

THE PARADOX OF THE SALVAGE ZONE: EXAMINING THE PHILIPPINE COASTAL ADAPTATION FRAMEWORK IN THE LIGHT OF TROPICAL CYCLONES AND THREATS OF SEA LEVEL RISE

Amiel Ian A. Valdez*

Abstract

Strong typhoons entering the Philippine area of responsibility are not only taking the lives, but also the properties and livelihood of the coastal populace who are mostly fisher folk. As such, these typhoons, along with the threat of sea level rise, catalyse climate displacement in the Philippines. In this paper, the author examines the security of tenure, particularly land and related rights, of these climate displaced persons, and the Philippines' duty to realise these rights. The author argues that the Philippines, being a party to relevant climate change and human rights treaties, is bound to ensure that the climate displaced persons are not deprived of their property and possession, and that they shall have right to adequate standard of living. Similarly, the land and livelihood of coastal communities are protected by the constitutional right to property, as complemented by the Philippine Civil Code, and the constitutional right to a balanced and healthful ecology. Nevertheless, the author observes that there are gaps in the coastal and disaster laws of the Philippines. Specifically, these laws do not have concrete provisions to protect the property rights (land, housing, and livelihood) of persons who may be displaced by the government's projects or measures regulating its coastal zones, particularly the so-called Salvage Zone. Further, some local government units are not capacitated to provide immediate resettlement and basic services in the event of category five typhoons. Thus, the policy behind the imposition of the Salvage Zone becomes paradoxical as it creates the displacement of people it originally intends to salvage from the dangers of the sea. The author then recommends that the Philippine President use its power under the existing land law to reserve certain tracts of land and develop it for the benefit of the people who might be displaced because of forthcoming typhoon or rising sea level.

I INTRODUCTION

Climate extremes, particularly tropical cyclones or typhoons, can undermine the development efforts especially where the affected communities are poor and among the most vulnerable.¹ In its 2016 *Human Development Report*, the United Nations Development Programmes (UNDP) observes that natural disasters can generate not only loss of lives, but also drive people into poverty and reverse whatever progress that has been made on human development.²

*Lawyer (Philippines). Legal Officer, Department of Environment and Natural Resources (Philippines). Master of Environmental Law, University of Melbourne (Australia).

¹Rosemary Lyster, *Climate Justice and Disaster Law* (Cambridge University Press, 2016) 148.

²Selim Jahan, *Human Development Report 2016: Human Development for Everyone* (United Nations Development Programme, 2016) 125.

One of these development efforts relates to the protection of security of tenure, which is essentially related to housing and land rights.³ For the coastal communities, land matters, under the broader concept of private property right, become crucial because of the possibility of being displaced in the aftermath of typhoons and as a consequence of increasing sea level.⁴ As will be discussed below, this is currently happening in the Philippines, an archipelagic State whose climate is influenced by large-scale systems, such as typhoons, and is located in a maritime region where high rate of sea level rise is apparent.

This paper then delves into the extent of the Philippines' obligation, as a State, under both Climate Change Law and International Human Rights Law regimes insofar as the implementation of effective coastal adaptation measures and the balancing of such measures with the protection of the coastal communities' land and related rights are concerned. Part I of this paper contextualises the issue on the plight of the Philippines' coastal population under increasing stronger typhoons and changing sea level. Part II evaluates the Philippine government's obligations under both international and domestic constitutional laws to realise the security of land tenure in climate adaptation scenario. Finally, part III scrutinises the Philippine domestic statutes on coastal and disaster management, particularly on matters relating to the Salvage Zone (a coastal area under the government's control), and the capacity of the local government units (LGUs) to provide resettlement sites and basic services to the coastal populace who may be displaced by typhoon and/or sea level rise.

A The Philippine Coastal Communities under the Looming Typhoons and Sea Level Rise

With 7,641 islands,⁵ the Philippines' 22,549-mile coastline is one of the longest in the world (even longer than the United States' [US] and Australia's).⁶

³See United Nations Office of the High Commissioner for Human Rights, *General Principles on Security of Tenure*, <<http://www.ohchr.org/EN/Issues/Housing/Pages/StudyOnSecurityOfTenure.aspx>>.

⁴See generally *Report of the United Nations High Commissioner for Human Rights*, UN ESCOR, 2014 substantive sess, Agenda Item 17(g), UN Doc E/2014/86 (11 July 2014) para 7.

⁵Philippine National Mapping and Resource Information Authority (NAMRIA), *News and Events* (10 January 2017) <<http://www.namria.gov.ph/list.php?id=1032&alias=administrator-tiangco-welcomes-2017&Archive=1>>; 'More Islands, More Fun in PH', *CNN Philippines*

Although unitary in the form of government,⁷ this archipelagic country is divided into 17 regions, 81 provinces, 144 cities (16 highly urbanized cities), 1,490 municipalities, and 42,029 *barangays* (villages).⁸ Based on the 2012 study of the World Bank, 64 of the Philippines' provinces, and 832 of its municipalities are considered coastal,⁹ all of which border, in one way or another, the 226,000-km² coastal waters of the country.¹⁰ As of 2015 census, the Philippine population has reached 100,981,437, majority of whom (60 per cent estimate) live in coastal plains, and derive their livelihood from coastal resources such as fishing.¹¹ Because of such large number of coastal population, and the fact that many of its economic centres are abutting the shorelines, the Philippines is placed at an expansive risk to both extreme weather events (particularly typhoons), and sea level rise brought by the changing climate. Since the Philippine population is projected to increase for the next 35 years,¹² this risk and vulnerability issue from climate change impacts is of primordial concern.

The Philippines has a tropical and maritime climate, with seasonal temperature averaging from 25.5 to 28.3 degrees Celsius, which is influenced not only by its location, but also by large-scale systems such as tropical cyclones (typhoons), monsoons, and El Niño Southern-Oscillation (ENSO).¹³ Since the Philippines sits in front of the western arm of the Pacific Ocean, experiencing

(online), 20 February 2016 <<http://cnnphilippines.com/videos/2016/02/20/More-islands-more-fun-in-PH.html>>.

⁶World Atlas, *Countries with the Most Coastline* (25 April 2017) <<https://www.worldatlas.com/articles/countries-with-the-most-coastline.html>>.

⁷Soliman M Santos Jr, 'Philippines' [1997] *Asia-Pac Const YB* 189, 191.

⁸Philippine Statistics Authority, *The Philippines in Figures* (2015) 1 <https://www.psa.gov.ph/sites/default/files/2015%20PIF%20Final_%20as%20of%20022916.pdf>.

⁹World Bank, *Climate Change Adaptation in Coastal Communities: A Documentation of Project Experience* (2012) 7.

¹⁰*Ibid.*

¹¹S R C Reyes and A C Blanco, 'Assessment of Coastal Vulnerability to Sea Level Rise of Bolinao, Pangasinan Using Remote Sensing and Geographic Information System' (Paper Presented at 2012 XXII ISPRS Congress, Melbourne, Australia, 25 August – 01 September 2012) 167; see also World Atlas, above n 6.

¹²Philippine Statistics Authority, *A 142 Million Philippine Population by 2045?* (28 July 2014) <<https://psa.gov.ph/content/142-million-philippine-population-2045>>.

¹³Jose Ramon T Villarin et al., *Philippine Climate Change Assessment: Physical Science Basis* (The Oscar M Lopez Center for Climate Change Adaptation and Disaster Risk Management Inc, and Climate Change Commission, 2016) 19.

typhoons is not something new to this country. According to the Philippine weather bureau, on annual average, 20 typhoons cross the Philippine area of responsibility, and of those typhoons, five are considered destructive.¹⁴ Although recent study shows that the number of typhoons visiting the country decreased in the last 2 years (eg, only 15 typhoons in 2015), the frequency of extreme typhoons (ie, those with wind speed of more than 150 kph) is slightly increasing.¹⁵ Data reveals that these extreme typhoons are causing more damage than those before.¹⁶ More specifically, the damage covers not only loss of lives, but also properties, disruption of livelihood and other economic activities.¹⁷

What is happening in the Philippines is reflective of the global picture. The International Panel on Climate Change (IPCC) reported that there is evidence suggesting ‘substantial increases in intensity and duration (of hurricanes or typhoons) since the 1970s.... Specifically, the number of category 4 and 5 hurricanes increased by about 75% since the 1970.’¹⁸ The IPCC, in its *Fifth Assessment Report*, further noted that ‘storm activity has increased in the North Atlantic since the 1970s... (very high confidence),’¹⁹ notwithstanding uncertainty on long-term increase.²⁰

Other than the threat of strong typhoons, the Philippine coastal communities are faced with increasing sea level. Some 306 families in a village in La Union province, northern Philippines, are pleading the government for them to be relocated because the sea has observably continued to rise and

¹⁴Lorene Sia-Catedral, ‘The Philippine Disaster Risk Reduction and Management System’ (Country Report, Asian Disaster Reduction Center, 2016) 8.

¹⁵The Oscar M. Lopez Center for Climate Change Adaptation and Disaster Risk Management Foundation, Inc. (Oscar M. Lopez Center) and Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA), *State of the Philippine Climate* (2016) 2, <<http://www.omlopezcenter.org/state-of-the-philippine-climate/>>.

¹⁶Thelma A Cinco et al, ‘Long-Term Trends and Extremes in Observed Daily Precipitation and near Surface Air Temperature in the Philippines for the Period 1951–2010’ (2014) 145–146 *Atmospheric Research* 12, 13.

¹⁷*Ibid.*

¹⁸Intergovernmental Panel on Climate Change, *Fourth Assessment Report, Chapter III, Observations: Surface and Atmospheric Climate Change* (2007) 308.

¹⁹Intergovernmental Panel on Climate Change, *Fifth Assessment Report, Chapter II, Observations: Atmosphere and Surface* (2014) 219, 216.

²⁰*Ibid* 217; see also WL Steffen et al, *The Critical Decade 2013: Climate Change Science, Risks and Responses* (Climate Commission Secretariat, Department of Industry, Innovation, Climate Change, Science, Research and Tertiary Education, 2013) 58.

carved the village's shoreline.²¹ A school teacher in the same village said that they had already moved the school building for the fifth time because the previous ones had been submerged by the sea.²² The Marine Geological Survey office of the government acknowledged that sea level rise, caused by the warming ocean temperature, enhances the coastal erosion not only in the coastal villages of La Union, but all throughout the Philippines.²³

While there is limited data regarding sea level rise in the entire country, climate scientists observed that the marine region close to the Philippines and other Pacific island States 'exhibit(s) the highest sea level changes annually' compared with other areas around the globe.²⁴ Data shows that sea level has risen (15 centimetres) in the provinces of Legazpi, and Davao for the period 1980-1989.²⁵ In the capital city of Manila, sea level rose at an 'average rate of 1.3 mm per year since the 1900s, which increased to about 2.6 cm per year in the 1960s.'²⁶ It is projected that water levels in the Philippines will go up by 10.2 centimetres every 10 years, a rate three times higher than the global mean for same period.²⁷

Again, this phenomenon is happening around the global albeit in varying degree. The IPCC's *Fifth Assessment Report* states that the global mean sea level rise (GMSL) has risen by 0.19 metre, from a linear trend estimate during the period 1901-2010, with mean rate of 1.7 millimetre per year.²⁸ The rate, however, was very likely higher at 3.2 millimetre per year between 1993 to

²¹Ping Manongdo, 'Vanishing Brgy. Alaska: Who's Paying for Loss and Damage?,' *Rappler*(online), 14 December 2017 <<https://www.rappler.com/science-nature/environment/191288-brgy-alaska-la-union-climate-change-loss-and-damage>>.

²²Ibid.

²³Ibid.

²⁴Villarín et al., above n 13, 54.

²⁵Rodel D Lasco et al, 'Climate Change and Forest Ecosystems in the Philippines: Vulnerability, Adaptation and Mitigation' (2008) 11(1) *Journal of Environmental Science and Management* 1, 1.

²⁶Villarín et al. above n 13, 55.

²⁷Aya Lowe, 'Rapid Rise in Sea Levels Makes Philippines More Vulnerable to Natural Disasters,' *Channel News Asia* (online), 28 May 2015 <<https://www.channelnewsasia.com/news/asiapacific/rapid-rise-in-sea-levels-makes-philippines-more-vulnerable-to-na-8260530>>.

²⁸Thomas Stocker (ed), *Climate Change 2013: The Physical Science Basis: Working Group I Contribution to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge University Press, 2014) 46.

2010.²⁹ Based on one of the Representative Concentration Pathway (RCP) models, climate scientists project that ‘the rise by 2100 is 0.52 to 0.98 (metre), with a rate during 2081-2100 of 8 to 16 (millimetre per year).’³⁰ The same report states that ‘[i]t is virtually certain that (GMSL) rise will continue beyond 2100’ because of thermal expansion which will go on for hundreds of years.³¹

For many Filipinos living in coastal areas, an increasing sea level coupled with storm surge and flooding during the onslaught of strong typhoons can generally mean not only loss of lives but also destruction of their properties, and displacement from their home lands.

B Climate Displacement and Relocation Issues

The Internal Displacement Monitoring Centre (IDMC) considered the Philippines, along with India and China, as among the worst countries in terms of high rates of displacements brought by disasters.³² Comparatively, however, India and China’s displacement figures are less significant than the Philippines if the data will be viewed from the ratio of displaced persons vis-à-vis the total population of these countries.³³ Moreover, the major causes of displacements in the Philippines, particularly during the period 2008-2014, were frequent storms, compared with China and India’s displacements which were mainly due to floods and earthquakes.³⁴ For the period January to June 2017, IDMC tallied 740,000 new disaster-related displacements in the Philippines.³⁵ Because of this high level of vulnerability to extreme weather events (particularly

²⁹Ibid.

³⁰Ibid 1140.

³¹Ibid.

³²Norwegian Refugee Council and Internal Displacement Monitoring Centre, *Global Estimates 2015, People Displaced by Disasters* (2015) 36.

³³Ibid.

³⁴Ibid 36-7; see also Internal Displacement Monitoring Centre, *Philippines Displacement Context*<http://www.internal-displacement.org/countries/philippines#link_patterns>.

³⁵Internal Displacement Monitoring Centre, *Philippines Displacement Context*<http://www.internal-displacement.org/countries/philippines#link_patterns>.

typhoons), the Philippines is ranked fifth in the 2017 Global Climate Risk Index.³⁶

The Philippine weather bureau observed that destructive typhoons are most apparent in the last five to ten years.³⁷ For instance, in 2011 and 2012 respectively, typhoons *Washi (Sendong)*, and *Bopha (Pablo)* pummelled regions in southern Philippines (Mindanao island) – areas which were once typhoon-free.³⁸ *Washi* left 1,268 people dead, and affected a total of 131,618 families (698,882 persons) over 13 provinces.³⁹ Damage to infrastructure, agriculture, and private properties amounted to PHP 2.1 Billion (AUD 54 Million).⁴⁰ Meanwhile, *Bhopa*, a category 5 typhoon, killed 1,067 persons, affected 711,682 families (6,243,998 persons) from 34 provinces, and caused damage to properties amounting to PHP 36.9 Billion (AUD 960 Million).⁴¹

In recent memory, however, the most destructive typhoon that struck the Philippines was super typhoon *Haiyan (Yolanda)*, which hammered Tacloban City and the rest of central Philippines in November 2013.⁴² With its peak sustained winds of 195 mph, *Haiyan* holds the title (and arguably is still the current holder) of being the strongest tropical cyclone to have made a landfall in

³⁶SönkeKreft, David Eckstein and Inga Melchio, 'Global Climate Risk Index 2017, Who Suffers Most from Extreme Weather Events? Weather-related Loss Events in 2015 and 1996 to 2015' (Briefing Paper, Germanwatche.V., November 2016) 5-6.

³⁷ See generally Gwen de la Cruz, 'In Numbers: Typhoons in the Philippines and the 2016 polls', *Rappler*(online), 19 March 2016 <<https://www.rappler.com/move-ph/issues/disasters/126001-typhoons-enter-philippines-fast-facts>>.

³⁸Michael Ross, Joy Santiago and Alfredo Mahar Lagmay, 'Integrating and Applying Technology in Response to the Super Typhoon Bopha Disaster' (2015) 107 *Procedia Engineering* 100, 101.

³⁹Philippine National Disaster Risk Reduction and Management Council, Office of Civil Defense, 'I. Final Report on the Effects and Emergency Management re Tropical Storm "Sendong" (Washi), II. Status of Early Recovery Programs in Region X (Cagayan de Oro and Iligan Cities)' (10 February 2012) 3, <http://www.ndrrmc.gov.ph/attachments/article/1347/Final_Report_on_the_Effects_and_Emergency_Management_re_Tropical_Storm_SENDONG_%28WASHI%29_Status_of_Early_Recovery_Programs_in_Region_X_issued_10FEB2014.pdf>.

⁴⁰Ibid 4.

⁴¹Philippine National Disaster Risk Reduction and Management Council, Office of Civil Defense, 'SitRep No. 38 re Effects of Typhoon "Pablo" (Bopha)' (25 December 2012) 2, <http://www.ndrrmc.gov.ph/attachments/article/2245/SitRep_No_38_Effects_of_Typhoon_PABLO_as_of_25DEC2012_0600H.pdf>.

⁴²See Andrew Stevens and Paula Hancocks, 'Typhoon Haiyan: in hard-hit Tacloban, children ripped from arms', *CNN*, 10 November 2013 <<http://edition.cnn.com/2013/11/09/world/asia/philippines-tacloban/>>.

world history.⁴³ *Haiyan* affected 3,424,593 families (16,078,181 persons) in 44 provinces, 591 municipalities and 57 cities.⁴⁴ 6,300 people died, while damage to properties reached a massive amount of PHP 93 Billion (AUD 2.4 Billion).⁴⁵ *Haiyan* shattered (wholly and partially) 1,140,332 houses,⁴⁶ and thereby, displaced many Filipinos. The breadth of damage included not only private properties, but also civil infrastructures such as water and electric systems, roads and bridges, airports and seaports, as well as health centres, schools, drainage, agriculture and irrigation facilities.⁴⁷ Post-disaster assessment likewise showed how *Haiyan* impaired major productive sectors such as tourism, fisheries, and mining.⁴⁸ *Haiyan* exposed a number of complex issues relating to disaster preparedness, such as lack of adequate public information on what a storm surge is,⁴⁹ and the fragility of social infrastructures to a category five typhoon.⁵⁰

Nevertheless, the main challenges were on the rehabilitation and recovery process. The Philippine government work around the 'Build Back Better' principle, which basically aims not only to rebuild the conditions before *Haiyan*, but also to apply standards and designs that would enhance the capacity of the infrastructures and communities to withstand a category five

⁴³United States (US) National Aeronautics and Space Administration (NASA), *Haiyan Norwest Pacific Ocean* (08 November 2013) <<https://www.nasa.gov/content/goddard/haiyan-northwestern-pacific-ocean/>>; see also Ashley D Evans and Robert J Falvey, 'Annual Tropical Cyclone Report 2013' (US Joint Typhoon Warning Center, 2013) 3, <<http://www.usno.navy.mil/NOOC/nmfc-ph/RSS/jtwc/atcr/2013atcr.pdf>>; Mark Fischetti, 'Just How Strong is Hurricane Irma?,' *Scientific American* (online), 06 September 2017 <<https://www.scientificamerican.com/article/just-how-strong-is-hurricane-irma/>>.

⁴⁴Philippine National Disaster Risk Reduction and Management Council, Office of Civil Defense, 'Final Report re Effects of Typhoon Yolanda (Haiyan)' (06-09 November 2013) 3, <http://ndrrmc.gov.ph/attachments/article/1329/FINAL_REPORT_re_Effects_of_Typhoon_YOLANDA_%28HAIYAN%29_06-09NOV2013.pdf>.

⁴⁵Ibid 2-3.

⁴⁶Ibid 4.

⁴⁷Ibid 6.

⁴⁸Ibid 7.

⁴⁹Shuichi Kure et al, 'Overview of Super Typhoon Haiyan and Characteristics of Human Damage Due to Its Storm Surge in the Coastal Region, Philippines' (2016) 75(sp1) *Journal of Coastal Research* 1152, 1152.

⁵⁰Dennis Vicencio Blanco, 'Disaster Governance in the Philippines: Issues, Lessons Learned, and Future Directions in the Post-Yolanda Super Typhoon Aftermath' (2015) 38(10) *International Journal of Public Administration* 743, 750.

typhoon.⁵¹ As part of its medium-term interventions and resettlement programs, the Philippine government targeted 205,128 permanent shelters, as well as community facilities (schools, and multi-purpose courts) within the resettlement sites.⁵² Nevertheless, as of the last quarter of 2017, only 12.79 per cent (26,256 units) had been turned over to the beneficiaries.⁵³ The government attributed the delay in the completion of housing and resettlement projects to several practical and legal chokepoints, such as the slow conversion of the classification of some lands from agricultural to residential; some private lands which were targeted for expropriation had no titles; and some of the target sites actually were within protected areas (eg, a forest reserve).⁵⁴

The government also imposed a hazard zone classification of areas affected by *Haiyan*. Under this policy, the government required the observance of the so-called 'No-Build Zone', which is the prohibition to construct any house or private structures within the Salvage Zone – a legal easement of 3, 20, or 40 metres (depending on whether the concerned area is urban, agricultural or forest, respectively) from the shorelines or riverbanks where no building construction is allowed, except for critical facilities (eg, for fishing or salvage).⁵⁵

The years following *Haiyan* show the recurring problem of displacement triggered by strong typhoons. In 2014, powerful typhoon *Hagupit* (*Ruby*)

⁵¹Philippine National Economic Development Authority (NEDA), *Yolanda Comprehensive Rehabilitation and Recovery Plan* (1 August 2014) 21, <<http://yolanda.neda.gov.ph/wp-content/uploads/2015/11/Yolanda-CRRP.pdf>>; see also Meghan Lynn, 'The Post-Haiyan Shelter Challenge and the Need for Local, National and International Coordination' (2016) 53 *UN Chron* 26, 28; Michelle McPherson, 'Responding to Typhoon Haiyan in the Philippines' (2015) 6(Suppl 1) *Western Pacific Surveillance and Response Journal* 1, 2.

⁵²Philippine National Economic Development Authority (NEDA), *Yolanda Comprehensive Rehabilitation and Recovery Plan* (1 August 2014) 15-7, 49.

⁵³Jaymee T Gamil, 'Only 13% of "Yolanda" housing occupied, 38% built', *Philippine Daily Inquirer* (online), 07 November 2017 <<http://newsinfo.inquirer.net/943740/philippine-news-updates-yolanda-yolanda-housing>>.

⁵⁴*Philippine Development Plan 2017-2022* (National Economic Development Authority, Philippines) 184.

⁵⁵Joint DENR-DILG-DND-DPWH-DOST Memorandum Circular No 2014-01, *Adoption of Hazard Zone Classification in Areas Affected by Typhoon Yolanda (Haiyan) and Providing Guidelines for Activities Therein* (05 November 2014) (Philippines) s 6.2.1, <<http://pcij.org/wp-content/uploads/2015/01/Joint-DENR-DILG-DND-DPWH-DOST-Adoption-of-Hazard-Zone-Classification.pdf>>.

affected 3,852,672 persons⁵⁶ over regions which were almost on the same course as that of *Haiyan*, and thus creating a déjà vu.⁵⁷ In 2015, *Koppu (Lando)*, which initially approached the Philippine as category five typhoon but weakened to category three, affected 3,126,130 persons, most of whom had to live in the evacuation centres before and after the height of the typhoon.⁵⁸ In 2016, there was *Haima (Lawin)*, which, although not comparable to *Koppu* in terms of strength, had forced the government to preemptively evacuate 158,736 persons.⁵⁹ In 2017, typhoon *Tembin (Vinta)* brought a deadly Christmas present to the Philippines killing 164 people,⁶⁰ and affecting 797,337 persons.⁶¹ While government reports did not qualify which of these affected persons were living in coastal areas and permanently lost houses and lands, the massive numbers show how disaster-related displacement is a primordial concern in the Philippines.

In legal sense, this situation raises the issues not only on whether the right to adequate housing of the typhoon victims was realised by the government,⁶² but also whether their land rights were protected. This is because the enforcement of this No-Build Zone or Salvage Zone policy (as what

⁵⁶Philippine National Disaster Risk Reduction and Management Council, 'SitRep No 22 re Effects of Typhoon "Ruby" (Hagupit)' (14 December 2014) 1, <https://reliefweb.int/sites/reliefweb.int/files/resources/Sitrep_No_22_re_Effects_of_Typhoon_Ruby_as_of_14DEC2014_0600H.pdf>.

⁵⁷'Powerful Typhoon Hagupit Nears Philippines,' *BBC* (online), 05 December 2014 <<http://www.bbc.com/news/world-asia-30324209>>.

⁵⁸Philippine National Disaster Risk Reduction and Management Council, Office of Civil Defense, 'Final Report re Preparedness Measures and Effects of Typhoon "Lando" (I.N. Koppu)' (14-21 October 2015) 2, <http://www.ndrrmc.gov.ph/attachments/article/2607/FINAL_REPORT_re_Preparedness_Measures_and_Effects_of_Typhoon_LANDO_KOPPU_as_of_14_-_21OCT2015.pdf>.

⁵⁹Philippine National Disaster Risk Reduction and Management Council, Office of Civil Defense, 'SitRep No 09 re Preparedness Measures and Effects of Super Typhoon "Lawin" (I.N. Haima)' (25 October 2016) 2, <http://www.ndrrmc.gov.ph/attachments/article/2946/Sitrep_No_09_re_Preparedness_Measures_and_Effects_of_Super_Typhoon_LAWIN_HAIMA_as_of_25OCT2016_0800H.pdf>.

⁶⁰Euan McKirdy, 'The Philippines' deadly Christmas Weekend,' *CNN* (online), 25 December 2017 <<https://edition.cnn.com/2017/12/25/asia/philippines-bus-crash-tembin-vinta/index.html>>.

⁶¹Philippine National Disaster Risk Reduction and Management Council, Office of Civil Defense, 'SitRep No 25 re Preparedness Measures and Effects of Typhoon "Vinta" (I.N. Tembin)' (07 February 2018) 2, <http://www.ndrrmc.gov.ph/attachments/article/3264/Update_SitRep_No25_re_Preparedness_Measures_and_Effects_of_Typhoon_VINTA_IN_TEMBIN.pdf>.

⁶²See generally Amiel Ian Valdez, *A Continuing Mandamus to Enforce Housing Rights in the Era of Super Typhoons* (Unpublished).

happened in *Haiyan*) vis-à-vis the delay in the provision of climate-proof housing created ‘further and deeper displacement’ since those who were living near the coast were prohibited from returning to their former lands, and at the same time, had no roofs to cover their heads,⁶³ and without alternative livelihood especially for the affected artisanal fisherfolk. This context calls for queries as to (1) where the State obligation, if any, lies insofar as protecting the land rights of the affected coastal communities in the light of typhoon-related displacements, and increasing sea level; and, (2) the extent of such obligation, given the State’s duty to enhance its adaptation measures under the Climate Change Law regime.

II THE PHILIPPINES’ OBLIGATION TO REALISE LAND AND RELATED RIGHTS OF TYPHOON-DISPLACED PERSONS

The advent of category five storm such as *Haiyan*, and very recently, hurricane *Irma* which devastated the string of Caribbean islands and the US,⁶⁴ is a grim indication that the effects of warming climate is already at hand. Given this, and the realisation that mitigation alone will not provide an immediate solution, policy-makers and other concerned stakeholders have turned to adaptation to manage and reduce vulnerability to these climate extremes.⁶⁵ The *Cancun Adaptation Framework* is the embodiment of the international community’s realisation that adaptation is as equally important as mitigation, and that there is a need for international cooperation to enhance the adaptive capacity of the States, especially those with low-lying coasts.⁶⁶ Nevertheless, the obligation of a State under international law to undertake coastal adaptation actions vis-à-vis

⁶³United Nations Office of the High Commissioner for Human Rights, *Early Warning of Violence and Conflict: Land and Human Rights in South East Asia* (Expert Group Meeting, Bangkok, Thailand, 16-18 November 2015) 3.

⁶⁴‘Hurricane Irma Causes Devastation in the Caribbean,’ *BBC* (online), 07 September 2017 <<http://www.bbc.com/news/world-latin-america-41182991>>; ‘Hurricane Irma: Florida Assesses Damage as Storm Weakens,’ *BBC* (online), 11 September 2017 <<http://www.bbc.com/news/business-41231323>>.

⁶⁵Jacqueline Peel and Hari M Osofsky, *Climate Change Litigation: Regulatory Pathways to Cleaner Energy* (Cambridge University Press, 2015) 109.

⁶⁶Conference of the Parties, United Nations Framework Convention on Climate Change, Report of the Conference of the Parties on Its Sixteenth Session, Held in Cancun from 29 November to 10 December 2010 — Addendum — Part 2: Action Taken by the Conference of the Parties at Its Sixteenth Session, UN Doc FCCC/CP/2010/7/Add.1 (15 March 2011) Decision 1/CP.16 paras 2(b), 11, 14.

the exercise and protection of the affected communities' land rights will require a scrutiny of the interaction between the two regimes – the Climate Change Law and the International Human Rights Law. In this section, it is argued that the Philippines, being a Party to the *United Nations Framework Convention on Climate Change (UNFCCC)*,⁶⁷ *Paris Agreement*,⁶⁸ and the *International Covenant on Economic, Social and Cultural Rights (ICESCR)*,⁶⁹ as complemented by the *Universal Declaration of Human Rights (UDHR)*⁷⁰ and United Nations (UN) *Guiding Principles on Internal Displacement (GPID)*,⁷¹ is not only bound by its commitments under these treaties by virtue of the *pacta sunt servanda* principle (ie, the performance in good faith of treaty obligations),⁷² but also has to strike the balance in the performance of its commitments.

A Climate Change Regime: Coastal Adaptation as Protection of the Vulnerable Groups, their Livelihood, and the Ecosystem

Albeit being generic in tone, the *UNFCCC* provides the foundation of the States' obligations concerning coastal adaptation. Article 4(1)(b) requires the State Parties to '[f]ormulate, implement, publish, and regularly update national... programmes containing... measures to facilitate adequate adaptation to climate change.' In connection with this, State Parties are mandated to 'develop and elaborate appropriate and integrated plans for coastal zone management,'⁷³

⁶⁷*United Nations Framework Convention on Climate Change*, opened for signature 9 May 1992, 1771 UNTS 107 (entered into force 21 March 1994) ('*UNFCCC*').

⁶⁸*Paris Agreement under the United Nations Framework Convention on Climate Change*, opened for signature 22 April 2016, [2016] ATS 24 (entered into force 4 November 2016) ('*Paris Agreement*').

⁶⁹*International Covenant on Economic, Social and Cultural Rights*, opened for signature 16 December 1966, 993 UNTS 3 (entered into force 3 January 1976) ('*ICESCR*').

⁷⁰*Universal Declaration of Human Rights*, GA Res 217A (III), UN GAOR, 3rd session, 183 plen mtg, UN Doc A/810 (10 December 1948).

⁷¹Commission on Human Rights, *Further Promotion and Encouragement of Human Rights and Fundamental Freedoms, Including the Question of the Programme and Methods of Work of the Commission: Human Rights, Mass Exoduses and Displaced Persons, Addendum: Guiding Principles on Internal Displacement*, UN ESCOR, 54thsess, Agenda Item 9(d), UN Doc C/CN.4/1998/53/Add.2 (11 February 1998) ('*Guiding Principles on Internal Displacement*').

⁷²*Vienna Convention on the Law of Treaties*, opened for signature 23 May 1969, 1155 UNTS 331 (entered into force 27 January 1980) art 26.

⁷³*UNFCCC* art 4(1)(e).

with the goal of achieving a sustainable coastal and marine ecosystem.⁷⁴ These adaptation provisions were premised on the global recognition of the threats of sea level rise, and flood risks.⁷⁵ The *UNFCCC*, however, did not provide any guidance on how coastal adaptation should be in the context of typhoons or extreme weather events perhaps due to lack of scientific certainty in connecting these sudden onset events with climate change at the time when the *UNFCCC* was adopted.

The *Kyoto Protocol to the United Nations Framework Convention on Climate Change*⁷⁶ (*Kyoto Protocol*) has similar provisions regarding the formulation and implementation of adequate adaptation measures.⁷⁷ The *Kyoto Protocol*, however, is less relevant in this discourse because it was designed primarily for the developed countries (the so-called Annex I Parties) to achieve their quantified anthropogenic carbon dioxide emission limitations and reduction commitments through market-based mechanisms.⁷⁸

The *Paris Agreement* is one that sheds light on the minimum components of an adaptation programme. Under article 7(2), adaptation is considered a key component in the ‘global response to climate change *to protect people, livelihoods and ecosystems*’, with particular attention given to the vulnerable people.⁷⁹ Further, the *Paris Agreement* requires the integration of adaptation with ‘relevant socioeconomic and environmental policies and actions, where appropriate.’⁸⁰ The *Paris Agreement* likewise expects (in a way, reiterates) that the adaptation planning process of each Party should take into account the ‘vulnerable people, places and ecosystems.’⁸¹ Article 7(10) requires each Party to ‘submit and update periodically an adaptation communication,’⁸²

⁷⁴Ibid art 4(1)(d).

⁷⁵Ibid preamble paras 12, 19.

⁷⁶*Kyoto Protocol to the United Nations Framework Convention on Climate Change*, opened for signature 11 December 1997, 2303 UNTS 148 (entered into force 16 February 2005) (*Kyoto Protocol*).

⁷⁷Ibid art 10(b).

⁷⁸Ibid arts 2(1), 3(1), 6, 12, 17.

⁷⁹*Paris Agreement* arts 7(2) (emphasis added), 7(5).

⁸⁰Ibid art 7(5).

⁸¹Ibid art 9(c).

⁸²Ibid art 7(10).

which is a component of or in conjunction with the Parties' nationally determined contribution (NDC) under Article 4 – a very essential document in the *Paris Agreement*.⁸³

Here, it may be argued that a holistic adaptation plan should include not only the physical safety of the affected people (eg, relocating coastal communities from areas deemed hazardous due to threats of storm surge and coastal erosion brought by sea level rise), but also the socioeconomic dimension (eg, the provision of livelihood and basic services in the relocation or resettlement sites). In addition, an adaptation plan must have ecosystem protection aspect (eg, the establishment of marine protected areas to allow the corals and marine habitats destroyed by the typhoon, as what happened to the areas affected by *Haiyan*,⁸⁴ to regenerate and not succumb to overfishing). Therefore, to comply with the adaptation requisites of the Paris accord, the Philippines' adaptation communication must be reflective of all these dimensions.

The Philippines' adaptation communication is infused in its NDC to the *Paris Agreement*. The Philippines' climate change philosophy approaches 'mitigation as a function of adaptation.'⁸⁵ Recognising that natural hazards will have tremendous effect on its economy (particularly in agriculture, fisheries, and water resource), it aims to mainstream and integrate adaptation and disaster risk reduction in all its plans and programs at all levels.⁸⁶ Accordingly, 'public financing will prioritise adaptation to reduce the vulnerability and risks to the community.'⁸⁷ One of its priority adaptation measures is the 'development of climate and disaster-resilient ecosystems.'⁸⁸ While these adaptation commitments appear to be broad, they show the direction of the

⁸³Ibid art 7(11).

⁸⁴United Nations Food and Agriculture Organisation (FAO), *Typhoon Haiyan: Portraits of Resilience* (2015) 30, <<http://www.fao.org/3/a-i5177e.pdf>>.

⁸⁵*Intended Nationally Determined Contribution* (Philippines, October 2015) 1, <<http://www4.unfccc.int/submissions/INDC/Published%20Documents/Philippines/1/Philippines%20-%20Final%20INDC%20submission.pdf>>.

⁸⁶Ibid 2, 4.

⁸⁷Ibid 5.

⁸⁸Ibid.

Philippines' adaptation agenda, which more or less touches on the human and ecosystem dimensions as required by the *Paris Agreement*.

To achieve its adaptation targets, the Philippines banks on its climate change policy agenda, which is an agglomeration of domestic statutes, such as the *Climate Change Act of 2009*,⁸⁹ *Philippine Disaster Risk Reduction and Management Act of 2010*,⁹⁰ as complemented by the renewable energy,⁹¹ biofuel,⁹² and solid-waste laws,⁹³ and administrative issuances, the most important one is the *National Climate Change Action Plan (NCCAP) 2011-2028*.⁹⁴ The *NCCAP* lays down priority activities which are relevant to the plight of coastal communities. *NCCAP* puts emphasis on human security by promoting and protecting the right to housing, among others, from security concerns, such as displacement as a result of sea level rise or large-scale biophysical disruptions brought by extreme climate events.⁹⁵ While land right was not specifically mentioned under this rubric, *NCCAP* states that the Philippines intends to build climate change adaptive housing and establish secured resettlement areas for vulnerable communities and climate displaced persons.⁹⁶ Adjunct to this is the

⁸⁹Republic Act No. 9729, *An Act Mainstreaming Climate Change into Government Policy Formulations, Establishing the Framework Strategy and Program on Climate Change, Creating for this Purpose the Climate Change Commission, and for Other Purposes* (Philippines) (*Climate Change Act of 2009*); Republic Act No. 10174, *An Act Establishing the People's Survival Fund to Provide Long-Term Finance Stream to Enable the Government to Effectively Address the Problem of Climate Change, Amending for the Purpose Republic Act No. 9729, otherwise Known as the "Climate Change Act of 2009", and for Other Purposes* (Philippines).

⁹⁰Republic Act No. 10121, *An Act Strengthening the Philippine Disaster Risk Reduction and Management System, Providing for the National Disaster Risk Reduction and Management Framework and Institutionalising the National Disaster Risk Reduction and Management Plan, Appropriating Funds therefor and for Other Purposes* (Philippines) (*Philippine Disaster Risk Reduction and Management Act of 2010*).

⁹¹Republic Act No. 9513, *An Act Promoting the Development, Utilization and Commercialisation of Renewable Energy Resources and for Other Purposes* (Philippines) (*Renewable Energy Act of 2008*).

⁹²Republic Act No. 9367, *An Act to Direct the Use of Biofuels, Establishing for this Purpose the Biofuel Program, Appropriating Funds therefor, and for Other Purposes* (Philippines) (*Biofuels Act of 2006*).

⁹³Republic Act No. 9003, *An Act Providing for an Ecological Solid Waste Management Program, Creating the Necessary Institutional Mechanisms and Incentives, Declaring Certain Acts Prohibited and Providing Penalties, Appropriating Funds therefor, and for other purposes* (Philippines) (*Ecological Solid Waste Management Act of 2000*).

⁹⁴See *National Climate Change Action Plan 2011-2028* (Climate Change Commission, Philippines) <<http://climate.gov.ph/index.php/content/?id=27&Itemid=13>>.

⁹⁵Ibid 16

⁹⁶Ibid 18, 21, 100.

provision of sustainable livelihood and jobs from climate-smart industries and services,⁹⁷ and the protection of ecosystems that provide valuable goods and services to municipalities bordering marine areas with high biodiversity.⁹⁸ The Philippines aims to accomplish all these adaptation plans in the next 10 years.

Nevertheless, since the *NCCAP* is only an administrative issuance showing the aspirations of the government, there is a question on its enforceability, particularly if the government fails to achieve its adaptation targets under the *NCCAP*. Hence, to successfully achieve the above agendas, relevant laws must be enacted to better protect the rights of the affected persons. For instance, as of present, the Philippines has no comprehensive law protecting the rights of climate displaced persons, although there are already proposed bills for that purpose.⁹⁹ Defining who the climate displaced persons are, and setting forth the parameters of their entitlements, and the responsibilities of the government must be clear under a law because, as shown earlier, typhoon-related displacements can affect thousands of persons both living in or outside coastal areas. This requires a standard governmental response based on a law. Therefore, legislation is highly desirable. Unless such legislation is put in place, the Philippines will risk not complying its commitments under the *Paris Agreement*.

B International Human Rights Regime: Land Right of Coastal Populace

The absence of land rights in the texts of the *Paris Agreement* and the *UNFCCC* comes as no surprise since these treaties were designed in a management approach, with more focus on carbon accounting.¹⁰⁰ Nonetheless, there is less debate among scholars that climate change-related events are closely

⁹⁷Ibid 21, 43.

⁹⁸Ibid 52.

⁹⁹*Senate Bill No 1513, An Act Protecting the Rights of Internally Displaced Persons and Appropriating Funds Therefor and for other Purposes*, 17th Congress, 2nd Regular sess (2017); *House Bill No 5627, An Act Protecting the Rights of Internally Displaced Persons, Providing Penalties for Violations Thereof and for Other Purposes*, 15th Congress, 2nd Regular sess (2015) (vetoed by the President).

¹⁰⁰David B Hunter, 'Human Rights Implications for Climate Change Negotiations' (2009) 11 *Or. Rev. Int'l L.* 331, 339–40.

intertwined with the effective enjoyment of human rights (housing and land rights included),¹⁰¹ and the overall protection of human security.¹⁰² The Special Rapporteur observed that the impact of extreme weather events (such as typhoons) is more disproportionate and has heavier impact on the developing countries like the Philippines, especially on the poor communities, because of lack of resilience to survive.¹⁰³ This is where security of tenure, which is a ‘set of relationships with respect to housing and land,’ becomes relevant.¹⁰⁴ Land, in particular, is an issue that cuts across a range of human rights (eg, food,¹⁰⁵ health,¹⁰⁶ water¹⁰⁷), and thereby, creates obligations due to vulnerable groups.¹⁰⁸

In the case of climate displaced persons, the primary international instrument dealing with their rights and the States’ responsibilities is the UN *GPID*. Despite being a mere soft law, *GPID* embodies a number of universally recognised human rights that are applicable to climate displaced persons. Although it did not specifically mention land rights, it highlighted at least two human rights from which land use or the security of tenure is an essential component of. First, under Principle 21(1), climate displaced persons shall not be ‘arbitrarily deprived of *property and possession*.’¹⁰⁹ Principle 29(2) of *GPID* further provides that States are obliged to assist climate displaced persons to

¹⁰¹Naomi Roht-Arriaza, ‘Human Rights in the Climate Change Regime’ (2010) 1(2) *Journal of Human Rights and the Environment* 211, 213–34; See, eg, Rosalind Cook and Eljalill Tauschinsky, ‘Accommodating Human Values in the Climate Regime’ (2008) 4 *Utrecht L. Rev.* 18, 19–27.

¹⁰²Rosemary Lyster, *In the Wilds of Climate Law* (Australian Academic Press, 2010) 18–9.

¹⁰³Raquel Rolnik, Special Rapporteur on Adequate Housing as Component of the Right to an Adequate Standard of Living and on the Right to Non-Discrimination, *The Right to Adequate Housing*, UN Doc A/64/255 (06 August 2009) para 10, 12.

¹⁰⁴Human Rights Council, *Report of the Special Rapporteur on Adequate Housing as a Component of the Right to an Adequate Standard of Living, and on the Right to non-discrimination in this context*, Raquel Rolnik, 25thsess, Agenda Item 3, UN Doc A/HRC/25/54 (30 December 2013) para 5.

¹⁰⁵Committee on Economic, Social and Cultural Rights, *General Comment No 12: The Right to Adequate Food*, 12thsess, UN Doc E/C.12/1999/5 (12 May 1999) para 12

¹⁰⁶Committee on Economic, Social and Cultural Rights, *General Comment No 14 (2000): The Right to the Highest Attainable Standard of Health (Article 12 of the International Covenant on Economic, Social and Cultural Rights)*, 22ndsess, UN Doc E/C.12/2000/4 (11 August 2000) para 27.

¹⁰⁷Committee on Economic, Social and Cultural Rights, *General Comment No 15 (2002): The Right to Water (Arts 11 and 12 of the International Covenant on Economic, Social and Cultural Rights)*, 29thsess, UN Doc E/C.12/2002/11 (20 January 2003) para 16(d).

¹⁰⁸Elisabeth Wickeri, ‘Land Is Life, Land Is Power: Landlessness, Exclusion, and Deprivation in Nepal’ (2010) 34 *Fordham Int’l LJ* 930, 934.

¹⁰⁹*Guiding Principles on Internal Displacement* Principle 21(1) (emphasis added).

recover their property and possession, if not, provide compensation or reparation. The right to own property is likewise protected by article 17 of the *UDHR*, which arguably represents customary international law,¹¹⁰ and therefore, creates a legal obligation on the part of the States. The UN Office of High Commissioner for Human Rights (OHCHR) interprets the right to property as one which encompasses both land and land use.¹¹¹ Therefore, it may be argued that the land right of the climate displaced persons and/or those persons living in coastal areas are protected under *UDHR* and other binding treaties,¹¹² as complemented by the *GPID*.

Second, Principle 18 of *GPID* recognises the right of climate displaced persons to adequate standard of living, which requires, at the minimum, basic shelter and housing. The right to adequate standard of living is enshrined in article 11(1) of *ICESCR*. In its *General Comment No 4*, the Committee on Economic, Social and Cultural Rights advises the States to take into account the legal security of tenure (ie, the ‘legal protection against eviction, harassment, and *other threats*’),¹¹³ among other six other factors (availability of services and facilities, affordability, habitability, accessibility, location, and cultural adequacy),¹¹⁴ to realise the right to adequate housing. Here, the Committee considers the knotted link between housing and land rights. Although this Comment was issued at the time when the climate change main legal framework (*UNFCCC*) was still at its infancy, it may be argued that the phrase ‘other threats’ in the above Comment on security of tenure is broad enough to include sudden and slow onset events which are main drivers of climate displacement. Therefore, in the event of dispossession due to either storm surge or sea level rise, the coastal communities’ security of tenure must be realised and protected,

¹¹⁰Hurst Hannum, ‘The Status of the Universal Declaration of Human Rights in National and International Law’ (1995) 25 *Ga. J. Int’l & Comp. L.* 287, 317–52.

¹¹¹United Nations Office of the High Commissioner for Human Rights, *Land and Human Rights: Standards and Applications* (2015) 53-4.

¹¹²See, eg, *International Convention on the Elimination of All Forms of Racial Discrimination*, opened for signature 21 December 1965, 660 UNTS 195 (entered into force 4 January 1969) art 5(d)(v).

¹¹³Committee on Economic, Social and Cultural Rights, *General Comments No 4: The Right to Adequate Housing (Article 11(1) of the Covenant)*, 6thsess, UN Doc E/1992/23 (13 December 1991) para 8(a) (emphasis added) (*General Comment No 4*).

¹¹⁴*Ibid* paras 8(b)-(g).

especially if they can no longer go back to their original lands near the coasts. This would mean, for instance, that after a typhoon, they should not remain in temporary bunkhouses for a long time, but must be provided permanent and adequate housing and land without undue delay.

Other than the rights to property and possession, and the broader right to adequate standard of living, *GPID* related rights and freedoms, such as those relating to education,¹¹⁵ liberty of movement and freedom to choose residence,¹¹⁶ access to public services from resettlement areas,¹¹⁷ among others. It bears stressing that *GPID* categorically vests in the national authorities the primary duty and responsibility in realising and protecting these rights and freedoms.¹¹⁸ This is in consonance with the *Paris Agreement's* preamble instructing the States to consider its obligation to promote human rights of local communities, indigenous peoples and other vulnerable groups in addressing climate change.¹¹⁹

C Domestic Constitutional Law: Protection of Right to Property (Livelihood) and Right to Healthy Environment

The security of tenure is likewise protected within the domestic constitutional law framework. The *1987 Philippine Constitution* mandates the State to undertake, by law, a continuing program of urban land reform and housing which should be made available to the homeless and underprivileged citizens living in resettlement areas.¹²⁰

Land right, specifically, falls within the ambit of two broader constitutional rights. First, land, being an immovable property under the *Philippine Civil Code*,¹²¹ is covered by the *Constitution's* Bill of Rights provision

¹¹⁵*Guiding Principles on Internal Displacement* Principle 23(1).

¹¹⁶*Ibid* Principle 14(1).

¹¹⁷*Ibid* Principle 29(1).

¹¹⁸*Ibid* Principle 3(1).

¹¹⁹*Paris Agreement* Preamble, para 11.

¹²⁰*1987 Constitution* (Philippines) art XIII s 9.

¹²¹*Republic Act No 386, An Act to Ordain and Institute the Civil Code of the Philippines* (Philippines) arts 414(1), 415(1) ('*Civil Code of the Philippines*').

on non-deprivation of property without due process of law.¹²² Nonetheless, in a long line of cases, the Philippine Supreme Court held that the right to property is not an absolute right, and may be limited by the State's power of eminent domain (expropriation).¹²³ It is also worth adding that the Philippine Supreme Court considered a person's livelihood or employment as a property right which cannot unjustly or arbitrarily be taken of without due process.¹²⁴ Hence, in the case of Filipino fisher folk living the near the coasts who are threatened by displacement due to government adaptation projects or measures (eg, building of sea wall, or imposition of easement along the shores, as will be explained below), it may be argued that they can invoke this constitutional provision on property right to demand protection or compensation, if there is lawful taking of property. Moreover, following the above Philippine Supreme Court reasoning, it may be argued that the deprivation of means of livelihood (particularly for fisher folk who are not provided with alternative source of income after being relocated away from the sea) is a violation of their constitutional right to property.

Second, in climate change, and disaster prevention and recovery context, land right of affected communities may fall under the right to a balanced and healthful ecology as stated in article II, section 16 of the *Constitution*. It is common knowledge that environment is basically conjoined with nature. Hence, it may be argued that land, being one of the natural elements of life or life sources (other than air and water), is part and parcel of nature, if not interchangeable with nature per se.¹²⁵ In the seminal case of *Oposa v Factoran*, the Philippine Supreme Court held that there is a duty on the part of the State not only to protect but also advance this constitutional right to a healthy environment.¹²⁶ Therefore, it is arguable that for climate displaced persons,

¹²²1987 *Constitution* (Philippines) art III s 1.

¹²³ See, eg, *Heirs of Suguitan v City of Mandaluyong*, GR No 135087, 14 March 2000 (Supreme Court of the Philippines); see also 1987 *Constitution* (Philippines) art III s 9.

¹²⁴See *Baliwag Transit Inc v Ople*, GR No 57642, 16 March 1989 (Supreme Court of the Philippines).

¹²⁵Hilario G Davide Jr, 'The Environment as Life Sources and the Writ of Kalikasan in the Philippines' (2011) 29 *Pace Env'tl. L. Rev.* 592, 593.

¹²⁶*Oposa v Factoran*, G.R. No. 101083, 30 July 1993 (Supreme Court of the Philippines)

advancing their right to a balanced and healthful ecology necessarily includes the promotion of their land right.

From the above survey of international and domestic legal instruments, it is observed that land right and security of tenure of coastal communities, as well as those who may be deemed climate displaced persons, are protected under both the Climate Change Law and International Human Rights Law regimes, as well as the fundamental law of the Philippines. In this regard, the source of the Philippine government's obligation to uphold such right is anchored on a combination of both international and domestic laws. Determining whether the Philippines has appropriately balanced its commitments under both international law regimes on the issue of security of tenure of coastal communities will necessitate an evaluation of its coastal, land and disaster laws and policies.

III PHILIPPINE COASTAL AND DISASTER LEGAL FRAMEWORKS

The coastal management and disaster prevention and recovery legal framework of the Philippines is scattered in different statutes and rules and regulations (delegated legislations). The main ones which directly or indirectly relate to the exercise of private property rights (including housing and land rights) are *The Water Code of the Philippines*,¹²⁷ *Urban Development and Housing Act of 1992*,¹²⁸ as complemented by the *Philippine Civil Code*, and *The Public Land Act*.¹²⁹ Many of the government policy measures on coastal adaptation which were issued as part of the rehabilitation and recovery process from super typhoon *Haiyan* were based on these domestic laws. In this section, it is argued

¹²⁷*Presidential Decree No 1067, A Decree Instituting a Water Code, Thereby Revising and Consolidating the Laws Governing the Ownership, Appropriation, Utilization, Exploitation, Development, Conservation and Protection of Water Resources (Philippines)* ('*The Water Code of the Philippines*').

¹²⁸*Republic Act No 7279, An Act to Provide for a Comprehensive and Continuing Urban Development and Housing Program, Establish the Mechanism for its Implementation, and for Other Purposes (Philippines)* ('*Urban Development and Housing Act of 1992*'); *Republic Act No 9397, An Act Amending Section 12 of Republic Act No 7279, Otherwise Known as the Urban Development and Housing Act of 1992, and for Other Purposes (Philippines)*.

¹²⁹*Commonwealth Act No 141, An Act to Amend and Compile the Laws Relative to Lands of the Public Domain (Philippines)* ('*The Public Land Act*').

that while these laws allow certain flexibility on the part of the government to exercise control over coastal zones, there is a grey area insofar as the protection of the security of tenure of people living near the coasts because of the uncertainties in relocation and resettlement in the event of displacement. In addition to this, the fragmented distribution of power between and among national government agencies, and too much reliance on the LGUs in the provision of social services can exacerbate displacement especially in post-typhoon rehabilitation and recovery process.

A The Salvage Zone as Public Easement (Beyond the Commerce of Men/Women)

Article 51 of the Philippine *Water Code* is the main legal basis for the government's control over the Philippine coasts. This provision states that: '... the shores of the seas ... within a zone of ... (3) meters in urban areas, ... (20) meters in agricultural areas and ... (40) meters in forest areas, along their margins, are subject to the easement of public use in the interest of *recreation, navigation, floatage, fishing and salvage*.'¹³⁰ This was lifted from the 1866 Spanish *Law of Waters*¹³¹ – the Philippines being the colony of Spain, before the US. As mentioned earlier, this is commonly referred to as the Salvage Zone because originally this zone was intended for navigation purposes, ie, to save ships and properties from the perils of the sea.



¹³⁰*The Water Code of the Philippines* art 51 (emphasis added).

¹³¹See generally *Roxas v City of Manila*, GR No L-3144, 19 November 1907 (Supreme Court of the Philippines).

Figure 1: Salvage Zone as One of the Key Coastal Features¹³²

Under the Philippine law, the Salvage Zone is considered a legal easement¹³³ and an ‘open space’,¹³⁴ which is reserved only for the above-mentioned specific public uses. The Philippine Supreme Court considers this zone as part of the public dominion and is ‘beyond the commerce of men’ or women, which means that it is not subject to private ownership or any private possessory right.¹³⁵ As such, this zone is to be demarcated and excluded from any survey claim for purposes of registering title to a land.¹³⁶

Related to the provision on Salvage Zone is section 28(a) of the *Urban Development and Housing Act of 1992* which allows the LGUs to evict and demolish persons and entities occupying danger areas, such as shorelines and riverbanks. In the past, local officials used these legal bases to forcibly evict coastal informal settlers following a typhoon and on account of the government’s plan to build a coastal dyke.¹³⁷

The government’s imposition of no-building policy within the Salvage Zone have practical implication on the security of tenure and livelihood of the people who are no longer allowed to go back to the same zone where they used to live. Although the LGUs are mandated to provide resettlement for persons

¹³²Department of Environment and Natural Resources, Bureau of Fisheries and Aquatic Resources of the Department of Agriculture, and Department of Interior and Local Government, *Philippine Coastal Management Guidebook No 8: Coastal Law Enforcement* (2001) 27.

¹³³*Civil Code of the Philippines* arts 613, 614.

¹³⁴*Presidential Decree No 1216, Defining Open Space in Residential Subdivisions and Amending Section 31 of Presidential Decree No 957 Requiring Subdivision Owners to Provide Roads, Alleys, Sidewalks and Reserve Open Space for Parks for Recreational Use* (Philippines) s 1.

¹³⁵*Spouses Gulla v Heirs of Labrador*, GR No 149418, 27 July 2006 (Supreme Court of the Philippines); *Pilar Development Corp v Dumadag*, GR No 194336, 11 March 2013 (Supreme Court of the Philippines).

¹³⁶*DENR Administrative Order No 99-21, Superseding DAO No 97-05 and Prescribing the Revised Guidelines in the Implementation of the Pertinent Provisions of RA 1273, PD 705 and PD 1067* (Department of Environment and Natural Resources, Philippines) ss 2.1.a, 2.1.b, 2.3.1, 2.3.2, <<http://policy.denr.gov.ph/1999/fordao99-21.pdf>>.

¹³⁷Véronique M Morin, Mokbul Morshed Ahmad and Pennung Warnitchai, ‘Vulnerability to Typhoon Hazards in the Coastal Informal Settlements of Metro Manila, the Philippines’ (2016) 40(4) *Disasters* 693, 703.

living in danger areas,¹³⁸ the resettlement areas are not available immediately, and thereby, creating a situation where the displaced persons have no permanent homes to move into. Tacloban City's experience after *Haiyan* exemplified this situation. There, the government prohibited the affected families from rebuilding their old houses near the coasts (in the Salvage Zone or No Build Zone); however, the LGU of Tacloban City encountered difficulties in finding enough lands for resettlement.¹³⁹ Consequently, many of *Haiyan*'s victims were forced to stay in evacuation centres and/or temporary bunkhouses longer than expected. Further, the government's project to build coastal defence against storm surge in the Salvage Zone of areas affected by *Haiyan* had an impact on the livelihood options, and also, food security of the fisher people who used to live in areas where that project will be constructed on.¹⁴⁰ As such, the name 'Salvage Zone' becomes paradoxical because it goes against its original purpose which was to save the lives of the people from the dangers of the sea.

Based on the above discussion, and in a macro-perspective, the coastal legal framework of the Philippines appears to allow the government to put up adaptation projects in coastal areas (particularly in the Salvage Zone, being a public dominion where the government exercises control), with less concrete protection on the property rights (especially land, housing and livelihood) of affected individuals. The Philippine situation, in a way, mirrors the same issues in the US and Australia calling for the balancing of 'private property rights with emerging public policy imperative for climate change adaptation.'¹⁴¹

B Too Much Devolution of Power to Local Governments

¹³⁸*Urban Development and Housing Act of 1992* s 29.

¹³⁹See Alice R Thomas, 'Resettlement in the Wake of Typhoon Haiyan in the Philippines: A Strategy to Mitigate Risk or Risky Strategy?' (Project on Internal Displacement, Brookings-LSE, June 2015) 7-8.

¹⁴⁰*Ibid.*

¹⁴¹Lara D Guercio, 'Climate Change Adaptation and Coastal Property Rights: A Massachusetts Case Study' (2013) 40 *BC Env'tl. Aff. L. Rev.* 349, 354; see also Bruce Thom, 'Climate Change, Coastal Hazards and the Public Trust Doctrine' (2012) 8 *Macquarie J. Int'l & Comp. Env'tl. L.* 21, 22.

Another crucial issue that substantially contributes to, if not exacerbates, further displacement of people living in coastal areas is that heavy responsibility is put on the shoulders of the LGUs, and that the responsibilities to provide alternative lands to the displaced persons are distributed to various government agencies, both local and national, and thereby, causing unintended delays. Similar to Australia, there is a strong emphasis on 'subsidiarity principle' (ie, devolution of responsibility to the lowest form of government possible) in coastal and disaster management in the Philippines.¹⁴² Under the *Local Government Code of 1991*, the municipalities have the responsibilities to build sea walls, dykes, flood control, among others, as well as to enforce fishery laws.¹⁴³ The municipalities also have the power to grant fishery privileges, and licenses for the operation of fishing vessels.¹⁴⁴ The local councils (*Sangguniang Bayan*) can issue ordinances to protect the marine environment from destructive fishing activities,¹⁴⁵ and to allow construction of fish pens.¹⁴⁶ The *Philippine Fisheries Code of 1998*¹⁴⁷ similarly vests wide power in the municipalities in terms of coastal management. This law specifically states that the LGUs have the responsibility to manage, conserve, protect, and develop the fishery and aquatic resources within the municipal waters.¹⁴⁸

Meanwhile, the *Philippine Disaster Risk Reduction and Management Act of 2010* states that the LGUs 'have the primary responsibility as first disaster responders.'¹⁴⁹ In conjunction with this, the *Urban Development and Housing Act of 1992* mandates the LGUs, in coordination with relevant national

¹⁴²Anita Foerster, Andrew Macintosh and Jan McDonald, 'Transferable Lessons for Climate Change Adaptation Planning? Managing Bushfire and Coastal Climate Hazards in Australia' (2013) 30 *EPLJ* 469, 486.

¹⁴³*Republic Act No 7160, An Act Providing for a Local Government Code* (Philippines) ss 17(b)(2)(i), (viii).

¹⁴⁴*Ibid* s 149.

¹⁴⁵*Ibid* s 447(a)(1)(vi).

¹⁴⁶*Ibid* s 447(a)(1)(xi).

¹⁴⁷*Republic Act No 8550, An Act Providing for the Development, Management and Conservation of the Fisheries and Aquatic Resources, Integrating All Laws Pertinent Thereto, and for Other Purposes* (Philippines).

¹⁴⁸*Ibid* s 16.

¹⁴⁹*Philippine Disaster Risk Reduction and Management Act of 2010* s 15.

agencies, not only to provide resettlement and relocation, but also the basic services and facilities, ¹⁵⁰transportation,¹⁵¹ and removal of illegal structures.¹⁵²

The intent of the above domestic laws in devolving powers to the LGUs in coastal management and disaster response is understandable considering that the LGUs have firsthand exposure on the events occurring in their respective jurisdictions. Nevertheless, for a category five typhoon like *Haiyan* which crippled even the LGUs, relying on them for aid was counterproductive because the local officials were also victims of the super typhoon. Furthermore, not all LGUs in the Philippines are financially capable to perform all of the above functions and responsibilities.¹⁵³ This was the situation when typhoon *Bopha* hit Mindanao island in 2012. Mindanao is 'where most of the Philippines' poorest regions are located.'¹⁵⁴ This issue specifically becomes crucial in terms of the ability of the LGUs to spearhead the provision of sustainable source of income in the resettlement areas, as well as basic services (water and electricity), access to health and education. In *Haiyan*, some families were reported experiencing decrease in income and unemployment in the resettlement areas, and thereby, making their life doubly hard.¹⁵⁵

In broader scale, the failure of the community to thrive in resettlement areas goes with the issue of non-realisation of right to adequate standard of living, which, as discussed, includes housing rights and security of tenure. In that regard, similar to the issue on the Salvage Zone management, the limitations on the capacity of the LGUs to provide integrated resettlement and relocation site put into question the sufficiency of property rights protections under the existing disaster and housing laws of the Philippines.

¹⁵⁰*Urban Development and Housing Act of 1992* s 21.

¹⁵¹*Ibid* s 35.

¹⁵²*Ibid* s 30.

¹⁵³Angela Sherwood et al, *Resolving Post-Disaster Displacement: Insights from the Philippines after Typhoon Haiyan (Yolanda)* (Brookings Institution and International Organisation for Migration, 2015) 10.

¹⁵⁴JodeszGavilan, 'Fast Facts: Poverty in Mindanao,' *Rappler*(online), 28 May 2017 <<https://www.rappler.com/newsbreak/iq/171135-fast-facts-poverty-mindanao>>.

¹⁵⁵Lloyd Ranque and Melissa Quetulio-Navarra, 'One Safe Future in the Philippines' [2015] *Disasters and Displacement in a Changing Climate* 50, 51.

*C Interim Remedy: Presidential Proclamation to Reserve Lands
for Climate Displaced Persons*

Across jurisdictions, there are a number of proposals on how to improve climate change adaptation in coastal areas. In Australia, for instance, recommendations range from the adoption of national sea level rise planning benchmark, clarification on insurance issues and liability, and review of the national building code.¹⁵⁶ Ideally, a coastal adaptation framework should be flexible to future changes because of scientific uncertainties of the basis of climate change, particularly on sea level rise projections in the coming years.¹⁵⁷ Additionally, biodiversity aspect should be integrated in the formulation of coastal adaptation frameworks.¹⁵⁸ Nevertheless, putting these ideals in practice can be challenging as they are contingent on the circumstances of a particular country, and the actual issues that such country is facing.

In the Philippines, its experience in several typhoon-related displacements shows that short-term assistance (such as moving the people to evacuation centres before a typhoon makes a landfall; providing relief goods to typhoon victims) are not durable solutions especially when the victims can no longer return to the areas where they previously lived.¹⁵⁹ The *Philippine Development Plan 2017-2022* puts several measures to reduce the Filipinos' vulnerability to climate change impacts, particularly on disaster-caused displacements. The Philippines aims to build 1,558,711 houses through direct housing assistance from the housing agency's National Shelter Program, and indirect assistance target of 1,584,639 houses.¹⁶⁰ It is unclear, however, whether typhoon victims have been factored in these figures, and to what extent they will

¹⁵⁶Philippa England, 'Climate Change and Coastal Settlements: The Story so Far' [2012] *Australian Environment Review* 343, 343.

¹⁵⁷Jonathan Verschuuren and Jan McDonald, 'Towards a Legal Framework for Coastal Adaptation: Assessing the First Steps in Europe and Australia' (2012) 1(02) *Transnational Environmental Law* 355, 379.

¹⁵⁸*Ibid.*

¹⁵⁹Chaloka Beyani, *Report of the Special Rapporteur on the Human Rights of Internally Displaced Persons on his Mission to the Philippines*, UN Doc A/HRC/32/35/Add.3 (05 April 2016) para 93.

¹⁶⁰*Philippine Development Plan 2017-2022* (National Economic Development Authority, Philippines) 186-7.

benefit from such housing assistance. For land matters, the Philippines laid down institutional and legislative agendas, such as the creation of the Department of Housing and Urban Development, and the passage of National Land Use Act to give more viable options for land acquisition and avoid the delays in finding relocation sites.¹⁶¹ Another proposal is to enact an Evacuation Centre Act to build permanent and climate-proof evacuations centres and avoid the practice of using the classrooms for that purpose (which disrupts the holding of classes).¹⁶² Nonetheless, the enactment of laws takes some time, and is dependent on the sitting administration (whether or not the current President will endorse a particular measure as a priority bill).

In the interim, it is recommended that the government may invoke section 83 of the existing *Public Land Act* allowing the President to ‘designate by proclamation any tract or tracts of land of the public domain as reservations for the use of the government or the country’s inhabitants. This provision had been used by the past Philippine President to reserve certain tracts of land to establish settlement relative to agrarian reform programs,¹⁶³ but has yet to be used in climate displacement context. By reserving certain tracts of land for climate displaced persons, the government’s response in terms of relocation of affected people will no longer be reactive (but instead preemptive) to a particular disaster. This will also allow the government (without being pressured by the urgency to relocate people, as in the case of the typhoon victims living temporarily in evacuation centres) to install appropriate services, and construct roads and bridges that will connect the resettlement sites to commercial centres.

IV CONCLUSION

¹⁶¹ Ibid 191.

¹⁶² Ibid 178.

¹⁶³ See, eg, *Proclamation No 392, series of 1994, Reserving Certain Parcels of Land Situated in the Municipalities of Calbiga and Pinabacdao, Province of Samar for the Purpose of Establishing a Settlement and an Agricultural Community under the Agrarian Reform Community Program of the Department of Agrarian Reform (Philippines)* <<http://www.officialgazette.gov.ph/1994/05/27/proclamation-no-392-s-1994/>>.

This paper has examined the legal implications of experiencing strong typhoons and sea level rise on the part of the people living in the coastal areas of the Philippines, particularly on issues concerning their land and related rights (housing and property). This undertaking becomes of primordial significance considering that the Philippines has a large coastal population whose day-to-day living is dependent on aquatic resources, and given the trend of stronger typhoons (eg, *Washi, Bopha, Haiyan, Hagupit, Koppu, Haima, and Tembin*) in the last ten years. These super typhoons are not only taking lives, but also properties and livelihood, particularly of the coastal populace who are mostly fisher folk. Thus, typhoons catalyses climate displacement.

Because of *Haiyan's* high casualties (mainly due to failure to anticipate storm surge), the Philippine government imposed a stricter policy against building of any structure, except for critical government facilities, within the Salvage Zone so that the people who used to live in those danger areas will no longer go back there. However, because of the delays in the provisions of permanent houses and relocation sites, the typhoon victims were pushed into further and deeper displacement as they were forcibly deprived of long-term settlements and livelihood. Here, the issue on security of tenure, particularly land right, and the extent of State's duty to realise such right becomes a hotly debated topic.

To address this issue, the Philippines, being a party to relevant treaties under the Climate Change Law and International Human Rights Law regimes, is not only bound to comply with its commitments under these instruments, but also has to balance the performance of its commitments. To appropriately balance its commitments, the Philippines must decipher what these two regimes require from it insofar as coastal adaptation is concerned. While the *UNFCCC* calls for an integrated coastal zone management, it did not provide specific guidance on how coastal adaptation should be undertaken without disregarding the plight of the coastal communities. The *Paris Agreement* is one that requires a holistic adaptation response, ie, one that protects not only the people, but their livelihood and surrounding ecosystem as well. The *Paris* accord, thus, puts

human and socioeconomic dimensions in coastal adaptation. In its NDC to the *Paris Agreement*, the Philippines committed to put forward such holistic adaptation response. The Philippines' climate action plan (*NCCAP*) states the government's aim to build climate-proof houses and resettlement areas with necessary basic services and facilities. However, the legal character of *NCCAP*, being a mere administrative document, raises issue on its enforceability. Further, the accomplishment of the aims set forth therein will require the enactment of necessary laws such as, a law defining who the climate displaced persons are, and the specific responsibilities that the government owes to them.

Meanwhile, since land rights and the broader property rights of climate displaced persons are not specifically mentioned under the Climate Change Law regime, recourse can be made from the International Human Rights Law regime. Under the *GPID*, and parallel provisions of *UDHR*, and *ICESCR*, climate displaced persons shall not be deprived of their property and possession, and shall have the right to adequate standard of living, as all persons have. This paper has argued that the land and property rights of people living in coastal areas are protected under the above-mentioned provisions. Therefore, the Philippine government must take into consideration these rights in any coastal adaptation measures it intends to implement.

Additionally, this paper has argued that the land and livelihood of the coastal communities are protected by the constitutional right to property as complemented by the Philippine *Civil Code*. Moreover, for climate displaced persons, the promotion of their land rights may arguably fall within their constitutional right to a balanced and healthful ecology following the interpretation of this right by the Philippine Supreme Court.

A scrutiny, however, of the Philippine coastal and disaster laws will show that while the government has certain flexibility in putting up coastal adaptation projects (eg sea walls) in the Salvage Zone, being a public land and under government regulation, the same laws do not have concrete provision on how affected individuals' property rights (especially land, housing, and livelihood)

will be protected in the event of eviction because of such coastal project. This gap in the laws can create displacement of coastal people. Further, too much devolution of responsibilities to the LGUs (such as the finding of resettlement site, and the provision of basic services) can be problematic especially in the context of category five typhoons where the LGUs are victims themselves and are also in need of help, instead of providing one. Some LGUs also have no financial capacity to perform all these tasks. Therefore, in this sense, the policy behind the imposition of the Salvage Zone becomes paradoxical as it creates the displacement of people it originally intends to salvage from the dangers of the sea.

Since the finding of relocation sites with necessary services, and the amendment or enactment of new laws to fill in the gaps in the existing laws will take some time, this paper recommended that the government, through the President, may reserve certain tracts of land and develop it for the benefit of the people who might be displaced because of forthcoming typhoon or rising sea level. Through this approach, the government's coastal adaptation will no longer be reactive to a particular disaster or climate event, but more of preemptive.

V BIBLIOGRAPHY

Articles/Books/Reports

Beyani, Chaloka, *Report of the Special Rapporteur on the Human Rights of Internally Displaced Persons on his Mission to the Philippines*, UN Doc A/HRC/32/35/Add.3 (05 April 2016)

Blanco, Dennis Vicencio, 'Disaster Governance in the Philippines: Issues, Lessons Learned, and Future Directions in the Post-Yolanda Super Typhoon Aftermath' (2015) 38(10) *International Journal of Public Administration* 743

Cinco, Thelma A et al, 'Long-Term Trends and Extremes in Observed Daily Precipitation and near Surface Air Temperature in the Philippines for the Period 1951–2010' (2014) 145–146 *Atmospheric Research* 12

Commission on Human Rights, *Further Promotion and Encouragement of Human Rights and Fundamental Freedoms, Including the Question of the Programme and Methods of Work of the Commission: Human Rights, Mass Exoduses and Displaced Persons, Addendum: Guiding Principles on Internal*

Displacement, UN ESCOR, 54th sess, Agenda Item 9(d), UN Doc C/CN.4/1998/53/Add.2 (11 February 1998)

Cook, Rosalind and Eljalil Tauschinsky, 'Accommodating Human Values in the Climate Regime' (2008) 4 *Utrecht L. Rev.* 18

Davide Jr, Hilario G, 'The Environment as Life Sources and the Writ of Kalikasan in the Philippines' (2011) 29 *Pace Envtl. L. Rev.* 592

Department of Environment and Natural Resources, Bureau of Fisheries and Aquatic Resources of the Department of Agriculture, and Department of Interior and Local Government, *Philippine Coastal Management Guidebook No 8: Coastal Law Enforcement* (2001)

England, Philippa, 'Climate Change and Coastal Settlements: The Story so Far' [2012] *Australian Environment Review* 343

Evans, Ashley D, and Robert J Falvey, 'Annual Tropical Cyclone Report 2013' (US Joint Typhoon Warning Center, 2013)

Foerster, Anita, Andrew Macintosh and Jan McDonald, 'Transferable Lessons for Climate Change Adaptation Planning? Managing Bushfire and Coastal Climate Hazards in Australia' (2013) 30 *EPLJ* 469

Guercio, Lara D, 'Climate Change Adaptation and Coastal Property Rights: A Massachusetts Case Study' (2013) 40 *BC Envtl. Aff. L. Rev.* 349

Hannum, Hurst, 'The Status of the Universal Declaration of Human Rights in National and International Law' (1995) 25 *Ga. J. Int'l & Comp. L.* 287

Human Rights Council, *Report of the Special Rapporteur on Adequate Housing as a Component of the Right to an Adequate Standard of Living, and on the Right to non-discrimination in this context, Raquel Rolnik*, 25th sess, Agenda Item 3, UN Doc A/HRC/25/54 (30 December 2013)

Hunter, David B, 'Human Rights Implications for Climate Change Negotiations' (2009) 11 *Or. Rev. Int'l L.* 331

Intergovernmental Panel on Climate Change, *Fifth Assessment Report, Chapter II, Observations: Atmosphere and Surface* (2014)

Intergovernmental Panel on Climate Change, *Fourth Assessment Report, Chapter III, Observations: Surface and Atmospheric Climate Change* (2007)

Jahan, Selim, *Human Development Report 2016: Human Development for Everyone* (United Nations Development Programme, 2016)

Kure, Shuichi et al, 'Overview of Super Typhoon Haiyan and Characteristics of Human Damage Due to Its Storm Surge in the Coastal Region, Philippines' (2016) 75(sp1) *Journal of Coastal Research* 1152

Lasco, Rodel D et al, 'Climate Change and Forest Ecosystems in the Philippines: Vulnerability, Adaptation and Mitigation' (2008) 11(1) *Journal of Environmental Science and Management* 1

Lynn, Meghan, 'The Post-Haiyan Shelter Challenge and the Need for Local, National and International Coordination' (2016) 53 *UN Chron* 26

Lyster, Rosemary, *In the Wilds of Climate Law* (Australian Academic Press, 2010)

Lyster, Rosemary, *Climate Justice and Disaster Law* (Cambridge University Press, 2016)

McPherson, Michelle, 'Responding to Typhoon Haiyan in the Philippines' (2015) 6(Suppl 1) *Western Pacific Surveillance and Response Journal* 1

Morin, Véronique M, MokbulMorshed Ahmad and PennungWarnitchai, 'Vulnerability to Typhoon Hazards in the Coastal Informal Settlements of Metro Manila, the Philippines' (2016) 40(4) *Disasters* 693

Norwegian Refugee Council and Internal Displacement Monitoring Centre, *Global Estimates 2015, People Displaced by Disasters* (2015)

Peel, Jacqueline and Hari M Osofsky, *Climate Change Litigation: Regulatory Pathways to Cleaner Energy* (Cambridge University Press, 2015)

Philippine Development Plan 2017-2022 (National Economic Development Authority, Philippines)

Philippine National Disaster Risk Reduction and Management Council, Office of Civil Defense, 'I. Final Report on the Effects and Emergency Management re Tropical Storm "Sendong" (Washi), II. Status of Early Recovery Programs in Region X (Cagayan de Oro and Iligan Cities)' (10 February 2012)

Philippine National Disaster Risk Reduction and Management Council, Office of Civil Defense, 'Final Report re Effects of Typhoon Yolanda (Haiyan)' (06-09 November 2013)

Philippine National Disaster Risk Reduction and Management Council, Office of Civil Defense, 'Final Report re Preparedness Measures and Effects of Typhoon "Lando" (I.N. Koppu)' (14-21 October 2015)

Philippine National Disaster Risk Reduction and Management Council, Office of Civil Defense, 'SitRep No 09 re Preparedness Measures and Effects of Super Typhoon "Lawin" (I.N. Haima)' (25 October 2016)

Philippine National Disaster Risk Reduction and Management Council, 'SitRep No 22 re Effects of Typhoon "Ruby" (Hagupit)' (14 December 2014)

Philippine National Disaster Risk Reduction and Management Council, Office of Civil Defense, 'SitRep No 25 re Preparedness Measures and Effects of Typhoon "Vinta" (I.N. Tembin)' (07 February 2018)

Philippine National Disaster Risk Reduction and Management Council, Office of Civil Defense, 'SitRep No. 38 re Effects of Typhoon "Pablo" (Bopha)' (25 December 2012)

Philippine National Economic Development Authority (NEDA), *Yolanda Comprehensive Rehabilitation and Recovery Plan* (1 August 2014)

Philippine Statistics Authority, *The Philippines in Figures* (2015)

Ranque, Lloyd and Melissa Quetulio-Navarra, 'One Safe Future in the Philippines' [2015] *Disasters and Displacement in a Changing Climate* 50

Roht-Arriaza, Naomi, 'Human Rights in the Climate Change Regime' (2010) 1(2) *Journal of Human Rights and the Environment* 211

Rolnik, Raquel, Special Rapporteur on Adequate Housing as Component of the Right to an Adequate Standard of Living and on the Right to Non-Discrimination, *The Right to Adequate Housing*, UN Doc A/64/255 (06 August 2009)

Ross, Michael, Joy Santiago and Alfredo Mahar Lagmay, 'Integrating and Applying Technology in Response to the Super Typhoon Bopha Disaster' (2015) 107 *Procedia Engineering* 100

Santos Jr, Soliman M, 'Philippines' [1997] *Asia-Pac Const YB* 189

Sherwood, Angela et al, *Resolving Post-Disaster Displacement: Insights from the Philippines after Typhoon Haiyan (Yolanda)* (Brookings Institution and International Organisation for Migration, 2015)

Sia-Catedral, Lorene, 'The Philippine Disaster Risk Reduction and Management System' (Country Report, Asian Disaster Reduction Center, 2016)

Steffen, WL et al, *The Critical Decade 2013: Climate Change Science, Risks and Responses* (Climate Commission Secretariat, Department of Industry, Innovation, Climate Change, Science, Research and Tertiary Education, 2013)

Stocker, Thomas (ed), *Climate Change 2013: The Physical Science Basis: Working Group I Contribution to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge University Press, 2014)

The Oscar M. Lopez Center for Climate Change Adaptation and Disaster Risk Management Foundation, Inc. (Oscar M. Lopez Center) and Philippine

Atmospheric, Geophysical and Astronomical Services Administration (PAGASA), *State of the Philippine Climate* (2016)

Thom, Bruce, 'Climate Change, Coastal Hazards and the Public Trust Doctrine' (2012) 8 *Macquarie J. Int'l & Comp. Envtl. L.* 21

Thomas, Alice R, 'Resettlement in the Wake of Typhoon Haiyan in the Philippines: A Strategy to Mitigate Risk or Risky Strategy?' (Project on Internal Displacement, Brookings-LSE, June 2015)

Verschuuren, Jonathan and Jan McDonald, 'Towards a Legal Framework for Coastal Adaptation: Assessing the First Steps in Europe and Australia' (2012) 1(02) *Transnational Environmental Law* 355

United Nations Food and Agriculture Organisation (FAO), *Typhoon Haiyan: Portraits of Resilience* (2015)

United Nations Office of the High Commissioner for Human Rights, *Land and Human Rights: Standards and Applications* (2015)

Villarin, Jose Ramon T, et al., *Philippine Climate Change Assessment: Physical Science Basis* (The Oscar M Lopez Center for Climate Change Adaptation and Disaster Risk Management Inc, and Climate Change Commission, 2016)

Wickeri, Elisabeth, 'Land Is Life, Land Is Power: Landlessness, Exclusion, and Deprivation in Nepal' (2010) 34 *Fordham Int'l LJ* 930

World Bank, *Climate Change Adaptation in Coastal Communities: A Documentation of Project Experience* (2012)

B Cases

Baliwag Transit Inc v Ople, GR No 57642, 16 March 1989 (Supreme Court of the Philippines)

Heirs of Suguitan v City of Mandaluyong, GR No 135087, 14 March 2000 (Supreme Court of the Philippines)

Oposa v Factoran, G.R. No. 101083, 30 July 1993 (Supreme Court of the Philippines)

Pilar Development Corp v Dumadag, GR No 194336, 11 March 2013 (Supreme Court of the Philippines)

Roxas v City of Manila, GR No L-3144, 19 November 1907 (Supreme Court of the Philippines)

Spouses Gulla v Heirs of Labrador, GR No 149418, 27 July 2006 (Supreme Court of the Philippines)

C Legislation/Executive and Administrative Issuances

1987 Constitution (Philippines)

Commonwealth Act No 141, An Act to Amend and Compile the Laws Relative to Lands of the Public Domain (Philippines)

DENR Administrative Order No 99-21, Superseding DAO No 97-05 and Prescribing the Revised Guidelines in the Implementation of the Pertinent Provisions of RA 1273, PD 705 and PD 1067 (Department of Environment and Natural Resources, Philippines)

Joint DENR-DILG-DND-DPWH-DOST Memorandum Circular No 2014-01, Adoption of Hazard Zone Classification in Areas Affected by Typhoon Yolanda (Haiyan) and Providing Guidelines for Activities Therein (05 November 2014) (Philippines)

National Climate Change Action Plan 2011-2028 (Climate Change Commission, Philippines)

Proclamation No 392, series of 1994, Reserving Certain Parcels of Land Situated in the Municipalities of Calbiga and Pinabacdao, Province of Samar for the Purpose of Establishing a Settlement and an Agricultural Community under the Agrarian Reform Community Program of the Department of Agrarian Reform (Philippines)

Presidential Decree No 1067, A Decree Instituting a Water Code, Thereby Revising and Consolidating the Laws Governing the Ownership, Appropriation, Utilization, Exploitation, Development, Conservation and Protection of Water Resources (Philippines)

Presidential Decree No 1216, Defining Open Space in Residential Subdivisions and Amending Section 31 of Presidential Decree No 957 Requiring Subdivision Owners to Provide Roads, Alleys, Sidewalks and Reserve Open Space for Parks for Recreational Use (Philippines)

Republic Act No 386, An Act to Ordain and Institute the Civil Code of the Philippines (Philippines)

Republic Act No 7160, An Act Providing for a Local Government Code (Philippines)

Republic Act No 7279, An Act to Provide for a Comprehensive and Continuing Urban Development and Housing Program, Establish the Mechanism for its Implementation, and for Other Purposes (Philippines)

Republic Act No 8550, An Act Providing for the Development, Management and Conservation of the Fisheries and Aquatic Resources, Integrating All Laws Pertinent Thereto, and for Other Purposes (Philippines)

Republic Act No. 9003, An Act Providing for an Ecological Solid Waste Management Program, Creating the Necessary Institutional Mechanisms and Incentives, Declaring Certain Acts Prohibited and Providing Penalties, Appropriating Funds therefor, and for other purposes (Philippines)

Republic Act No. 9367, An Act to Direct the Use of Biofuels, Establishing for this Purpose the Biofuel Program, Appropriating Funds therefor, and for Other Purposes (Philippines)

Republic Act No 9397, An Act Amending Section 12 of Republic Act No 7279, Otherwise Known as the Urban Development and Housing Act of 1992, and for Other Purposes (Philippines)

Republic Act No. 9513, An Act Promoting the Development, Utilization and Commercialisation of Renewable Energy Resources and for Other Purposes (Philippines)

Republic Act No. 9729, An Act Mainstreaming Climate Change into Government Policy Formulations, Establishing the Framework Strategy and Program on Climate Change, Creating for this Purpose the Climate Change Commission, and for Other Purposes (Philippines)

Republic Act No. 10174, An Act Establishing the People's Survival Fund to Provide Long-Term Finance Stream to Enable the Government to Effectively Address the Problem of Climate Change, Amending for the Purpose Republic Act No. 9729, otherwise Known as the "Climate Change Act of 2009", and for Other Purposes (Philippines)

Republic Act No. 10121, An Act Strengthening the Philippine Disaster Risk Reduction and Management System, Providing for the National Disaster Risk Reduction and Management Framework and Institutionalising the National Disaster Risk Reduction and Management Plan, Appropriating Funds therefor and for Other Purposes (Philippines)

D Treaties/Declaration

International Covenant on Economic, Social and Cultural Rights, opened for signature 16 December 1966, 993 UNTS 3 (entered into force 3 January 1976)

International Convention on the Elimination of All Forms of Racial Discrimination, opened for signature 21 December 1965, 660 UNTS 195 (entered into force 4 January 1969)

Kyoto Protocol to the United Nations Framework Convention on Climate Change, opened for signature 11 December 1997, 2303 UNTS 148 (entered into force 16 February 2005)

Paris Agreement under the United Nations Framework Convention on Climate Change, opened for signature 22 April 2016, [2016] ATS 24 (entered into force 4 November 2016)

United Nations Framework Convention on Climate Change, opened for signature 9 May 1992, 1771 UNTS 107 (entered into force 21 March 1994)

Universal Declaration of Human Rights, GA Res 217A (III), UN GAOR, 3rd session, 183 plenmtg, UN Doc A/810 (10 December 1948)

Vienna Convention on the Law of Treaties, opened for signature 23 May 1969, 1155 UNTS 331 (entered into force 27 January 1980)

E Others

Committee on Economic, Social and Cultural Rights, *General Comments No 4: The Right to Adequate Housing (Article 11(1) of the Covenant)*, 6th sess, UN Doc E/1992/23 (13 December 1991)

Committee on Economic, Social and Cultural Rights, *General Comment No 12: The Right to Adequate Food*, 12th sess, UN Doc E/C.12/1999/5 (12 May 1999)

Committee on Economic, Social and Cultural Rights, *General Comment No 14 (2000): The Right to the Highest Attainable Standard of Health (Article 12 of the International Covenant on Economic, Social and Cultural Rights)*, 22nd sess, UN Doc E/C.12/2000/4 (11 August 2000)

Committee on Economic, Social and Cultural Rights, *General Comment No 15 (2002): The Right to Water (Arts 11 and 12 of the International Covenant on Economic, Social and Cultural Rights)*, 29th sess, UN Doc E/C.12/2002/11 (20 January 2003)

Conference of the Parties, United Nations Framework Convention on Climate Change, Report of the Conference of the Parties on Its Sixteenth Session, Held in Cancun from 29 November to 10 December 2010 — Addendum — Part 2: Action Taken by the Conference of the Parties at Its Sixteenth Session, UN Doc FCCC/CP/2010/7/Add.1 (15 March 2011) Decision 1/CP.16

de la Cruz, Gwen, 'In Numbers: Typhoons in the Philippines and the 2016 polls', *Rappler*(online), 19 March 2016 <<https://www.rappler.com/move-ph/issues/disasters/126001-typhoons-enter-philippines-fast-facts>>

Fischetti, Mark, 'Just How Strong is Hurricane Irma?,' *Scientific American* (online), 06 September 2017 <<https://www.scientificamerican.com/article/just-how-strong-is-hurricane-irma/>>

Gamil, Jaymee T, 'Only 13% of "Yolanda" housing occupied, 38% built', *Philippine Daily Inquirer* (online), 07 November 2017 <<http://newsinfo.inquirer.net/943740/philippine-news-updates-yolanda-yolanda-housing>>

Gavilan, Jodesz, 'Fast Facts: Poverty in Mindanao,' *Rappler*(online), 28 May 2017 <<https://www.rappler.com/newsbreak/iq/171135-fast-facts-poverty-mindanao>>

House Bill No 5627, An Act Protecting the Rights of Internally Displaced Persons, Providing Penalties for Violations Thereof and for Other Purposes, 15th Congress, 2nd Regular sess (2015) (vetoed by the President)

'Hurricane Irma Causes Devastation in the Caribbean,' *BBC* (online), 07 September 2017 <<http://www.bbc.com/news/world-latin-america-41182991>>

'Hurricane Irma: Florida Assesses Damage as Storm Weakens,' *BBC* (online), 11 September 2017 <<http://www.bbc.com/news/business-41231323>>

Intended Nationally Determined Contribution (Philippines, October 2015)

Internal Displacement Monitoring Centre, *Philippines Displacement Context*<http://www.internal-displacement.org/countries/philippines#link_patterns>

Kreft, Sönke, David Eckstein and Inga Melchio, 'Global Climate Risk Index 2017, Who Suffers Most from Extreme Weather Events? Weather-related Loss Events in 2015 and 1996 to 2015' (Briefing Paper, Germanwatche.V., November 2016)

Lowe, Aya, 'Rapid Rise in Sea Levels Makes Philippines More Vulnerable to Natural Disasters,' *Channel News Asia* (online), 28 May 2015 <<https://www.channelnewsasia.com/news/asiapacific/rapid-rise-in-sea-levels-makes-philippines-more-vulnerable-to-na-8260530>>

Manongdo,Ping, 'Vanishing Brgy. Alaska: Who's Paying for Loss and Damage?,' *Rappler* (online), 14 December 2017 <<https://www.rappler.com/science-nature/environment/191288-brgy-alaska-la-union-climate-change-loss-and-damage>>

McKirby, Euan, 'The Philippines' deadly Christmas Weekend,' *CNN* (online), 25 December 2017 <<https://edition.cnn.com/2017/12/25/asia/philippines-bus-crash-tembin-vinta/index.html>>

'More Islands, More Fun in PH', *CNN Philippines* (online), 20 February 2016 <<http://cnnphilippines.com/videos/2016/02/20/More-islands-more-fun-in-PH.html>>

Philippine National Mapping and Resource Information Authority (NAMRIA), *News and Events* (10 January 2017) <<http://www.namria.gov.ph/list.php?id=1032&alias=administrator-tiangco-welcomes-2017&Archive=1>>

Philippine Statistics Authority, *A 142 Million Philippine Population by 2045?* (28 July 2014) <<https://psa.gov.ph/content/142-million-philippine-population-2045>>

'Powerful Typhoon Hagupit Nears Philippines,' *BBC* (online), 05 December 2014 <<http://www.bbc.com/news/world-asia-30324209>>

Report of the United Nations High Commissioner for Human Rights, UN ESCOR, 2014 substantive sess, Agenda Item 17(g), UN Doc E/2014/86 (11 July 2014)

Reyes, S R C and A C Blanco, 'Assessment of Coastal Vulnerability to Sea Level Rise of Bolinao, Pangasinan Using Remote Sensing and Geographic Information System' (Paper Presented at 2012 XXII ISPRS Congress, Melbourne, Australia, 25 August – 01 September 2012)

Senate Bill No 1513, An Act Protecting the Rights of Internally Displaced Persons and Appropriating Funds Therefor and for other Purposes, 17th Congress, 2nd Regular sess (2017)

Stevens, Andrew, and Paula Hancocks, 'Typhoon Haiyan: in hard-hit Tacloban, children ripped from arms', *CNN*, 10 November 2013 <<http://edition.cnn.com/2013/11/09/world/asia/philippines-tacloban/>>

United Nations Office of the High Commissioner for Human Rights, *Early Warning of Violence and Conflict: Land and Human Rights in South East Asia* (Expert Group Meeting, Bangkok, Thailand, 16-18 November 2015)

United Nations Office of the High Commissioner for Human Rights, *General Principles on Security of Tenure*, <<http://www.ohchr.org/EN/Issues/Housing/Pages/StudyOnSecurityOfTenure.aspx>>

United States (US) National Aeronautics and Space Administration (NASA), *Haiyan Northwest Pacific Ocean* (08 November 2013) <<https://www.nasa.gov/content/goddard/haiyan-northwestern-pacific-ocean/>>

THE PARADOX OF THE SALVAGE ZONE

Valdez, Amiel Ian, *A Continuing Mandamus to Enforce Housing Rights in the Era of Super Typhoons* (Unpublished)

World Atlas, *Countries with the Most Coastline* (25 April 2017)
<<https://www.worldatlas.com/articles/countries-with-the-most-coastline.html>>