production (currently large, investor-owned utilities) and the physical method of energy delivery (centralized power production and delivery over long distances) seem ripe for an adaptive transition.

As communities seek ownership and distribution models that allow them to meet their energy needs and create more flexibility in responding to climate change, conceptions of property and risk begin to shift. For example, community-owned energy projects and distributed generation (self-supply) have already emerged to counter the centralized approach to investor-owned energy production and distribution. The scale of such projects is smaller. Rather than siting large utility-scale projects over vast areas, these projects look to areas with a smaller footprint, such as parking lots, parks, and rooftops, to generate electricity. Moreover, microgrids provide an opportunity to experiment with decentralized energy production, which would help communities weather storms with greater resilience. As these models and institutions of energy development undergo transition they provide useful examples of adaptive development. These new development models also reflect a shifting view of property rights, where communities hold a collective interest in energy that would historically be produced by a private investor. They also offer insight into how communities could manage development risks.

These examples of adaptive development might also allow individuals and collectives to absorb the economic risks of projects and also reap their benefits. These types of organizational structures could operate to internalize environmental risks as well. Whereas with neoliberal development corporate actors have little incentive to serve as stewards of the environment, homeowners and community solar members may have a greater incentive to ensure that their development activities leave a light footprint.

Decentralized approaches to development could yield great benefits in the Anthropocene. They reform, rewrite, and restructure the background rules of development, which include principles of property law and risk management. The next sub-part turns to the Global South for additional examples of adaptive development.

## 2. Trade and Development

In adaptive development approaches, the old conception of markets gives way to a local vision of trade and development rooted in sustainability and the safeguarding of common resources. This idea appears to be taking hold throughout the Global South. For example, recently Ecuador,<sup>108</sup> Venezuela<sup>109</sup> and Bolivia<sup>110</sup> withdrew from the Bank's International Centre for Investment Disputes, the arbitration institution that in many ways plays a central role in the neoliberal development project. The countries' leaders withdrew, recognizing that withdrawal would provide more sovereignty over natural resources, offer increased economic stability, and allow for more state-led development efforts. These moves fly in the face of conventional wisdom and signal a turn inward to meet development needs. Thus, rather than rely on the standard investment institutions and models of development rooted in a neoliberal belief system, the inward turn allows for the building of smaller, nimbler, and environmentally responsive mechanisms for development.

108. Press Release, Int'l Ctr. for Settlement of Inv. Disputes, Ecuador Submits a Notice Under Article 71 of the ICSID Convention (July 9, 2009), *available at* <https://icsid.worldbank.org/ICSID/FrontServlet?requestType=CasesRH&actionVal=OpenPage&PageType=AnnouncementsFrame&FromPage=NewsReleases&pageName=Announcement20>.

109. Press Release, Int'l Ctr. for Settlement of Inv. Disputes, Venezuela Submits a Notice Under Article 71 of the ICSID Convention (Jan. 26, 2012), *available at* <https://icsid.worldbank.org/ICSID/FrontServlet?requestType=CasesRH&actionVal=OpenPage&PageType=AnnouncementsFrame&FromPage=Announcements&pageName=Announcement100>.

110. Press Release, Int'l Ctr. for Settlement of Inv. Disputes, Bolivia Submits a Notice Under Article 71 of the ICSID Convention (May 16, 2007), *available at* <https://icsid.worldbank.org/ICSID/FrontServlet?requestType=CasesRH&actionVal=OpenPage&PageType=AnnouncementsFrame&FromPage=NewsReleases&pageName=Announcement3>.

At the local levels, the calls for community-based sustainable development are vociferous and fearless. In El Salvador, activists lobbied the government to reject the mining permit of a Canadian mining company, which led to the conservative government's eventual rejection of the permit.<sup>111</sup> Activists pointed to the scarcity of fresh water in the country to support the claim that the permit should be denied to allow for more local use of the resource. The government agreed. This move reflects the essence of adaptive development. El Salvador is one of many Southern countries to acknowledge that neoliberal development, with its reliance on private actors to meet development needs, is unsustainable and could create vulnerability in the climate change era.

The foregoing examples of development disruption begin to sketch what may be coming in the Anthropocene. These examples harken a new type of development that inverts power relationships and rejects the primacy of profit over the environment and the common good, and that returns to community ownership of commodities like energy. As climate change leads to a greater collective vulnerability, these types of institutional innovations are increasingly needed. Law must also be a part of this paradigm shift. It too must become adaptive, respond, and become more nimble. The next Section provides a legal framework for applying these adaptive approaches to development.

### *B. Advancing an Adaptive Development Law Research Agenda*

Although the contours of Adaptive Development Law have not yet been determined, the uniqueness of this moment in our collective history assures us that change is on its way. Legal scholars should shepherd the transition. Legal scholars can and must map new adaptive legal pathways to help aid the transition from an economic development paradigm rooted in neoliberalism, to a more dynamic law that recognizes the collective enterprise of existence in a destabilized world. The following discussion outlines an agenda for legal scholars willing to engage in the adaptive development project. This radical break from modern law requires reviving legal precepts long buried under the weight of the neoliberal economic development project, including bottom-up resource management, flexibility within contract law, and collective ownership of property.

111. Carey L. Biron, *World Bank Tribunal Weighs Final Arguments in El Salvador Mining Dispute*, INT'L PRESS SERV. (Sept. 16, 2014), <http://www.ipsnews.net/2014/09/world-bank-tribunal-weighs-final-arguments-in-el-salvador-mining-dispute/>.

First, we must develop alternatives to limited liability forms and other business models that externalize the risks of their activities. Such activities create vulnerability and undermine principles of resilience.<sup>112</sup> Doing so will require embracing new relational forms that strengthen our collective resiliency, equitably share risks, and provide social benefits. In the Anthropocene, we may no longer accept that the harmful activity of privileged actors will be externalized, damaging our fragile ecosystem and rendering communities more vulnerable.

Second, we must recognize that the contractual framework of development must be flexible to account for dramatic environmental changes. The Anthropocene requires flexible paradigms of law. As Professor Robin Kundis Craig notes, in this climate change era, the “stationarity” framework, or “the idea that natural systems fluctuate within an unchanging envelop of variability,”<sup>113</sup> is disrupted. This disruption requires the existing approach to environmental and natural resource law to move away from a preservationist approach “grounded in the old stationarity framework that no longer reflects ecological realities” to one that “incorporates a far more flexible view of the natural world.”<sup>114</sup> In development, a flexible approach may require expanding rigid principles of contract and treaty law, such as the doctrine of changed circumstances and impossibility, to allow for a changed development environment. This could provide greater flexibility to states in the Global South seeking to remain engaged in international development projects that are also facing extreme ecological threats.

Finally, going forward, we must develop legal paradigms of property that expand the frame of development possibilities.<sup>115</sup> In the United States, private property rights are often viewed as “absolute”;<sup>116</sup> however, the Anthropocene will require reframing of property law to incorporate collective needs. Such reframing might allow for scaling back of market-driven approaches to development and strengthen local capacity for adaptation.

112. Robinson, *supra* note 65, at 495–96 (defining the Principle of Resilience as the duty of states to “sustain and enhance characteristics of resilience within all systems under their jurisdiction or control” and further noting that “‘business as usual’ that favors economic efficiency leaves many commercial and social systems less resilient.”).

113. Craig, *Stationarity is Dead*, *supra* note 10, at 15, 17.

114. *Id.* at 17 (noting that “both the identity of the regulatory objects—the things such as rivers that such statutes are trying to protect—and the regulatory objectives themselves be continually transforming, especially at the ecosystem level.”).

115. See also Carl J. Circo, *Does Sustainability Require a New Theory of Property Rights?*, 58 U. KAN. L. REV. 91 (2009).

116. Craig, *Stationarity is Dead*, *supra* note 10, at 15, 61–62 (arguing that climate change adaptation law requires the system of private property law to change to incorporate a “community-based valuation system” and that, just as in times of war, climate change requires a balancing of public and private interests).

Reimagining the commons, for example, may also allow for greater collective ownership of things like energy and food production, which are essential aspects of the adaptation project. Legal scholars can play a crucial role in helping communities to move away from markets and towards collective approaches to development.

None of these suggestions is entirely new, but these principles have been lost, rendered almost entirely invisible in the law and practice that informs global economic development. It is my hope that we, as legal scholars, begin to grapple with ways to incorporate these principles into the law of development.

It is not possible for any one scholar to reimagine the entirety of development law. We are collectively vulnerable at this critical time in human history. Therefore, we all must get to work to create an adaptive development law that strengthens our collective resilience.

#### CONCLUSION

*Yet, here I am again seeking to appeal to the most powerful that they have to move beyond an obsession with preserving a system that drives economic inequality, environmental destruction and violence. What is needed is not system maintenance or system recovery but substantial system redesign.*<sup>117</sup>

We now inhabit a development landscape that calls for a radical reinvention of systems that no longer serve our common humanity or the planet. The high-risk, high-reward system of development, rooted in precepts of neoliberalism and infinite growth, has created a planet perched on the precipice of decline and a populace plagued with profound inequality. The interlocking vulnerabilities of climate change and economic decline thus create the imperative: we must respond to this shift or perish.

The law should play a critical role in this time of transition. The system of development law predicated on risk externalization, a stable investment environment, and the market must yield to a new development paradigm. In this time of unprecedented disruption, the Anthropocene, the law of development must become adaptive.

117. Kumi Naidoo, *WEF 'Unlike'—Davos-Bound*, HUFFINGTON POST (Jan. 21, 2013, 7:03 PM), [http://www.huffingtonpost.com/kumi-naidoo/wef-unlike-davos-bound\\_b\\_2522551.html](http://www.huffingtonpost.com/kumi-naidoo/wef-unlike-davos-bound_b_2522551.html) (Executive Director of Greenpeace International discussing conversations with world leaders at the World Economic Forum).