

The Next Wave of Climate Change Litigation: Comparing Constitutional Inverse Condemnation Claims in the United States, South Africa, and Japan

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ABSTRACT

As climate change impacts people's property rights, the global influx of takings claims against governments for climate change effects and government responses to those effects will likely rise. Inverse condemnation claims will likely be the source of the next wave of climate change litigation. This Note discusses the feasibility of takings claims related to climate change effects and the means of addressing these claims embedded in constitutions. The increasing threat of climate change effects should be addressed with thoughtful legislation. The next step will be to preempt the influx of inverse condemnation suits by providing a reasoned approach, tailored to the specific regional risks and unique cultural background of each country. Part I reviews expropriation law and the types of claims likely to result from climate change. Part II analyzes relevant constitutional provisions in the United States, South Africa, and Japan. Part III presents conclusions about expropriation claims in light of each country's legal frameworks and cultural identity.

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INTRODUCTION

On August 25, 2017, a hurricane with winds at 130 miles per hour made land-fall on the Texas Gulf Coast.¹ The flooding led to one of the worst climate-related disasters in U.S. history;² fifty people died, millions were displaced from their homes, and recovery costs may reach 180 billion dollars.³ On August 28, 2017, near the end of the natural disaster's most severe effects, the U.S. Army Corps of Engineers ("USACE") decided to make several controlled releases from two government-owned reservoirs.⁴ The government released the water at six-and-a-half times the usual rate.⁵ As a result, water flooded thousands of homes and businesses that otherwise would have survived the hurricane with minimal damage.⁶ Many of these property owners did not carry flood insurance because their homes had no prior history of flooding.⁷

1. *Historic Hurricane Harvey's Recap*, THE WEATHER CHANNEL (Sept. 2, 2017, 2:30 PM), <https://weather.com/storms/hurricane/news/tropical-storm-harvey-forecast-texas-louisiana-arkansas>.

2. *Id.*

3. *Hurricane Harvey Damages Could Cost up to \$180 Billion*, REUTERS (Sept. 3, 2017), <http://fortune.com/2017/09/03/hurricane-harvey-damages-cost/http://fortune.com/2017/09/03/hurricane-harvey-damages-cost/>.

4. See Kiah Collier, *Can Flooded-Out Houstonians Win Lawsuits Against Army Corps?*, THE TEX. TRIBUNE (Sept. 28, 2017, 8:00 PM), <https://www.texastribune.org/2017/09/28/will-flooded-out-houstonians-prevail-lawsuits-against-army-corps/>.

5. See Cameron Langford, *Houston Residents Blame City for Dam-Related Flooding*, COURTHOUSE NEWS SERV. (Sept. 5, 2017), <https://www.courthousenews.com/houston-residents-blame-city-dam-related-flooding/>.

6. Collier, *supra* note 4.

7. Williams Kherkher Hart Boundas Easterby, LLP, *Williams Kherkher Files Inverse Condemnation Lawsuit on Behalf of Upstream Homeowners Flooded by U.S. Army Corps of Engineers Operation of*

Affected property owners brought lawsuits in federal courts alleging an unconstitutional taking of private land and demanding compensation.⁸ Over 100 lawyers are involved in these claims, which have a potential for ten billion dollars in damages.⁹ Although the USACE claimed that without such releases there would have been “a greater impact on the surrounding communities,”¹⁰ property owners responded that the government actively chose to protect some homes at the expense of others.¹¹ Specifically, the property owners allege that the government intentionally “stored impounded floodwater on [their] property” for the public benefit.¹² This type of litigation, albeit ultimately unsuccessful, has occurred before in response to decisions made by the USACE after Hurricane Katrina.¹³ Moreover, because climate change will increase the intensity and frequency of natural disasters such as Hurricane Katrina,¹⁴ the frequency of this type of litigation will also increase. Any new land regulations addressing these climate change effects, like sea-level rise, droughts, and increased smog, will lead to increased litigation as well.¹⁵

The concern over increased litigation is not just an issue for the United States. Climate change will have a global impact on property law.¹⁶ The number of countries with climate change litigation has already tripled since 2014.¹⁷ One wave of climate change litigation brings tort claims against producers that contribute to

the Addicks and Barker Reservoirs, PR NEWSWIRE (Oct. 12, 2017), <https://www.prnewswire.com/news-releases/williams-kherkher-files-inverse-condemnation-lawsuit-on-behalf-of-upstream-homeowners-flooded-by-the-us-army-corps-of-engineers-operation-of-the-addicks-and-barker-reservoirs-300535669.html>.

8. See Collier, *supra* note 4.

9. Shannon Sims, *The U.S. Flooded One of Houston's Richest Neighborhoods to Save Everyone Else*, BLOOMBERG BUSINESSWEEK (Nov. 16, 2017, 5:00 AM), <https://www.bloomberg.com/news/features/2017-11-16/the-u-s-flooded-one-of-houston-s-richest-neighborhoods-to-save-everyone-else>.

10. Press Release, *Corps Releases at Addicks and Barker Dams to Begin*, U.S. ARMY CORPS OF ENG'RS (Aug. 28, 2017), <https://www.swg.usace.army.mil/DesktopModules/ArticleCS/Print.aspx?PortalId=26&ModuleId=5070&Article=1291369> (quoting Col. Lars Zettertrom, Galveston District commander).

11. Brien Straw, *Kingwood Homeowners Join Class Action Lawsuit*, HOUSTON PUB. MEDIA (Sept. 22, 2017, 2:55 PM), <https://www.houstonpublicmedia.org/articles/news/2017/09/22/238558/kingwood-homeowners-join-class-action-lawsuit/>.

12. See *Jacobson v. United States*, No. 1:17-cv-01374-RHH, Fed. Cl. (Filed Sept. 28, 2017).

13. See, e.g., *St. Bernard Parish v. United States*, 887 F.3d 1354, 1363–64 (Fed. Cir. 2018).

14. E.g., Martin K. van Aalst, *The Impacts of Climate Change on the Risk of Natural Disasters*, 30 DISASTERS 1, 8–9 (2006); see also Karen Savage, *Hurricane Harvey: Climate Change's Staggering Human and Economic Toll on Display*, CLIMATE LIABILITY NEWS (Aug. 28, 2017) (explaining how experts agree that climate change exacerbated the dangerous characteristics in Hurricane Harvey); Ning Lin et al., *Hurricane Sandy's Flood Frequency Increasing from Year 1800 to 2100*, 113 PROCS. OF THE NAT'L ACAD. OF SCI. 43, 12071–75 (2016).

15. See J. Peter Byrne, *Rising Seas and Common Law Baselines: A Comment on Regulatory Takings Discourse Concerning Climate Change*, 11 VT. J. ENVTL. L. 625, 626 (2011) (discussing the expected increase in litigation due to sea-level rise).

16. See Robert Meltz, CONG. RES. SERV., RL32764, CLIMATE CHANGE LITIGATION: A GROWING PHENOMENON 23–27 (Apr. 7, 2008).

17. UNITED NATIONS ENVIRONMENT PROGRAM (UNEP), *The Status of Climate Change Litigation; A Global Review* (May 2017).

greenhouse gas emissions.¹⁸ Another wave of litigation holds the government accountable to its own regulations.¹⁹ Other waves of litigation are just getting started.²⁰ Although still in its infancy, litigation challenging a government's taking of private property is increasing in frequency and presents unique challenges. If successful, takings claims can result in insurmountable debt and deter the government from responding to dangerous climate change effects to protect its citizens. Therefore, countries must address unlawful takings claims that occur because of climate change.

To forecast the success of suits alleging an unlawful taking of private property related to climate change effects, this Note looks at how these claims function in the United States, South Africa, and Japan. Each country has a fundamentally different constitutional structure that leads to unique defenses for the unlawful takings issue. The countries also provide diverse insights into constitutional property rights because of their geographical and cultural diversity. Additionally, each country's constitution varies significantly in age; the United States ratified its constitution in 1787, Japan in 1947, and South Africa in 1996.²¹ In comparing these countries, this Note's analysis seeks to "generate concepts and analytical frameworks for thinking critically" about the intersection of climate change with property law and the right to exclude.²²

Part I of this Note offers a primer on takings law, identifying key terminology and explaining the types of climate change-related takings claims. Part II discusses the legal requirements for takings claims in the United States, South Africa, and Japan. It also explains how takings claims relating to climate change effects will be addressed by each country's legal framework. Finally, Part III analyzes the differences in legal structures and judicial interpretation. It also advocates for new legislation to ensure governments address climate change effects adequately. The United States can prevent cases from being adjudicated with constitutional doctrines of judicial restraint. The South African constitution can balance competing rights to determine when the government must compensate

18. See *Kivalina v. ExxonMobil Corp.*, 696 F.3d 849, 853 (9th Cir. 2012) ("Tribal leaders claimed their village is sinking due to rising waters and seek compensation from greenhouse gas emitters."); *Comer v. Murphy Oil USA, Inc.*, 585 F.3d 855, 859 (5th Cir. 2009) ("Gulf Coast property owners sued energy companies for their contribution to the intensity of Hurricane Katrina.").

19. See *VZW Klimatzaak v. Belgium*, *Klimaatzaak.eu*, *L'Affaire Climat: Le Procès* (holding the Belgian government accountable to national commitments on climate change); *Thomson v. Minister for Climate Change Issue* [2015] NZHC (HC) (New Zealand doing the same); *Rb.'s-Hague* 24 June 2015, 2015 m.nt RDH (Urgenda Foundation/Kingdom of the Netherlands) (Neth.); *Leghari v. Pakistan*, (2015) W.P. No. 25501/2015 (Pak.); *Greenpeace New Zealand v. Northland Reg'l Council*, [2007] NZHC 87 (NZ).

20. See Josh Block, *CLF Files First-in-Nation Lawsuit over ExxonMobil Climate Cover-up*, CONSERV. L. FOUND. (Sept. 29, 2016).

21. COMPARATIVE CONSTITUTIONS PROJECT, *Constitution Rankings* (Apr. 8, 2016), <http://comparativeconstitutionsproject.org/ccp-rankings/>.

22. See Ran Hirschl, *Case Selection and Research Design in Comparative Constitutional Studies*, COMPARATIVE MATTERS: THE RENAISSANCE OF COMPARATIVE CONSTITUTIONAL LAW 238 (2014).

landowners. Japanese courts have considered international law when construing their constitutional property provision to require compensation in particular circumstances.

I. BACKGROUND

Takings law has been described as a “despotic power” without which “government could not subsist.”²³ This Part outlines how individuals acquire the right to challenge this despotic power which impedes on their right to exclude. It provides the relevant vocabulary for dissecting a country’s constitutional property provisions and explains how takings claims arise in the context of climate change.

A. UNDERSTANDING INVERSE CONDEMNATION CLAIMS

Government defines and enforces property rights,²⁴ but it also protects property owners. This protection dates back as early as Roman Law.²⁵ Property laws that protect the owner’s rights are grounded in a fundamental, guaranteed protection from government intrusion. In the United States, the “constitution encircles, and renders [property rights] a holy thing.”²⁶ Property guarantees are often negative because they proscribe what the government will not do in relation to an individual’s property. However, positive guarantees giving individuals property rights exist as well.²⁷ Private property rights often stand at odds with the public good when the needs of property owners conflict with the needs of the community.²⁸

Many countries’ constitutions handle this tension by requiring the government to compensate individuals when taking private property for a public purpose, commonly known as “expropriation.”²⁹ Additionally, each country has its own

23. *Vanhorne’s Lessee v. Dorrance*, 2 U.S. 304, 311 (C.C.D. Pa. 1795).

24. JAMES L. HUFFMAN, *PRIVATE PROPERTY AND STATE POWER: PHILOSOPHICAL JUSTIFICATIONS, ECONOMIC EXPLANATIONS, AND THE ROLE OF GOVERNMENT* 135 (2013).

25. SABRINA PRADUROUGH, *PUBLIC INTEREST IN TAKINGS CASES IN ITALY AND FRANCE: THE CONSTITUTIONAL AND HUMAN RIGHTS DIMENSION* 13 (2014), available at <http://eulegalculture.di.unito.it/files/Praduroux-1.PDF>.

26. *Vanhorne’s Lessee*, 2 U.S. at 311.

27. AJ VAN DER WALT, *CONSTITUTIONAL PROPERTY CLAUSES; A COMPARATIVE PERSPECTIVE* 11–12 (1999).

28. SUSAN REYNOLDS, *BEFORE EMINENT DOMAIN, TOWARDS A HISTORY OF EXPROPRIATION OF LAND FOR THE COMMON GOOD* 3 (2010).

29. AFGHANISTAN CONST. 2004, ch. II, art. 40; ANDORA CONST. 1993, title II, ch. V, art. 27 § 2; ANGOLA CONST. 1992, title I, art. 15 § 3; BENIN CONST. 1990, title II, art. 30; CONSTITUIÇÃO FEDERAL [C.F.] [CONSTITUTION] art. 169 § 5 (Braz.); CAMBODIA CONST. 1993, ch. II, art. 44; CYPRUS CONST. 1986, part. II, art. 23 § 3; CONST. OF THE ARAB REPUBLIC OF EGYPT, 18 Jan. 2014, art. 35; ERITREA CONST. 1997, ch. III, art. 23 § 3; HONDURAS CONST. 1982, title VI, ch. III, art. 349; Article 23, Section 2, *Dustur Jumhuriyat al-‘Iraq* [The Constitution of the Republic of Iraq] of 2005; NIHONKOKU KENPŌ [KENPŌ] [CONSTITUTION], art. 29 (Japan); JORDAN CONST. 1952, ch. 2, art. 11; CONST. ch. 4, pt. 2.40.3 (2010) (Kenya); LIBERIA CONST. 1980, ch. III, art. 24 § A; MARSHALL ISLANDS CONST. 1979, art. II, § 5; NAMIBIAN CONST. 1990, ch. 3, art. 16, § 2; PALAU CONST. 1981, art. IV, § 6; PAPUA N.G. CONST. 1975, pt. III, div. 3, subdiv. C, § 53.2; CONST. (1987), art. III, § 9 (Phil.); POL. CONST. 1997, ch. I, art. 21, § 2; PORT. CONST. 1976, tit. III, ch. 1, art. 62, § 2; SOM. CONST. 2012, ch. 2, tit. 2, art. 26, § 2; S. AFR.

way of determining which circumstances demand compensation.³⁰ The practice of lawfully expropriating private lands is referred to as “eminent domain.”³¹ Originally, the term eminent domain meant that, even though an individual may have a right over her own property, the community has a higher right over the property.³² Currently, eminent domain is nearly synonymous with expropriation because a community’s right to a property owner’s goods is exercised by its representative government.³³ When a country adopts a constitutional property provision that permits expropriation, it is often “hailed as a great step forward.”³⁴ Most expropriation provisions strike a balance by permitting government use of eminent domain in exchange for compensation.

If the government takes private land without providing compensation, the property owner can bring a claim of “inverse condemnation” against the government to recover damages.³⁵ In some countries, the cost of inverse condemnation claims adds up. For example, in Israel, a country slightly larger than the state of New Jersey, there are nearly one billion dollars in active claims for compensation due to inverse condemnations.³⁶ But the laws around such claims are still developing. Even in the United States, where eminent domain is at the heart of the property rights debate,³⁷ inverse condemnation claims remain a relatively new avenue of redress.³⁸ The feasibility of these claims is even less established elsewhere in the world.³⁹ Therefore, this analysis ventures into uncharted waters in

Const., ch. 2, art. 25, § 2, 1996; U.S. CONST. amend. V; URU. CONST. 1985, sec. II, ch. I, art. 32; *see also* TOM ALLEN, *THE RIGHT TO PROPERTY IN COMMONWEALTH CONSTITUTIONS* 1 (2000).

30. *See* Sabrina Praduroux, *Public Interest in Takings Cases in Italy and France: The Constitutional and Human Rights Dimension*, in *RETHINKING EXPROPRIATION LAW I: PUBLIC INTEREST IN EXPROPRIATION* 37 (Bjorn Hoops et al. eds., 2015).

31. Robert C. Bird, *Reviving Necessity in Eminent Domain*, 33 *HARV. J. L. & PUB. POL’Y* 239, 240 (2010).

32. VAN DER WALT, *supra* note 27, at 94. The term “eminent domain” itself was first articulated by Hugo Grotius as *dominium eminens* in the seventeenth century. Raymond F. Rice, *Eminent Domain from Grotius to Gettysburg*, 53 *AM. BAR. ASS. J.* 1039, 1039 (1967). The technical translation means “highest ownership of land.” DANIEL H. COLE, *POLLUTION AND PROPERTY: COMPARING OWNERSHIP INSTITUTES FOR ENVIRONMENTAL PROTECTION* 154 (2002).

33. VAN DER WALT, *supra* note 27, at 97.

34. ROBIN PAUL MALLOY & JAMES CHARLES SMITH, *PRIVATE PROPERTY, COMMUNITY DEVELOPMENT, AND EMINENT DOMAIN* 1 (2008) (referencing the passage of the new Property Law in China).

35. Daniel R. Mandelker, *Inverse Condemnation: The Constitutional Limits of Public Responsibility*, 3 *WIS. L. REV.* 3, 4 (1966).

36. Rachele Alterman, *Israel*, in *TAKINGS INTERNATIONAL: A COMPARATIVE PERSPECTIVE ON LAND USE REGULATIONS AND COMPENSATION RIGHTS* 317 (Rachele Alterman ed., 2010).

37. *See* Mandelker, *supra* note 35, at 5.

38. *See* Joseph Belza, *Inverse Condemnation and Fracking Disasters: Government Liability for the Environmental Consequences of Hydraulic Fracturing Under a Constitutional Takings Theory*, 44 *B.C. ENVTL AFFAIRS L. REV.* 55, 58 (2017).

39. *See, e.g.*, Erin Kaplinsky & David R. Percy, *The Impairment of Subsurface Resource Rights by Government as “Taking” of Property: A Canadian Perspective*, in *RETHINKING EXPROPRIATION LAW II: CONTEXT, CRITERIA, AND CONSEQUENCES OF EXPROPRIATION* 223 (Bjorn Hoops et al. eds., 2015).

hopes of discovering which bearings are available for individuals bringing such claims and which constitutional defenses are available to governments.

B. TYPES OF INVERSE CONDEMNATION

Many actions can lead to an inverse condemnation claim. The government can “take” the land by physically invading or causing physical damage to the land.⁴⁰ Government actions that reduce the economic value of land may also require compensation.⁴¹ Depending on the country, complete economic deprivations are known as “planning expropriations,” “major takings,” or “*per se* takings.”⁴² Finally, when government actions limit individuals’ access to or use of their property, individuals can bring inverse condemnation claims as well.⁴³ Depending on the country, inverse condemnations based on regulations are called “regulatory takings,” “effective or material expropriations,”⁴⁴ “*de facto* takings,”⁴⁵ or “injurious affections.”⁴⁶ In terms of climate change, a taking can occur when government actions cause climate change effects that lead to physical damage, the government fails to prepare for climate change, or the government’s responses to climate change effects adversely impact private property.⁴⁷

The government’s role in contributing to climate change effects can lead to a physical taking. To a large extent, climate change worsens because of the government’s inability to address the causes of climate change.⁴⁸ The government oversees and regulates many activities that contribute to global warming.⁴⁹ The international community relies on the role governments play in regulating energy production and consumption to hold governments accountable for their citizens’

40. Mandelker, *supra* note 35, at 4.

41. *See* Penn Cent. Transp. Co. v. New York City, 438 U.S. 104, 124 (1978) (creating a test for regulatory takings); *see also* Loretto v. Teleprompter Manhattan CATV Corp., 458 U.S. 419, 436 (1982).

42. Rachele Alterman, *Comparative Analysis: A Platform for Cross-National Learning*, in *TAKINGS INTERNATIONAL: A COMPARATIVE PERSPECTIVE ON LAND USE REGULATIONS AND COMPENSATION RIGHTS* 23 (Rachele Alterman ed., 2010).

43. Mark M. Murakami & Christi-Anne H. Kudo Chock, *Damages Resulting from a Taking: An Overview*, in *EMINENT DOMAIN, A HANDBOOK OF CONDEMNATION LAW* 34, 40 (David Callies et al. eds., 2011).

44. *See* Enrico Riva, *Regulatory Takings in American Law and “Material Expropriation” in Swiss Law – A Comparison of the Applicable Standards*, 16 *URBAN L.* 425, 427 (1984).

45. James E. Greilsheimer & Cynthia Lovinger Siderman, *Inverse Condemnation*, in *EMINENT DOMAIN: A HANDBOOK OF CONDEMNATION LAW* 123 (David Callies et al. eds., 2011).

46. ERIC C.E. TODD, *THE LAW OF EXPROPRIATION AND COMPENSATION IN CANADA* 329 (2d ed. 1992).

47. *See* Jennifer Klein, *Potential Liability of Government for Failure to Prepare for Climate Change*, *SABIN CTR. FOR CLIMATE CHANGE L.* 23–27 (2015).

48. *See* Jeongheon JC Chang et al., *Who is Responsible for Climate Change? Attribution of Responsibility, News Media, and South Koreans’ Perceived Risk of Climate Change*, 19 *CLIMATE & SUSTAINABILITY COMM.* 566, 568 (2016).

49. *See id.*

contributions as well.⁵⁰ The government can also play a more active role by explicitly authorizing activities that contribute to climate change. For example, the United States government grants corporations access to federal land to create hundreds of thousands of oil and gas wells.⁵¹ The use of fossil fuels extracted pursuant to government grants contributes to climate change.⁵² Therefore, damage to private property resulting from the effects of climate change can be attributed to government actions.

Additionally, dangerous climate change effects can lead to government responses that impact private property. Globally, twenty-five million people are displaced annually because of climate or weather-related disasters like earthquakes, droughts, hurricanes, and floods.⁵³ Countries will have to find a way to house displaced communities. More generally, takings claims can exist when the government controls the imposition of harm associated with climate change effects or when government regulation leaves a property particularly vulnerable to climate change effects.⁵⁴ A plethora of actions under the doctrine of inverse condemnation could justify relief for climate change-related damages.

Focusing on one type of climate change effect, like sea-level rise, can better illustrate the types of takings claims available. The Intergovernmental Panel on Climate Change estimates sea-levels will increase by at least 1.3 feet by the end of the century.⁵⁵ It also expects 70% of coastlines to experience sea-level rise in the coming century,⁵⁶ although the relative impact will vary for each country.⁵⁷ Erosion amplifies land loss; for example, coastlines in the United States erode by an average of two to four feet per year.⁵⁸ Overall, sea-level rise could displace hundreds of millions of people because at least 10% of the world's population lives in vulnerable lands like coastal properties.⁵⁹ Even temporary sea-level rise

50. See Paris Agreement Under the United Nations Framework Convention on Climate Change, Art. 2.1.a, U.N. Doc. FCCC/CP/2015/L.9/Rev.1.

51. Emily Moser, *U.S. Sets New Rules for Fracking on Federal Lands*, 23 OIL & GAS INV. 13 (2015).

52. U.S. GLOB. CHANGE RES. PROGRAM, FOURTH NATIONAL CLIMATE ASSESSMENT 32 (2017).

53. INTERNAL DISPLACEMENT MONITORING CTR., GLOBAL ESTIMATES 2015 8 (2015).

54. See Christopher Serkin, *Passive Takings: The State's Affirmative Duty to Protect Property*, 113 MICH. L. REV. 345, 382 (2014).

55. INT'L PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2014 SYNTHESIS REPORT SUMMARY FOR POLICYMAKERS 11 (2014).

56. *Id.* at 13.

57. See, e.g., A Kontogianni et al., *Assessing Sea Level Rise Costs and Adaptation Benefits Under Uncertainty in Greece*, 37 ENVTL. SCI. & POL'Y 61 (2014); Jochen Hinkel et al., *Coastal Flood Damage and Adaptation Costs under 21st Century Sea-Level Rise*, 111 PROCS. OF THE NAT'L ACAD. OF SCI. 3292, 3292–97 (2013); Wei-Shiuen Ng & Robert Mendelsohn, *The Impact of Sea Level Rise on Singapore*, 10 ENVTL. & DEV. ECON. 201, 204–06 (2005).

58. Devon Applegate, *The Intersection of the Takings Clause and Rising Sea Levels: Justice O'Connor's Concurrence in Palazzolo Could Prevent Climate Change Chaos*, 43 B.C. ENVTL. AFF. L. REV. 511, 514 (2016).

59. JEFF GOODELL, *THE WATER WILL COME* 168–69 (2017) (explaining how the rising sea level will cover entire island nations); Danny Clemens, *Climate Change by the Numbers: 760 Million Displaced by Rising Sea Levels*, DISCOVERY (Nov. 10, 2015).

can cause millions of dollars in damage.⁶⁰ Therefore, sea-level rise leaves people with the opportunity to bring claims against the government for (i) causing or contributing to sea-level rise, (ii) failing to protect coastal communities, (iii) sacrificing certain land for other protective measures, or (iv) failing to house displaced persons. But sea-level rise is only one type of climate change effect. Government responses to climate change in general will be a source of inverse condemnation claims.

II. ANALYZING INVERSE CONDEMNATION CLAIMS

The legal property rights afforded by a country's constitutional expropriation provisions will impact an individual's chance for recovery. This Part explores expropriation provisions in the constitutions of the United States, South Africa, and Japan. The sections describe how each country's courts interpret their respective property clauses and how individuals can bring inverse condemnation claims against their government. Next, the focus shifts to a particular judicial defense rooted in each country's constitution that allows the government to avoid paying substantial compensation. These defenses include the doctrines of standing in the United States, supremacy of some constitutional rights over constitutional property rights in South Africa, and market-value compensation limitations in Japan. Finally, this Part evaluates each country's legal framework and its current capacity to process the inevitable influx of inverse condemnation claims.

A. UNITED STATES

When the United States was formed, the concept of compensated expropriation was uncontroversial.⁶¹ The Fifth Amendment to the U.S. Constitution, termed the "takings clause," states, "nor shall private property be taken for public use, without just compensation."⁶² Jurisprudence in the United States has long recognized that takings can occur not only when property is taken, but also when "certain rights in and appurtenant to [property]" are deprived.⁶³ Despite the long history of compensation, there remains a "widespread belief that government does not compensate anyone when it takes their property."⁶⁴ Part of the confusion likely results from each state having its own constitution, laws, and common law about what establishes a taking of private property.⁶⁵ For the purpose of this analysis, the focus will be on the federal government's understanding of eminent domain

60. See Michael Kimmelman, *Rising Waters Threaten China's Rising Cities*, N.Y. TIMES (Apr. 7, 2017).

61. VAN DER WALT, *supra* note 27, at 82.

62. U.S. CONST. amend. V.

63. John Lewis, *A Treatise on the Law of Eminent Domain in the United States* § 56 (1888).

64. TIMOTHY J. DOWLING, DOUGLAS T. KENDALL, & JENNIFER BRADLEY, *THE GOOD NEWS ABOUT TAKINGS* ix (2006) (internal citations omitted).

65. See CONDEMNATION, ZONING AND LAND USE COMM. OF A.B.A., *THE LAW OF EMINENT DOMAIN; FIFTY-STATE SURVEY* (William G. Blake ed., 2012).

and the capacity of the courts to invoke constitutional barriers to get to the merits of the case.

The U.S. Supreme Court has recognized four types of government actions that can lead to a takings claim: (i) physical occupations or invasions of property; (ii) deprivations of all economic use of the property; (iii) deprivations of some economic use under certain circumstances; and (iv) land use exactions where the government conditions a private property right in exchange for a public use of the property.⁶⁶ All these claims may arise in response to climate change.⁶⁷

1. Bringing Inverse Condemnation Claims

Generally, any physical invasion of land caused by the government is compensable, no matter how small.⁶⁸ Individuals can bring an inverse condemnation claim for damages regardless of whether the invasion permits members of the public to enter the private land⁶⁹ or causes a flood in the property.⁷⁰ Even if the invasion of the land is temporary, the inverse condemnation claim remains viable after the invasion ends.⁷¹ As for economic deprivations, government actions that remove essentially all of a property's economic value permanently are compensable.⁷²

But U.S. courts have established a threshold test for awarding compensation for nonpermanent or partial economic deprivations due to regulations. Even if a regulation deprives the property of economic value entirely, temporary deprivations do not require compensation.⁷³ Instead, a court determines whether there must be compensation by looking at “[t]he economic impact . . . the extent to which the regulation has interfered with distinct investment-backed expectations . . . [and] the character of the government action.”⁷⁴ Nevertheless, individuals

66. *See* *Lingle v. Chevron U.S.A. Inc.*, 544 U.S. 528 (2005).

67. It is increasingly likely that many more cases will arise in relation to partial economic deprivation and land use exactions as governments try to increase environmental regulations in response to climate change. *See* ROBERT MELTZ, DWIGHT H. MERRIAM, & RICHARD M. FRANK, *THE TAKINGS ISSUE: CONSTITUTIONAL LIMITS ON LAND-USE CONTROL AND ENVIRONMENTAL REGULATIONS* (1999).

68. *See* *Yee v. City of Escondido*, 503 U.S. 519 (1992).

69. *Kaiser Aetna v. United States*, 444 U.S. 164, 179–80 (1979).

70. *Jacobs v. United States*, 290 U.S. 13 (1933); *Pumpelly v. Green Bay Co.*, 80 U.S. 166 (1871) (requiring Wisconsin to pay just compensation for water overflow caused by the making of a dam).

71. *Ark. Game & Fish Comm'n v. United States*, 568 U.S. 23 (2012) (holding that recurrent but temporary government induced floods can be grounds for a takings claim).

72. *Palazzolo v. Rhode Island*, 533 U.S. 606, 631 (2001) (“[A] State may not evade the duty to compensate on the premise that the landowner is left with a token interest.”); *Lucas v. S.C. Coastal Council*, 505 U.S. 1003 (1992) (setting up the complete economic deprivation test for regulatory takings in the context of an environmental prohibition against building homes on the plaintiff's beach front property that rendered the property valueless).

73. *Tahoe-Sierra Preservation Council Inc. v. Tahoe Reg'l Planning Agency*, 535 U.S. 302, 340–41 (2002) (determining that a one-year moratorium on all use of private property was not a *per se* taking).

74. *Penn Cent. Transp. Co. v. New York City*, 438 U.S. 104, 124 (1978) (evaluating whether a regulation preventing Penn Central Transportation from building an additional office building on top of Grand Central Station was a regulatory taking).

bring claims where government regulations, like zoning, require property owners to use or refrain from using their land in a certain way because of climate change vulnerability.⁷⁵

On top of these judicial doctrines,⁷⁶ state and federal legislation impacts eminent domain litigation. State legislation can impact the merits of takings cases. For example, Senate Bill 387 and Assembly Bill 479 in Wisconsin permit owners to split substandard lots in common ownership,⁷⁷ and by doing so, avoid common law eminent domain hurdles associated with commonly-owned adjacent parcels of land in takings claims. Federal legislation often encourages people to bring inverse condemnation claims without impacting the merits of those claims. The Equal Access to Justice Act permits a plaintiff to recover attorneys' fees from the government.⁷⁸ This fee-shifting motivates some plaintiffs to bring riskier suits.⁷⁹ However, a dearth of federal regulations explicitly regulates the merits of an individual's property rights when bringing inverse condemnation claims.

2. Standing as an Obstacle to Bringing Inverse Condemnation Claims

With so much litigation surrounding the proper use of eminent domain,⁸⁰ the United States has many defenses. Some defenses attack the merits of the claims, whereas others prevent the claims from being heard, or provide a categorical defense to claims with merit.⁸¹ Most recently, the Federal Circuit required plaintiffs to show the damage to the property was worse than the damage that would have occurred absent any government involvement.⁸² This analysis focuses on the doctrine of standing, which can prevent a claim from being heard on the merits. Unlike other available defenses, standing is the only one rooted in the Constitution.⁸³ Standing developed from the constitutional requirement that

75. See Serkin, *supra* note 54, at 382.

76. State courts also create their own case law for takings. See *Murr v. Wisconsin*, 137 S. Ct. 1933, 1938 (2017).

77. Greg Seitz, *Wisconsin Legislature Weakens St. Croix River Scenic Protections*, ST. CROIX 360 (Nov. 9, 2017), <https://www.stcroix360.com/2017/11/wisconsin-legislature-weakens-st-croix-river-scenic-protections/>.

78. See 28 U.S.C. § 2412; see also *Monongahela Navigation Co. v. United States*, 148 U.S. 312, 325 (1893) (requiring "full and perfect equivalent" compensation for exercising eminent domain).

79. See Brian Angelo Lee, *Just Undercompensation: The Idiosyncratic Premium in Eminent Domain*, 113 COLUM. L. REV. 593, 636–37 (2013) (explaining how eminent domain treats people with different incomes differently).

80. See Robert Meltz, CONG. RES. SERV., 97-122, TAKINGS DECISIONS OF THE U.S. SUPREME COURT: A CHRONOLOGY 3–11 (2015).

81. For example, there are defenses rooted in background principles of state law which prohibit the action the claimant sought to do on his property even before the taking occurred. See Michael C. Blumm & Lucas Ritchie, *Lucas's Unlikely Legacy: The Rise of Background Principles as Categorical Takings Defenses*, 29 HARV. ENVTL. L. REV. 321, 368 (2005).

82. *St. Bernard Parish v. United States*, 887 F.3d 1354, 1363–64 (Fed. Cir. 2018).

83. Other doctrines and defenses that may be important include ripeness, statutes of limitations, and necessity. See John Echeverria & Robert Meltz, *The Flood of Takings Cases after Hurricane Harvey*,

courts may only hear cases or controversies.⁸⁴ The Supreme Court expanded this requirement into three elements: (i) there must be an “injury in fact;” (ii) the injury must be “fairly traceable to the challenged action of the defendant;” and (iii) it must be likely that “the injury will be redressed by a favorable decision.”⁸⁵

With regards to the injury in fact requirement, environmental injuries have a complicated history in the United States because courts are still deciding whether climate change *itself* can qualify as an injury in fact.⁸⁶ However, with respect to climate change effects and government responses to those effects, an injury is a direct interference with a property owner’s right to exclude. Inverse condemnation claims will nearly always satisfy the injury in fact requirement with the presence of some kind of land condemnation.

The more significant hurdle is the causation requirement.⁸⁷ Although the Supreme Court has upheld the causal connection between the emission of greenhouse gases and climate change,⁸⁸ it is difficult to attribute these effects to any single actor.⁸⁹ For some courts, it is sufficient to show that “the pollutant causes or contributes to the kinds of injuries alleged by the plaintiffs,”⁹⁰ whereas others have found it impossible to trace “any particular alleged effect of global warming to any particular emissions by any specific person . . . at any particular point in time.”⁹¹ Some courts have gone so far as to say that plaintiffs must show “that it is substantially probable . . . that the challenged acts of the defendant, not of some absent third party,” caused or will cause the injury.⁹² This uncertainty will eliminate claims that the government action caused a climate change effect resulting in the inverse condemnation. Government responses to climate change effects, like severe weather events, will pass through this hurdle.

Finally, redressability will be satisfied in nearly every case. For any inverse condemnation claim based on a lawful activity, an adequate remedy available to the courts is providing just compensation. A remedy for ongoing government

Ctr. for Progressive Reform (Oct. 23, 2017) (discussing the doctrine of necessity and citing *Miller v. Schoene*, 276 U.S. 272, 280 (1928) (creating a defense where “the choice is unavoidable, we cannot say that its exercise, controlled by considerations of social policy which are not unreasonable, involves any denial of due process”)); Allen A. Arntsen & Anat Hakim, *Taking Rights Away: Ripeness, Abstention, and Res Judicata Principles in Taking Cases*, in *CURRENT CONDEMNATION LAW 61* (Alan T. Ackerman & Darius W. Dynkowski eds., 2d ed. 2006); Bruce Botsford, *A Survey of Statutes of Limitations in Inverse Condemnation Actions*, in *CURRENT CONDEMNATION LAW 61* (Alan T. Ackerman & Darius W. Dynkowski eds., 2d ed. 2006).

84. See U.S. CONST. art. III, § 2.

85. *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560–61 (1992).

86. David R. Hodas, *Standing and Climate Change: Can Anyone Complain About the Weather?*, 15 *J. LAND USE & ENVTL. LAW* 2, 473 (2000).

87. Ronald G. Peresich, *Climate Change Litigation*, 45 *THE BRIEF; CHICAGO* 28, 30 (2016).

88. *Mass. v. Env'tl. Prot. Agency*, 549 U.S. 497, 523 (2007).

89. *Comer v. Murphy Oil USA, Inc.*, 585 F.3d 855, 879–80 (5th Cir. 2009).

90. *Sierra Club v. Cedar Point Oil Co.*, 73 F.3d 546, 557 (5th Cir. 1996).

91. *Native Vill. of Kivalina v. ExxonMobil Corp.*, 663 F. Supp. 2d 863, 880 (N.D. Cal. 2009).

92. *Ctr. for Biological Diversity v. U.S. Dep't. of Interior*, 563 F.3d 466, 478 (D.C. Cir. 2009).

actions includes finding the action unlawful and issuing an injunction. Past unlawful government actions are often evaluated on the same basis as other takings cases for compensation.⁹³ Individuals may also seek a declaratory judgement to judicially recognize a plaintiff's rights or an injunction that limits what the government can or cannot do.⁹⁴

3. Likelihood for Compensation

Property owners in the United States are likely to succeed with inverse condemnation claims against government responses to climate change effects that impact property rights when those property owners would have been better off without any government involvement.⁹⁵ However, plaintiffs should be aware that courts could add additional restraints, especially as the number of litigable cases increases. In flooding cases, plaintiffs must also show the government subjected their land to "additional flooding above what would [have] occur[ed] if the government had not acted" and that the government did not "inflict slight damage upon land in one respect and actually confer great benefits when measured in the whole."⁹⁶

Compensation is also likely when people are forced to migrate and enter another private person's land. Standing is not a significant hurdle for a landowner whom the government forces to share property with a stranger from another part of the country. This will force the government to take actions affecting property owners further away from the climate disaster. And further away from the actual disaster in space or time, the government will have fewer defenses based on causation because the government will not be able to show that the landowners would have been impacted even without the government action. For example, if individuals need to relocate out of a disaster area into another state and the government must use private land to house the individuals, the government will not be able to argue that the disaster caused the land invasion under current takings jurisprudence. Therefore, the more removed the government response from the actual climate disaster, the more likely it will give rise to a valid takings claim. On the other hand, plaintiffs will not be able to overcome the standing hurdle when bringing claims against the government for causing climate change effects-related damages.

B. SOUTH AFRICA

Property rights in South Africa are particularly contentious. The mere inclusion of the property clause in the recent South African Constitution revolutionized the

93. MELTZ, MERRIAM, & FRANK, *supra* note 67, at 78–79.

94. *Ctr. for Biological Diversity*, 563 F.3d at 475.

95. See Amanda Reilly, *In Reversal, Court Rules U.S. Not on Hook for Katrina Damage*, GREENWIRE (Apr. 23, 2018), <https://www.eenews.net/stories/1060079823/print>.

96. *United States v. Sponenbarger*, 308 U.S. 256, 266 (1939).

concept of property and ownership rights in South Africa.⁹⁷ South Africa's history as a divided country provides context for the significance of current conflicts over property law. South Africa experienced apartheid, during which time millions of people were forced out of their homes as outcasts. As a result, property was redistributed. This history makes property law particularly contentious.⁹⁸ Former South African President Frederik Willem de Klerk recognized that changes to the status quo had the potential to dismantle the balance struck by the South African Constitution's property clause.

The specific provision in South Africa's Constitution reads, "[n]o one may be deprived of property except in terms of law of general application" and "[p]roperty may be expropriated . . . for a public purpose . . . and subject to compensation."⁹⁹ This property clause represents "a unique compromise designed to assuage the anxiety of the Afrikaner minority."¹⁰⁰ This delicate balance is evidenced by a 2005 case in which the Constitutional Court¹⁰¹ addressed the unlawful occupation of private property by thousands of settlers.¹⁰² The court permitted the occupation to continue until those settlers had alternative land available but required the state to provide compensation for the taking.¹⁰³

In addition to the Constitution, South Africa has legislative bills permitting the government to take land that clarify property rights.¹⁰⁴ Critics of the more recent legislative bills claim the government does not have sufficient power to redistribute land.¹⁰⁵ On the other hand, in 2008, former President de Klerk stated that the Expropriation Bill introduced by the Parliament was unconstitutional because it "would allow any property to be expropriated in what the Minister of Land Affairs construed to be 'the public interest.'"¹⁰⁶ As recently as February 2018, the

97. GJ Pienaar & E. van der Schyff, *The Reform of Water Rights in South Africa*, 3 L. ENVTL. & DEV. J. 2, 188 (2007).

98. *Id.* at 154.

99. S. AFR. CONST., ch. 2, art. 25, 1996. Outside of the property clause, there is a right to not have ones "home demolished[]" without an order of the court made after considering all the relevant circumstances." *Id.* at art. 26.

100. See David Sneiderman, *Investment Rules and the New Constitutionalism*, 25 L. & SOC. ENQUIRY 3, 757-87 (2000).

101. The Constitutional Court in South Africa is the final court of appeals "with the power to invalidate any 'law or conduct' inconsistent with the Constitution." Drew F. Cohen, *A Constitution at a Crossroads: A Conversation with the Chief Justice of the Constitutional Court of South Africa*, 12 NW. J. INT'L HUM. RTS. 132, 134 (2014) (quoting S. AFR. CONST. 1996 § 2).

102. *President of RSA v. Modderklip Boerdery* 2005 (5) SA 3 (CC) (S. Afr.).

103. *Id.*

104. See *South Africa's Expropriation Bill Passes in Parliament*, THE ECONOMIST (May 27, 2016).

105. See HEINZ KLUG, *In the Shadow of Zimbabwe; Public Interest, Land Reform, and the Transfer of Property in South Africa*, in RETHINKING EXPROPRIATION LAW I: PUBLIC INTEREST IN EXPROPRIATION 183-84 (B. Hoops et al. eds., 2015); see also Gaye Davis, *Zuma Sends Expropriation Bill Back to Parliament*, EYEWITNESS NEWS (Feb. 10, 2017), <http://ewn.co.za/2017/02/10/zuma-sends-expropriation-bill-back-to-parliament><http://ewn.co.za/2017/02/10/zuma-sends-expropriation-bill-back-to-parliament>.

106. KLUG, *supra* note 105, at 153.

South African Parliament was trying to strike the appropriate balance between property rights and protections by suggesting changes to the Constitution.¹⁰⁷

1. Bringing Inverse Condemnation Claims

Neither the South African Constitution nor the Expropriation Act of 1975¹⁰⁸ provide clear guidelines for how to bring an inverse condemnation claim. The Constitution details the rules of lawful expropriation and even provides factors to consider for determining just compensation. These factors include “current use of the property; the history of the acquisition and use of the property, the market value of the property, the extent of direct state investment and subsidy . . . and the purpose of the expropriation.”¹⁰⁹ Courts must consider all of these factors.¹¹⁰ In turn, the Expropriation Act provides a more detailed procedure for government expropriation; it even includes compensation for temporary expropriations¹¹¹ and partial expropriations of portions of one’s property rights.¹¹²

The Constitutional Court has added an important gloss over these rules to explain when a compensable expropriation has occurred. In an early case, the court clarified that expropriation is more than “mere dispossession” and requires the expropriator to acquire or own the property right alleged to be taken.¹¹³ This is referred to as the “deprivation” or “expropriation” distinction in South African jurisprudence.¹¹⁴ Although this may not be rooted in the actual text of the Constitution, it is now embedded in South African jurisprudence,¹¹⁵ which limits the types of claims available to property owners challenging land regulations.

Inverse condemnation, on the other hand, “creates a middle ground and blurs the distinction between deprivation and expropriation.”¹¹⁶ For regulatory takings, the court set out a more elaborate framework to determine when a regulation goes too far and expropriates.¹¹⁷ Specifically, the court required a showing of (i) a recognized property right; (ii) a deprivation of that right as a result of government actions; (iii) a deprivation as a result of an arbitrary law rather than one of general

107. Wendell Roelf, *Vote in South Africa’s Parliament Moves Land Reform Closer*, REUTERS (Feb. 27, 2018), <https://www.reuters.com/article/us-safrica-land-expropriation/vote-in-south-africas-parliament-moves-land-reform-closer-idUSKCN1GB22I>.

108. Expropriation Act 63 of 1975 (S. Afr.).

109. S. AFR. CONST., ch. 2, art. 25, § 3, 1996.

110. *See Du Toit v. Minister of Transp.* 2006 (1) SA 297 (CC) ¶ 37 (S. Afr.).

111. *See* Expropriation Act 63, § 2.

112. *See id.* at § 2(3).

113. VAN DER WALT, *supra* note 27, at 336 (citing *Harkenson v. Lane NO and Others* 1997 (11) BCLR 1489 (CC) (S. Afr.); 1998 (1) SA 300 (CC) (S. Afr.)).

114. *See GC Steinburg v. South Peninsula Municipality* 2001 4 SA 1243 (SCA) ¶ 4 (S. Afr.).

115. Hanri Mostert, *The Distinction Between Deprivations and Expropriations and the Future of Constructive Expropriation in South Africa*, 19 S. AFR. J. HUM. RTS. 567, 572–73 (2003).

116. *GC Steinburg v. South Peninsula Municipality* 2001 4 SA 1243 (SCA) ¶ 6 (S. Afr.).

117. *See First Nat’l Bank of SA Ltd t/a Wesbank v. Comm’r, South African Revenue Services* 2002 (4) SA 768 (CC) (S. Afr.).

application; (iv) a deprivation inconsistent with section 36 of the Constitution or consistent with section 25(1–2) of the Constitution; and (v) the deprivation was for a public purpose and that compensation was not provided.¹¹⁸ To determine if compensation is necessary, courts also consider whether the landowner knew at the time of purchase that the land could be expropriated.¹¹⁹ If the elements are satisfied, the court must provide compensation pursuant to the Expropriation Act¹²⁰ and confirm the amount is equitable.¹²¹

Compensation in South Africa will vary depending on whether the inverse condemnation involves real property or personal property. In the case of land expropriation, the compensation can be “agreed upon by the affected parties” or “approved by a court of law” so long as it adheres to “standards of justice and equity.”¹²² Among the factors to evaluate just compensation, market value was found to be the factor most “capable of objective determination.”¹²³ On the other hand, for other kinds of property, the Expropriation Act “confines the compensation amount to either actual financial loss . . . or to the aggregate of market value and financial loss.”¹²⁴

2. Other Constitutional Rights as Obstacles to Bringing Inverse Condemnation Claims

The South African Constitution’s requirement of balancing rights presents a unique challenge to inverse condemnation claims. This challenge is particularly pertinent in the context of climate change because it will require courts to weigh an individual’s right to life and liberty against another’s right to property.¹²⁵ When someone’s right to life is threatened by severe weather events like a hurricane or a flood, government actions that invade private property rights are justified. Although South Africa has some judicial doctrines of government restraint,¹²⁶ South Africa’s unique approach to balancing rights presents interesting issues during a constitutionally declared emergency.

118. *Id.*

119. *Kerksay Investments v. Randburg Town Council* 1997 (1) SA 511 (t) 524 F-H (S. Afr.); *Port Edward Town Board v. Kay* 1996 (3) SA 664 (A) 678 B-C (S. Afr.).

120. *See* Expropriation Act 63. Specifically, Section 12(1) of the Act clarifies what must be considered for compensation.

121. *Du Doit v. Minister of Transp.* 2006 (1) SA 297 (CC) ¶¶ 26–37 (S. Afr.).

122. *Id.*

123. *Uys v. Msiza* 2017 (1) SA 1 (CC) ¶ 12 (S. Afr.).

124. *Du Doit v. Minister of Transp.* 2006 (1) SA 297 (CC) (S. Afr.).

125. *See generally* U.N. ENV’T PROGRAM, CLIMATE CHANGE AND HUMAN RIGHTS (2015), <http://columbiaclimatelaw.com/files/2016/06/Burger-and-Wentz-2015-12-Climate-Change-and-Human-Rights.pdf>.

126. For example, courts in South Africa embrace the doctrine of ripeness which prevents a court from hearing a case until there is an actual harm. *See GC Steinburg v. South Peninsula Municipality* 2001 4 SA 1243 (SCA) (S. Afr.) (holding that a plan to expropriate was not compensable because it was “by no means certain that the property would be expropriated: approval of the road scheme does not oblige the respondent to construct the road as envisaged in the scheme, or at all”). However, standing is

In South Africa, the right to exclude will not necessarily be upheld as it is often questioned and measured against the need to protect other rights.¹²⁷ In contrast, in the United States, the right to exclude is one of the most critical and fundamental property rights¹²⁸ which has relatively few exceptions that prevent discriminatory exclusion.¹²⁹ Because the South African government has broad authority to act in ways that protect others' constitutional rights and the large number of rights guaranteed by the South African Constitution, inverse condemnation claims may go uncompensated for the benefit of other rights.

The South African Constitution gives the government broad authority to balance constitutional rights. The Constitutional Court itself stated, “[t]he limitation of constitutional rights for a purpose that is reasonable and necessary in a democratic society involves the weighing up of competing values and ultimately, an assessment based on proportionality.”¹³⁰ The court even referenced Canadian and German principles of proportionality to flesh out the approach more clearly.¹³¹ In South Africa, all rights are balanced against one another in relation to “human dignity, equality and freedom.”¹³² Specifically, the Constitution requires the courts to consider five factors: “(a) the nature of the right; (b) the importance of the purpose of the limitation; (c) the nature and extent of the limitation; (d) the relation between the limitation and its purpose; and (e) less restrictive means to achieve the purpose.”¹³³ The Constitutional Court held that those factors “are not presented as an exhaustive list.”¹³⁴ Instead, the court arrived “at a global

not likely to be a significant obstacle in South Africa. See JAN GLAZEWSKI & DEBBIE COLLIER, *South Africa, in CLIMATE CHANGE LIABILITY: TRANSNATIONAL LAW AND PRACTICE* 333–34 (Richard Lord, et al. eds. 2012). The traditional barrier, which has been substantially lowered, just requires the plaintiff to be personally adversely impacted by the alleged wrong. See Francois du Bois, *Sustainable Development, Democracy and the Courts in a Democratic South Africa, in SUSTAINABLE DEVELOPMENT FOR A DEMOCRATIC SOUTH AFRICA* 89 (Ken Cole ed., 2014) (citing *Bagnall v. Colonial Govt.* 1907 (24) SC 470 (S. Afr.)). The South African Constitution has an even broader approach for standing that allows anyone “acting in their own interest” or “on behalf of another person who cannot act in their own name,” “acting as a member of, or in the interest of, a group or class of person,” “acting in the public interest,” or “an association acting in the interest of its members” to bring a claim so long as “a right in the Bill of Rights has been infringed or threatened, and the court may grant appropriate relief.” S. AFR. CONST., ch. 2, art. 38.

127. AJ VAN DER WALT, *CONSTITUTIONAL PROPERTY LAW* 215 (3d ed. 2011).

128. See *Kaiser Aetna v. United States*, 444 U.S. 164, 179–80 (1979).

129. See *PruneYard Shopping Ctr. v. Robins*, 447 U.S. 74, 82 (1980); *State v. Shack*, 58 N.J. 297, 303 (1971).

130. *State v. Makwanyane* 1995 (2) SA 1 (CC) ¶ 104 (S. Afr.).

131. *Id.* at ¶ 130 (“A proportionality test is applied to the limitation of fundamental rights by the Canadian courts, the German Federal Constitutional Court and the European Court of Human Rights. Although the approach of these Courts to proportionality is not identical, all recognise that proportionality is an essential requirement of any legitimate limitation of an entrenched right. Proportionality is also inherent in the different levels of scrutiny applied by United States courts to governmental action.”).

132. See S. AFR. CONST., ch. 2, art. 36, § 1.

133. *Id.*

134. *State v. Manamela* 2000 (3) SA 1 (CC) ¶ 32 (S. Afr.).

judgement on proportionality and [does] not adhere to a sequential check-list.”¹³⁵ To the detriment of those bringing inverse condemnation claims, history shows that the Constitutional Court rarely uses property rights to strike down a statute or government action enacted for the public benefit.¹³⁶ Instead, when courts resort to this balancing test, they often uphold the government regulation.¹³⁷

Moreover, there are numerous constitutional rights that could conflict with an individual’s right to exclude in the context of dealing with climate change effects. The South African Constitution provides a right to life,¹³⁸ human dignity,¹³⁹ movement,¹⁴⁰ adequate housing,¹⁴¹ and environment.¹⁴² All of these rights will likely be the rationale behind a government policy that tries to address climate change effects; problems like climate-induced displacement are regularly viewed as human rights problems in Africa.¹⁴³

The South African government may even be able to find justification for expropriation based on the aforementioned rights as applied to future generations.¹⁴⁴ So long as the regulation is crafted specifically for one or more of the other constitutionally-protected rights, it will likely be upheld. The capacity to balance rights against each other, in conjunction with how courts consider the “purpose of the expropriation” when evaluating the compensation requirement,¹⁴⁵ will leave property owners with little to no compensation for inverse condemnations in response to climate change effects and regulations.

During emergencies, the South African Constitution affords even less value to property rights.¹⁴⁶ The Constitution details specific ways for states of emergency

135. *Id.*

136. NEILS PETERSEN, PROPORTIONALITY AND THE INCOMMENSURABILITY CHALLENGE – SOME LESSONS FROM THE SOUTH AFRICAN CONSTITUTIONAL COURT (2013), available at https://lsr.nellco.org/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=1385&context=nyu_plllwp.

137. *Id.*

138. S. AFR. CONST., ch. 2, art. 11.

139. *Id.* at art. 10.

140. *Id.* at art. 21.

141. *Id.* at art. 26.

142. *Id.* at art. 24. For more on the implications of having a right to a healthy environment, see Tinashe Madebwe, *A Rights-Based Approach to Environmental Protection: The Zimbabwean Experience*, 15 AFR. HUM. RIGHTS L. J. 110 (2015).

143. Ademolo Oluborode Jegede, *Rights Away From Home: Climate-Induced Displacement of Indigenous Peoples and the Extraterritorial Application of the Kampala Convention*, 16 AFR. HUM. RIGHTS L. J. 58, 66–67 (2016).

144. See D. Tladi, *Of Course for Humans: A Contextual Defence of Intergenerational Equity*, 9 S. AFR. J. ENVTL. & POL’Y 177, 182 (2002); Edith Brown Weiss, *In Fairness to Future Generations and Sustainable Development*, 8 AM. U. INT’L L. REV. 1, 19–26 (1992).

145. S. AFR. CONST., ch. 2, art. 25.

146. In the United States, there is evidence that it is much easier to legitimize the use of eminent domain during emergencies, but there is still generally a requirement for compensation even if the amount of compensation was up to the legislature. See Harry N. Scheiber, *Property Rights Versus ‘Public Necessity’: A Perspective on Emergency Powers and the Supreme Court*, 28 J. SUP. CT. HISTORY 3, 344 n. 20 (2003).

to be declared.¹⁴⁷ Furthermore, it gives courts the power to decide whether the declaration of emergency, the extension of any such declaration, and the related legislation is valid.¹⁴⁸ In doing so, the Constitution distinguishes non-derogable and derogable rights. “Everyone has inherent dignity and the right to have their dignity respected and protected.”¹⁴⁹ This non-derogable status prevents it from being infringed upon, even during an emergency. The right to property, on the other hand, is one of the derogable rights; in the case of a declared emergency due to a natural disaster, property rights can be set aside.¹⁵⁰ Therefore, if climate change effects are significant enough for the legislature to declare an emergency, subsequent acts made during that emergency that would normally result in an inverse condemnation claim will go uncompensated. Viewing climate disasters as emergencies will further delegitimize inverse condemnation claims against the government when the government can point to a need to protect the rights of other citizens.

3. Likelihood for Compensation

Property owners in South Africa are unlikely to succeed with inverse condemnation claims against government responses to climate change effects even though the response would interfere with the owners’ property rights. A government decision to invade an individual’s private property in response to climate change will likely be classified by the courts as inverse condemnation. The decision would infringe on the individual’s right to exclude¹⁵¹ through an arbitrary application of law for the public benefit without compensation. Government actions that lead to climate change may also be susceptible to inverse condemnation claims; however, it is far less likely that government actions contributing to climate change are labeled arbitrary laws that require compensation instead of laws of general application.

Because the South African courts are likely to weigh an individual’s right to exclude below the rights of others, any additional legislation that emboldens a person’s right to exclude should fail the proportionality test afforded under Article 36.¹⁵² Pursuant to South African law, landowners bringing inverse condemnation claims in response to climate change effects or even government decisions responding to climate change effects should not be compensated. However, the government faces increasingly difficult positions as climate change effects

147. S. AFR. CONST., ch. 2, art. 37.

148. *Id.*; see also VICTOR V. RAMJRAJ & MENAKA GURUSWAMY, *Emergency Powers*, in ROUTLEDGE HANDBOOK OF CONSTITUTIONAL LAW 90 (Mark Tushnet, Thomas Fleiner, & Cheryl Saunders eds., 2013).

149. S. AFR. CONST., ch. 2, art. 10.

150. RAMJRAJ & GURUSWAMY, *supra* note 148, at 90.

151. *Waterfront v. Police Comm’r* 2004 (4) SA 444 (C) at 448 (S. Afr.).

152. See PETERSEN, *supra* note 136, at 2 (explaining the way in which proportionality limits claims against the government).

continue to increase. Courts may become sympathetic to the need for just compensation even in light of competing constitutional rights.

C. JAPAN

As an island nation, Japan is particularly vulnerable to climate change.¹⁵³ The government of Japan has taken large steps to reduce greenhouse gas emissions and help mitigate climate change.¹⁵⁴ At the same time, Japan has had a strong respect for people's property rights since the nineteenth century.¹⁵⁵ In light of the significant efforts to deal with climate change and the concern for property rights, inverse condemnation claims will play a significant role in climate change litigation in Japan.

Japan's Constitution was drafted with the influence of President Truman's lawyers in 1946 after the New Deal battle who advocated for government regulation.¹⁵⁶ Article 29 of the Constitution states the "right to hold property is inviolable" and "[p]rivate property may be taken for public use upon just compensation therefor."¹⁵⁷ No due process clause is included.¹⁵⁸ To a certain extent, this void is filled by the additional statement in Article 29 that property rights are "defined by law, in conformity with public welfare."¹⁵⁹ Public welfare has been broadly defined to encompass benefits to the public economy.¹⁶⁰ Within ten years of the Constitution's drafting, Japanese courts interpreted Article 29 to permit expropriations.¹⁶¹ Although Japan has recognized what the United States refers to as *per se* takings,¹⁶² it has been far more reluctant to provide compensation for regulatory takings made under socially justified circumstances.¹⁶³ Therefore,

153. See generally Keiko Udo & Yuriko Takeda, *Projections of Future Beach Loss in Japan Due to Sea-Level Rise and Uncertainties in Projected Beach Loss*, 59 COASTAL ENGINEERING J. (2017).

154. Atsuyuki Oike, *Japan's Action Plan to Fight Climate Change*, THE JAPAN TIMES (July 30, 2015), <https://www.japantimes.co.jp/opinion/2015/07/30/commentary/japan-commentary/japans-action-plan-to-fight-climate-change/#.W8iW1xNKjGI>.

155. Andre Sorensen, *Evolving Property Rights in Japan: Patterns and Logics of Change*, 48 URBAN STUDIES 3, 472 (2011) ("Although the current Japanese constitution was imposed by the post-World-War-Two occupation forces, the property clause is almost identical to that of the Meiji constitution of 1889."); M.A. HINES, JAPAN REAL ESTATE INVESTMENT 55 (2001).

156. VAN DER WALT, *supra* note 27, at 256.

157. NIHONKOKU KENPŌ [KENPŌ] [CONSTITUTION], art. 29 (Japan).

158. See *id.* at art. 31.

159. VAN DER WALT, *supra* note 27, at 258 (referencing art. 29).

160. Stephen Hesse, *New Land Law Still Ignores Public Voice*, THE JAPAN TIMES (Apr. 26, 2001), <https://www.japantimes.co.jp/life/2001/04/26/environment/new-land-law-still-ignores-public-voice/#.W8iryBNKjGI>.

161. VAN DER WALT, *supra* note 27, at 258 (referencing *Grand Bench 23 December 1953*, Saiko Saibanshō [Sup. Ct.] Dec. 23, 1953, *Minshu*, vol. 7, No. 13 (Japan)).

162. See Marissa L.L. Lum, *A Comparative Analysis: Legal and Cultural Aspects of Land Condemnation in the Practice of Eminent Domain in Japan and America*, 8 ASIAN-PACIFIC L. & POL'Y J. 456, 456 (2007) (citing *Tokyo Governor Banned from Expropriating Land for Expressway*, MAINICHI DAILY NEWS (Oct. 3, 2003)).

163. VAN DER WALT, *supra* note 27, at 258 (referencing *Irrigation Reservoir Case, Grand Bench 26, June 1963*, Saiko Saibanshō [Sup. Ct.] June 25 1963, *Keishū*, vol. 5, No. 17 (Japan)).

Japan's Constitution gives the government ample authority to place restrictions on property rights for the public welfare.

Japan's civil law system permits additional property rights to be codified¹⁶⁴ and values property rights as exclusive and indivisible rights.¹⁶⁵ The specific code that provides for takings is called the Land Expropriation Law of 1951 ("LEL").¹⁶⁶ The LEL seeks to "balance the promotion of public benefits and the protection of private rights" by requiring projects to have a public purpose.¹⁶⁷

Although the Constitution and the LEL permit the Japanese government to expropriate land, the power of eminent domain is used cautiously because of the cultural value of leading by consensus.¹⁶⁸ Indeed, the desire for consensus outweighs development in the eyes of many in the Japanese community,¹⁶⁹ although some projects are viewed as desirable for the community. The LEL specifically permits projects like road construction, river improvement, water supply, railway construction, and waste disposal.¹⁷⁰ Many government actions in response to climate change would likely fall under the standards of the LEL and thus require just compensation. The entire process involves the project initiator, the owner of the land, administrative agencies such as the Minister of Construction, the expropriation committee, and the affected community.¹⁷¹

1. Bringing Inverse Condemnation Claims

Eminent domain is rarely used and is not often challenged in court because of Japan's desire to proceed by consensus. However, there are still occasions for which the government seeks to expropriate land and landowners contest the attempt. Many cases arise out of large dam development projects that result in involuntary resettlement.¹⁷² In Japan, these dams were increasingly common after World War II because of growing demands for water, food, and electricity.¹⁷³ The manner in which courts deal with these claims is best evidenced by the

164. Lum, *supra* note 162, at 456–84.

165. *Id.*

166. *Id.* at 462; *see* [Land Expropriation Law], Law No. 219 of 1951, art. 2 (Japan).

167. [Land Expropriation Law], art. 3.

168. Lum, *supra* note 162, at 456–84.

169. *Id.*

170. TSUYOSHI KOKATA, TAKING LAND: COMPULSORY PURCHASE AND REGULATION OF LAND IN ASIAN PACIFIC COUNTRIES 147 (2002).

171. *Id.* at 148.

172. RYO FUJIKURA & MIKIYASU NAKAYAMA, *The Long-Term Impacts of Resettlement Programmes Resulting from Dam Construction Projects in Indonesia, Japan, Laos, Sri Lanka and Turkey: A Comparison of Land-For Land and Cash Compensation Schemes*, in RESTORING COMMUNITIES RESETTLED AFTER DAM CONSTRUCTION IN ASIA I (Mikiyasu Nakayama & Ryo Fujikura eds., 2014).

173. KYOKO MATSUMOTO, YU MIZUNO, & ERIKA ONAGI, *The Long-term Implications of Compensation Schemes for Community Rehabilitation: The Kusaki and Sameura Dam Projects in Japan*, in RESTORING COMMUNITIES RESETTLED AFTER DAM CONSTRUCTION IN ASIA 106 (Mikiyasu Nakayama & Ryo Fujikura eds., 2014).

1997 *Nibutani Dam Decision*.¹⁷⁴

In the *Nibutani Dam Decision*, the government sought to build a large-scale dam on the Nibutani river valley where an indigenous population of Ainu lived.¹⁷⁵ The court created a comparative balancing test that weighed the benefits and detriments of the dam after the project's initial approval. The biggest benefit of the dam, according to the court, was flood control. On the other hand, the same location was a core cultural location for the Ainu people and the dam would infringe on their lifestyle and religious practices and would destroy their holy sites.¹⁷⁶

Next, the court proceeded to balance the interests in accordance with the international standards of Article 27 of the International Covenant on Civil and Political Rights, which requires considering the cultural interests of minorities.¹⁷⁷ The court concluded that building the dam was outweighed by the importance of this minority group's values.¹⁷⁸ Although the court found the expropriation unlawful, it did not enter judgement for the plaintiff who sought invalidation of the dam.¹⁷⁹ The court found the removal of the dam would leave those susceptible to flooding in an even more perilous situation than before the dam was built.¹⁸⁰ Instead, the court granted the Ainu tribe reparations.¹⁸¹ This practice of *zijo hanketsu*, declaring an act illegal but permitting it to proceed because an injunction would be against the public interest, is common in Japan.¹⁸²

Applying this practice to climate change-related inverse condemnations, even *per se* takings for the public benefit will go through a balancing test. Therefore, most litigation will be relatively deferential to minority needs. Although it is especially common for the Japanese government give more value to its own concerns for territorial integrity, unity, and safety than than an indigenous population's concerns for control of natural resources,¹⁸³ the courts will still require compensation. Because property rights may be outweighed by personal freedoms,¹⁸⁴ Japanese courts will attempt to please both sides by providing compensation for the loss of personal freedoms and denying injunctions that could be dangerous for the public interest. Although useful on rare occasions, the

174. Mark A. Levin, *Kayano v. Hokkaido Expropriation Committee (The Nibutani Dam Decision)*, 38 I.L.M. 394, 395 (1999).

175. *Id.*

176. *Id.* at 396.

177. *Id.* at 397 (referencing International Covenant on Civil and Political Rights, Dec. 16, 1966, S. Treaty Doc. No. 95-20, 6 I.L.M. 368 (1967)).

178. *Id.*

179. CARL F. GOODMAN, *RULE OF LAW IN JAPAN: A COMPARATIVE ANALYSIS – WHAT YOU SEE MAY NOT BE WHAT YOU GET* 177–78 (2003).

180. *Id.*

181. *Id.*

182. KAORI TAHARA, *Asia & Pacific: Nibutani Dam Case*, 4 INDIGENOUS L. BULL. 18 (1999).

183. Xiang Gao, Guy C. Charlton, & Mitsuhiro A. Takahashi, *The Legal Recognition of Indigenous Interests in Japan and Taiwan*, 24 ASIA PACIFIC L. REV. 1, 76 (2016).

184. See VAN DER WALT, *supra* note 27, at 262.

consistent practice of *zijo hanketsu*, in light of the increase in government actions dealing with climate change effects, will risk extreme government debt.

2. Less Compensation as an Obstacle to Bringing an Inverse Condemnation Claim

Lowered compensation rights can discourage parties from bringing inverse condemnation claims¹⁸⁵ and complement the practice of *zijo hanketsu*. The method Japanese courts use to calculate just compensation could discourage individuals from bringing claims against the government. Both the lack of sufficient compensation and the reluctance of Japanese courts to invalidate government regulations for the public interest act as unique barriers to bringing inverse condemnation claims.

In the *Grand Bench 23 December 1953* decision,¹⁸⁶ the court laid out three principles of just compensation. First, compensation can be lower than market value and limited because of public welfare concerns. Second, compensation must reflect some kind of objective standard. Third, the value of land cannot be calculated using the free exchange if the market has been eroded or limited by laws. The third factor often means that compensation will not include any expected loss in profit.¹⁸⁷ General guidelines about compensating individuals whose land was acquired for public purposes similarly excludes compensation for livelihood.¹⁸⁸

Moreover, compensation is often not even available for regulatory takings.¹⁸⁹ In the *Irrigation Reservoir Case*,¹⁹⁰ the Japanese Supreme Court was clear that individuals cannot be compensated for even the most severe restrictions of property that were justified by social needs. Therefore, court orders are not available for individuals dealing with property restrictions. This often results in inconsistent compensation schemes for large-scale projects that depend on the collective negotiation capacities of the affected communities.¹⁹¹

185. See, e.g., Miroslaw Gadesz, *Poland*, in *TAKINGS INTERNATIONAL: A COMPARATIVE PERSPECTIVE ON LAND USE REGULATIONS AND COMPENSATION RIGHTS* 261 (Rachelle Alterman ed., 2010) (explaining how minimal compensation for partial takings in Poland discourages individuals from bringing takings claims).

186. Saiko Saibanshō [Sup. Ct.] Dec. 23, 1953, *Minshū*, vol. 7, No. 13 (Japan); see also Matsuo Nakamura, *Freedom of Economic Activities and the Right to Property*, 53 *L. & CONTEMP. PROBS.* 1, 10–11 (1990); see VAN DER WALT, *supra* note 27, at 262.

187. VAN DER WALT, *supra* note 27, at 262.

188. MATSUMOTO, MIZUNO, & ONAGI, *supra* note 173, at 107.

189. KENNETH L. PORT & GERALD PAUL MCALLIN, *COMPARATIVE LAW: LAW AND THE LEGAL PROCESS IN JAPAN* 29 (2nd ed. 2003).

190. Saiko Saibanshō [Sup. Ct.] June 25 1963, *Keishū*, vol. 5, No. 17 (Japan); see VAN DER WALT, *supra* note 27, at 263.

191. See MATSUMOTO, MIZUNO, & ONAGI, *supra* note 173, at 111.

3. Likelihood for Compensation

Among the countries analyzed, Japan is the most likely to provide compensation for physical occupations such as dam projects requiring resettlement. However, it is one of the least likely countries to provide compensation for regulatory takings given the strong emphasis on the greater community. The Japanese government will have ample opportunities to create regulations enabling climate change adaptations but will incur significant debt when such regulations physically invade private property.

Additionally, it is possible that Japan will create additional legislation to deal with particularized climate change threats as it already enacts unique legislation in response to particular government land acquisition efforts.¹⁹² Japan often makes individualized laws to address specific public concerns. For example, Japan promulgated an act that made the Tokyo Electric Power Company “strictly and exclusively” liable for nuclear power related damages.¹⁹³ There was no requirement to demonstrate fault, negligence, or intention.¹⁹⁴ Increased fear of climate change effects could create similar damage allocations to private parties, especially because current law already provides for joint and severable liability.¹⁹⁵

III. ANALYSIS

Examination of the three legal frameworks for bringing inverse condemnation claims shows how each country’s constitution offers some safeguards against inverse condemnation claims in response to climate change effects. Significant differences in the text of each constitution and in case law make each country’s property rights provisions fundamentally different. The likelihood for successful claims against the government for inverse condemnation in each of these countries varies based on both cultural circumstances and differences in text. Moreover, increased threats from climate change effects point to a pressing need for legislation that explains how property damage and regulation will be addressed.

A. DIFFERENCES IN CONSTITUTIONAL EMINENT DOMAIN PROVISIONS MUST BE VIEWED IN THE LARGER CONSTITUTIONAL STRUCTURE

When looking at each property clause in a country’s constitution, it is easy to get bogged down in small textual differences and simply compare similar provisions across global jurisprudences. However, the practical meaning of the

192. *Id.*

193. X. Vasquez-Maignan, *The Fukushima Daiichi Nuclear Power Plant Accident: Update on Compensation*, NEA NEWS 32.1/32.2, 11 (2014).

194. *Id.*

195. See YUKARI TAKAMURA, *Japan*, in CLIMATE CHANGE LIABILITY: TRANSNATIONAL LAW AND PRACTICE 230–31 (Richard Lord et al. eds., 2012).

property clauses can be determined by examining the property clause in the context of the country's larger legal framework. The availability of review, competing constitutional rights, and guarantees of compensation all make a difference in evaluating constitutionally protected rights to property.

Government defenses based on standing or the availability of judicial review can only postpone takings claims temporarily. As discussed in Part II.A.2, the section on standing in the United States, more extreme climate change effects will require more drastic government responses and thus increase takings claims. Climate change has amplified and contributed to nearly half of the forest fires since 1979 in the United States.¹⁹⁶ Weather-related disasters in general have increased by forty-six percent since the 1980s.¹⁹⁷ The unstable climate plays an increasing role in the emergency and distribution of infectious diseases worldwide.¹⁹⁸ Each government response to these problems risks impacting individuals' property rights. Furthermore, the causation hurdle that has helped courts refrain from attributing the effects of climate change to government or private entities is less likely to be a reliable defense for government responses to the effects themselves.

On the other hand, the South African approach will provide the government with more power to address climate change effects as they worsen. Because certain rights will come into conflict as climate change effects take place, courts will increasingly have to balance the right to exclude against other rights guaranteed by South Africa's Constitution. Therefore, it would be a mistake to view the property provisions in isolation. Indeed, as evidenced by the South African Constitution, the enumeration of additional rights provides South African courts leeway to balance the right to exclude against other important considerations relevant to climate change effects responses.

Finally, it is also important to consider Japan's constitutional capacity to limit compensation. Even if individuals can bring hundreds of inverse condemnation claims, they may not hinder the government's capacity to respond to climate change if those claims result in minimal compensation. Looking to Japan in particular, courts have the capacity to introduce balancing tests and international law to create more or less incentive for the government to provide just compensation. Indeed, most of the constitutional provisions permit expropriation for public use or the public interest, but the actual meaning of public use or the public interest is often in the purview of the courts.

196. John T. Abatzoglou & A. Park Williams, *Impact of Anthropogenic Climate Change on Wildfires Across the Western US Forests*, 113 PROC. OF THE NAT'L ACAD. OF SCI. 42, 11770 (2016).

197. Michaelen Doucleff, *How Climate Change is Already Affecting Health, Spreading Disease*, NPR (Oct. 31, 2017), <https://www.npr.org/sections/goatsandsoda/2017/10/31/561041342/scientists-from-around-the-world-report-on-health-effects-from-climate-change>.

198. X. Wu et al., *Impact of Climate Change on Human Infections Diseases: Empirical Evidence and Human Adaptation*, 86 ENV'T. INT'L 14, 15 (2016).

B. CULTURAL CIRCUMSTANCES WILL ALSO IMPACT THE SUCCESS OF INVERSE
CONDEMNATION CLAIMS

Culture plays a role in property law in the United States. The importance of property rights has been enshrined in the United States' constitutional and cultural order since the country was first established. Alexander Hamilton declared that a great object of government was "personal protection and the security of Property."¹⁹⁹ John Adams claimed that "property must be secured or liberty cannot exist."²⁰⁰ James Madison stressed a broad reading of the Fifth Amendment and even questioned the legitimacy of taking property for public use.²⁰¹ The deep public commitment to property rights continues today.²⁰² The courts' decisions will reflect this cultural attachment to strong property rights by balancing the need for compensation for inverse condemnation claims.²⁰³

Meanwhile, in South Africa, the fear of returning to apartheid-like laws or regulations will likely empower the government to engage in more aggressive expropriation than the Constitution may allow. The country is still weary of unjust land distribution leftover from apartheid, and individuals are eager to vindicate the rights of those people previously exploited. Indeed, the recent trend in South Africa has been to provide less compensation to better promote land distribution as a means of righting past wrongs.²⁰⁴ However, the concerns about new legislation voiced by Former President de Klerk highlight a growing cultural tension between how South Africans are beginning to view property law and the status quo.

Evidenced by Japan's Constitution, a country's cultural background can provide a gloss on how courts, and even the government, treat inverse condemnation claims. The culture of proceeding in uniformity is likely to dissuade the Japanese government from taking an individual's land physically without engaging in dialogue. A lack of consensus is likely to give courts an incentive to find reasons to prevent the expropriation from taking place.

C. NEED FOR ADDITIONAL LEGISLATION

Most importantly, without clear governmental guidance in response to the effects of climate change, inverse condemnation claims will increase. There has been a significant increase in losses due to natural disasters in the past thirty

199. JAMES W. JR. ELY, *THE GUARDIAN OF EVERY OTHER RIGHT: A CONSTITUTIONAL HISTORY OF PROPERTY RIGHTS* 43 (3d ed. 2008).

200. *Id.*

201. *Id.* at 55–56.

202. *Id.* at 172.

203. *See* *Lucas v. S.C. Coastal Council*, 505 U.S. 1003, 1028 (1992) (making a decision consistent with the "historical compact recorded in the Takings Clause that has become part of our constitutional culture").

204. *South Africa Approves Land Expropriation Bill*, BBC (May 26, 2016), <https://www.bbc.com/news/world-africa-36381572>.

years.²⁰⁵ Even in countries where the government demonstrates that compensation is not warranted, individuals who have lost their land rights are likely to take to the courts in large numbers. Moreover, the diversity and numerosity of fact-dependent inverse condemnation claims will make it difficult to apply simple, rule-based, judicial precedents. Instead, the courts will likely apply various factors that depend on the specific circumstances of the inverse condemnation.

Countries most prepared for the increase of inverse condemnation claims will be those that have engaged in a meaningful public discourse regarding climate change and that have arrived at a balanced approach that fits their cultural norms. Legislation can take the regional and cultural factors discussed in this Note into account and create financial liability from sources decided upon by the community. First, effective legislation will need to embrace the need to compare competing rights when dealing with or preempting climate disasters with adaptation. Second, legislation should provide funding for communities on a more local level prepare for climate risks.

First, effective legislation must balance competing rights. Even in places like South Africa, where the Constitution provides courts the opportunity to balance property rights against other rights, legislation establishing a more consistent treatment of rights would be more effective. The challenge is finding the appropriate balance of those rights. On the one hand, it would be a mistake for legislation to completely exculpate the government for takings claims. Requiring compensation incentivizes the government to make cost-effective decisions before a disaster to prevent or soften the impact of the disaster.²⁰⁶ On the other hand, creating a takings regime that bankrupts the government for responding to a natural disaster will disincentivize effective emergency management. Legislation should tailor the way that it provides compensation to the risks and types of damage associated with the climate disaster. For example, Japan has multiple legislative tools to address nuclear damage.²⁰⁷ The Act on Compensation for Nuclear Damage of 1961²⁰⁸ provides strict liability in particularized circumstances.²⁰⁹ In promulgating the Act, Japan preemptively considered when certain types of compensation will be necessary to incentivize safety.

Second, takings legislation should incentivize communities to prepare for climate risks on a more local level. One of the main goals should be to “generate financial capacity for recovery in the form of infrastructure reconstruction and

205. Michael G. Faure, *In the Aftermath of the Disaster: Liability and Compensation Mechanisms as Tools to Reduce Disaster Risks*, 52 STAN. J. INT'L L. 95, 100 (2016).

206. *Id.* at 135.

207. Jing Liu & Michael Faure, *Compensation for Nuclear Damage: A Comparison Among the International Regime, Japan, and China*, 16 INT'L ENVTL. AGREEMENTS 165, 172 (2016).

208. Genshiryoku Songai no Baisho ni Kansuru Houritsu [The Act on Compensation for Nuclear Damage], Law No. 147 of 1961, amended by Act No. 19 of 2009 (Japan).

209. Liu & Faure, *supra* note 207, at 175.

victim compensation.”²¹⁰ Although leaving the entirety of emergency planning to local governments leaves private landowners disproportionately at risk of community decisions,²¹¹ a more national statutory scheme can solve this by demanding specific protocols while leaving substantial flexibility for communities to define which climate risks are most imminent. The combination of local and national efforts should require more proactive approaches and identify the key stakeholders and their specific roles in addressing climate risks.²¹²

CONCLUSION

Property loss and the interference with property rights are inevitable consequences of any climate change effect. The International Panel on Climate Change warned in 1990 that “the gravest effects of climate change may be those on human migration as millions are displaced by shoreline erosion, coastal flooding and severe drought.”²¹³ Those effects are already being felt. A 2010 flood in Pakistan left twenty million people homeless.²¹⁴ Extreme heat has been strongly associated with increased migration.²¹⁵ Deserts in China have expanded by 21,000 square miles since 1975.²¹⁶ A drought in Syria created nearly one-and-a-half million climate refugees.²¹⁷ Wildfires in California lead to forced evacuations and the destructions of hundreds of homes.²¹⁸ In 2010, wildfires in Russia demolished over 2,000 houses.²¹⁹ Each of these disasters requires a governmental response, and each governmental response has the capacity to trigger inverse condemnation claims.

210. Faure, *supra* note 205, at 134.

211. Jonathan Raikes & Gordon McBean, *Responsibility and Liability in Emergency Management to Natural Disasters: A Canadian Example*, 16 INT’L J. DISASTER RISK REDUCTION 12, 17 (2016).

212. See Mohammad Mojtahedi & Been Lan Oo, *Critical Attributes for Proactive Engagement of Stakeholders in Disaster Risk Management*, 21 INT’L J. DISASTER RISK REDUCTION 35, 41 (2017).

213. INTERNATIONAL PANEL ON CLIMATE CHANGE, *Policymakers’ Summary of the Potential Impacts of Climate Change*, in REPORT FROM WORKING GROUP II TO IPCC, INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, COMMONWEALTH OF AUSTRALIA 20 (1990).

214. *Pakistan Floods Leave 20 Million Homeless*, CBC NEWS (Aug. 14, 2010), <https://www.cbc.ca/news/world/pakistan-floods-leave-20-million-homeless-1.882545>.

215. V. Mueller, C. Gray, & K. Kosec, *Heat Stress Increases Long-Term Human Migration in Rural Pakistan*, 4 NATURE CLIMATE CHANGE 182 (2014).

216. Jessica Benko, *How a Warming Planet Drives Human Migration*, N.Y. TIMES (Apr. 19, 2017), <https://www.nytimes.com/2017/04/19/magazine/how-a-warming-planet-drives-human-migration.html>.

217. Vikram Mansharamani, *A Major Contributor to the Syrian Conflict? Climate Change*, PBS (Mar. 17, 2016), <https://www.pbs.org/newshour/economy/a-major-contributor-to-the-syrian-conflict-climate-change>.

218. *Southern California Fires Live Updates: New Evacuation Orders Issued for Carpinteria and Montecito as Thomas Fire Again Rages Out of Control*, L.A. TIMES (Dec. 14, 2017, 5:16 PM), <http://beta.latimes.com/local/california/la-me-southern-california-wildfires-live-updates-htmlstory.html><http://beta.latimes.com/local/california/la-me-southern-california-wildfires-live-updates-htmlstory.html>.

219. T.D. Penman, C.E. Eriksen, B. Horsey, & R.A. Bradstock, *How Much Does It Cost Residents to Prepare Their Property for Wildfire?*, 16 INT’L J. DISASTER RISK REDUCTION 88, 88 (2016).

This Note focused on three countries and the ways in which their respective constitutions may provide the leeway governments need to adequately respond to climate change effects. The United States' Constitution can limit the availability of judicial review, especially in response to claims that the government caused a particular expropriation. South Africa's Constitution permits courts to balance competing rights and uphold government regulations that limit property rights. Japan's Constitution limits compensation to the extent it relates to a public benefit. Whereas these constitutional safeguards may be effective in some scenarios, the increasing threat of climate change effects should be addressed with thoughtful legislation. Property clauses may not have been crafted to address climate change, but climate change will surely affect how we view the property clause. The next step is to preempt the influx of inverse condemnation suits by providing a reasoned approach, tailored to the specific regional risks and unique cultural background of each country.