

FALLOUTS OF PARIS CLIMATE TREATY AND ENVIRONMENTAL SECURITY: THE PRAGMATIC CASE OF THE PHILIPPINES

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ABSTRACT

The Philippines is relatively susceptible to fronting the tangible effects of climate change, and environmental security is placed under jeopardy. The country is situated along the western part of the Pacific Ring of Fire, where strong typhoons and other natural disasters induced by climate change occur. Thus, the realization of the Paris Climate Agreement poses a profound impact globally in reducing the aftermaths of climate change and reassuring the good shape of environmental security in the Philippines. Despite the issues of reservations, on the 28th of February in 2017, President Rodrigo Roa Duterte signed the Instrument of Accession in exhibiting the ratification of the Paris climate deal. This political action manifests that the country is steadfast in mitigating climate change. However, long before this, the President was criticized by several environmental groups for not supporting the climate agreement. Duterte was kind of sceptical because he deems the deal itself is one-sided on the part of the developing countries since most developed states produce most of the carbon emissions in the planet. Conversely, this paper was designed to deliver

an analytical evaluation on the pragmatic case of the Philippines regarding its political capacity employing the objectives of the global climate treaty, and to determine the government's approaches in regulating the use of greenhouse gas emissions from actual to a lesser consumption through policy adaptation. On the one hand, it also targeted to draw a detailed justification on the standing of environmental security in the Philippines openly exposed to climate change.

Key words: the Philippines, Climate change, Environmental security, Mitigation and Adaptation, Paris Climate Treaty

Introduction

The Philippine archipelago composed of 7,641 islands, is feasible to the appalling disasters induced by climate change. It must be also taken into account that the country is situated at the west basin of the Pacific Ocean where relatively quite a number of typhoons and other extreme natural disasters befall. The substantial impacts of climate change pose countless of socio-economic and socio-political impairments and incite environmental destruction hence the manifestation of environmental insecurity.

Environmental insecurity wedged by climate change is somewhat a not-so-contemporary ecological issue as it was seen apparent decades back. Insecurity in the environment is reflected as an all-encompassing environmental problem to date—an immense societal concern the Philippines is defying. It is implied that its relation to national security is indispensable because national security is correspondingly analogous to the fortification of the national interest of a country; when environmental security is at stake, it instantly retaliates to the wellbeing of the country which then redirects to socio-economic and political variabilities.

Moreover, as a universal feedback to climate change with the participation of the Philippines, states adopted an international treaty in offsetting the effects of climate change last December 12, 2015 in Paris. It objectifies a profound reduction of greenhouse gas emissions comprising all countries from developing to already developed states.¹ This international agreement is not a new deal of its kind since the same universal arrangement was also founded on the basis of cutback of the total global emissions back in 1992 forming

1 The Natural Resources Defense Council, "The Paris Agreement on Climate Change", Issue Brief IB: 17-11-A (2017), 1.

the United Nations Framework Convention on Climate Change [UNFCCC] partaken by 196 parties.² Similarly, it then aimed to stabilize the concentration of greenhouse gas concentrations in the atmosphere at a balanced level inhibiting risks with the climate system and reducing the additional warming of the planet's surface that may undesirably distress the ecosystems and the human population.

In relation to the involvement of the Philippines in an international pact as such, it is elaborated that governance embraces a series of weighty political engagements comprising the input of the stakeholders of the society, i.e., public, private sector, and non-governmental/civil society organizations.³ Environmental governance likewise is identical to the contribution of steering groups responsible in shaping profound understanding of environmental problems, crafting of environment-related strategies, building stronger institutions, flexible course of decision making, and proactive democratic participation.

Climate change is indeed the paramount justification behind the Paris Climate Deal. It is becoming an emergent rationalization in the context of global environmental politics thus remains to be the pivot of international diplomacy today. The existing case of the Philippines fronting the impacts of climate change is at the peak of its vulnerable condition although right before the formal ratification of the deal, there was an impression of scepticism with Duterte. He deems the deal itself is one-sided on the part of the developing countries since most developed states produce most of the carbon emissions in the planet. However, despite misgivings and reservations, he inked the Instrument of Accession signifying the Philippines' confirmation of the universal covenant. Thereafter, the upper house then voted unanimously to adopt the international accord.

As for the actual basis of this research article, the amassed shreds of data from various sources were academically architected basically to pull out analysis with these following purposes: (i) to convey an analytical evaluation on the pragmatic case of the Philippines regarding its political capacity to work on the objectives of the global climate treaty; (ii) to determine the Philippine government's approaches in regulating the use of greenhouse gas emissions from

2 United Nations, "United Nations Framework Convention on Climate Change", United Nations (1992): 1–2.

3 Maria Carmen Lemos & Arun Agrawal, "Environmental Governance", *Annual Review of Environment and Resources* (2006): 298. DOI: 10.1146/annurev.energy.31.042605.135621

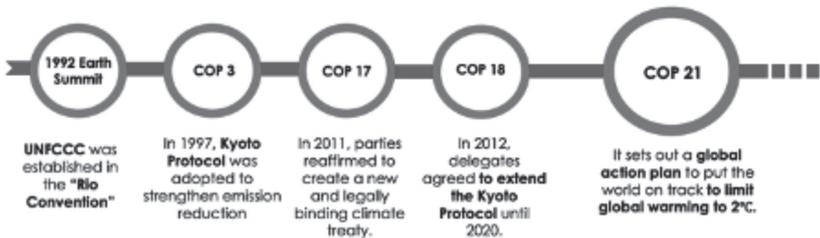
actual to a lesser consumption through policy adaptation; and it also targeted (iii) to draw a detailed justification on the standing of environmental security in the Philippines highly exposed to climate change.

1. The preceding COPs and Paris Agreement's brief contextual background

The Paris Agreement adheres to the advancement on the realization of the "Convention"⁴ therefore upholding its intent in reinforcement of a global action to the intimidations of climate change through the context of sustainable development and interventions on eradicating poverty. This universal covenant also aims to create a threshold on the temperature rise to 1.5°C exceeding the pre-industrial concentrations than the 2°C global standard temperature.⁵ Hence, the opportunity to expand the capacity to adapt to the adverse impacts of climate change adopting climate resilient development initiatives more certainly on food production systems.

Through the years, the emergent of UNFCCC was established in the "Rio Convention" or 1992 Earth Summit the Conference of Parties (COP) adopted the international accord. It entails to be strident on crafting universal climate policies in the reduction of global greenhouse gas emissions then promoting environmental security on a global scale. COP tends to be a divergent global take on the foremost intimidation to global security in the 21st century, climate change. On the one hand, its realization differs from the proactive participation of parties therein contemplating the interests serving their respective states.

Figure 1. Paris Climate Treaty's imperative contextual tracks



The main highlight of the United Nations Framework Convention on Climate Change centred on the increasing concentrations of the GHGs in the

atmosphere triggering its natural results to the planet. It acknowledges that global emissions have significantly produced by developed countries and that the emissions share of developing countries is relatively low, considering the socio-economic and development demands. Hence the reaffirmation of international cooperation addressing climate changes by the adoption of this international pact.⁶ UNFCCC presented into force on March 21, 1994, following Article 23, after the series of consigned 50th instrument of ratification, acceptance, approval or accession. Further, 196 countries known as the 'Parties' have reiterated their involvement to UNFCCC.⁷

Among the series of Conferences of Parties, COP 3, COP 17, COP 18 and COP 21 are one of the principal engagements of Parties in discussing the issues and concerns encircling climate change and its consequences comprising predominantly the policy strategies in the reduction on global GHGs emissions. Conference of Parties 3, known as the Kyoto Protocol finalized in Japan in 1997, which aimed to strengthen emission cutbacks. It emphasizes purposely on the prospective economic and environmental bearings of the methods corresponded to at the conference aligned with suitable parties' responses rendering from their respective governments.

The treaty itself presented three mechanisms which are stretchily postulating parties with flexible in meeting their respective limitations in emitting GHGs: (a) *joint implementation*, constitutes that Parties in Annex I may transfer to or acquire from other parties emission reduction units consequential to projects and programs meant to decrease GHGs emissions;⁸ (b) *clean development mechanism*, it deems to provide assistance to Parties who are not part of the Annex I to achieve sustainable development and basically to back the fundamental blueprint of the Convention, and in the same manner, Parties present in Annex I are, too, compliance with their respective calculated GHGs productions cutback obligations;⁹ and (c) *emissions trading*, refers to the participation of Parties in Annex I in emissions trading for the very purpose of meeting their

6 United Nations, Paris Agreement, 1–2.

7 United Nations, "Status of Ratification of the Convention", *United Nations Framework Convention on Climate Change*, Accessed October 21, 2019. <https://unfccc.int/process-and-meetings/the-convention/status-of-ratification/status-of-ratification-of-the-convention>

8 United Nations, "Article 6", *Kyoto Protocol to the United Nations Framework Convention on Climate change*, (Kyoto: United Nations, 1997), 6.

9 United Nations, "Article 12", *Kyoto Protocol to the United Nations Framework Convention on Climate change*, (Kyoto: United Nations, 1997), 11.

commitment re calculated emission limitation cutbacks.”¹⁰

The Kyoto Protocol only had 84 signatories out of 192 member-parties. It then submitted into effect on February 16, 2005, following the Article 23 re the accumulated instruments of ratification, acceptance, and approval from Parties included in Annex 1 accounted for a total of 55% of CO₂ emissions for 1990.¹¹ The United States, conversely, one of the enormous contributors of CO₂, chose not to participate, considering it did not deliver its instrument of ratification but is a signatory.¹²

COP 17 happened in Durban, South Africa in 2011, on the one hand, has recognized the substantiality of ensuring the integrity of the Kyoto Protocol in mitigation efforts founded by Parties stated in Annex 1 more certainly the continuity relating to actions by Parties. It then emphasizes also the urgency to begin the second commitment period of the latter with no deferral.¹³ With the same given scenario, a commonly shared concept aiming for long-term cooperation efforts, a global action plan for GHG emission reductions and certainly achieves the fundamental principle of the Convention. In 2012, COP 18 materialized in Doha, which highlights the extension and enhancement of implementation of mitigation and adaptation measures until 2020 and agreed legally binding mechanism would take into force under the Convention relevant to all Parties.¹⁴

Moreover, it was determined and agreed in the preceding Conferences that another legal instrument will be adopted and will take into force under the Convention mandating all member Parties. This instrument is referred to now as the Paris Climate Agreement adopted in 2015. Its significance is to elevate the discourse through education by raising awareness, wide-ranging training

10 United Nations, “Article 17”, *Kyoto Protocol to the United Nations Framework Convention on Climate change*, (Kyoto: United Nations, 1997), 15.

11 United Nations, “The Kyoto Protocol - Status of Ratification”, *United Nations Framework Convention on Climate Change*, Accessed October 21, 2019, <https://unfccc.int/process/the-kyoto-protocol/status-of-ratification>

12 United Nations, “Status: Kyoto Protocol to the United Nations Framework Convention on Climate Change”, *United Nations Treaty Collection*, Accessed October 21, 2019, https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-7-a&chapter=27&clang=en#1

13 United Nations, “Conference of the Parties 17”, *Framework Convention on Climate Change*, (Durban: United Nations, 2011), 2.

14 United Nations, “Conference of the Parties 18”, *Framework Convention on Climate Change*, (Doha: United Nations, 2012): 20.

in the field of science and technology, political participation from the public and extensive collaboration between state actors, especially in policymaking re mitigation and adaptation mechanisms.

Paris Climate Agreement or COP 21 mandated Parties as agreed to create a public registry of Nationally Determined Contributions (NDC) communicated by Parties. COP 2, further, recapped that nationally determined contributions are bound to be accounted to each respective Party of the Convention re Party's anthropogenic emissions and removals conforming to the latter. Nonetheless, the concluded treaty in Paris encouraged the Parties to uphold environmental integrity, and among others, transparency, the accuracy of accounting, the consistency of the entirety of the pact.¹⁵

The Conference of Parties had not ended yet from when the Paris Agreement concluded. There have been a series of ongoing dialogues tackling proper mechanisms in enhancing the mitigation and adaptation practices that will be adopted by Parties' national governments. COP intends to build an international partnership in the substantial reduction of GHG emissions, which involves equal determination in taking action to address climate change.

Climate actions, along with the factual responses to the definite impacts of the alteration of climate, are indeed reasonable to achieve sustainable development targets, especially the total eradication of poverty across the globe. Thus, it is only right also to also consider food security as essential precedence in the plans of terminating hunger and all-encompassing environmental stresses incited by climate change and human-made adversities to food production systems. However, in order to make this a reality, it necessitates conducting a comprehensive, collaborative effort among Parties employing partaking international accord as such.

2. Climate change as the main environmental problem of the Philippines

It is undeniable that climate change occurs anywhere in the globe and is a multifaceted natural phenomenon triggering various natural calamities, i.e., stronger tropical storms, flooding, increasing temperature, sea-level rise, excessive discharge of rainfall and frequent drought. With that mentioned, global

15 United Nations, Paris Agreement, 5.

warming thrust by the mounting level of greenhouse gases present in the atmosphere which is a substantial factor in earth's climate systems.

The Philippines is an archipelago geographically sited in the western part of the Pacific belt where the greatest number of typhoons transpire making the country to be realistically listed as one of the most vulnerable to the impacts of climate change from 1994 to 2013. Having said that, in the same year, the country is then named by German watch the topmost affected country inflicting US\$ 13 billion in economic loss and 6,000 casualties when typhoon Haiyan hit the country.¹⁶ The perceptible consequences of the alteration of climate loom to impair and increase the exposure of the underdeveloped communities and intensify the probability of environmental destruction.

Given the appraised variations in the amount of precipitation discharge, increasing temperature, the concentration of tropical storms and impulsive irregularity of weather occasions, relevant countermeasures like the country's participation in the Paris Agreement, institutionalization of Climate Change Commission are perceived compulsory to invent profound strategies in natural disaster prevention and preparedness.

2.1. Drought, increasing temperature and extreme typhoons

In 2010, El Niño struck in the Philippines, thus, seasonal aridity in the country is intensified reflecting the frequent incidence of the phenomenon. However, long before that, the last half of the century from 1960 to 2010, 15 weak to strong El Niño incidents have befallen which adversely affect socio-economic activities mostly in agrarian activities. Besides, this natural mishap is now projected to happen at a two- to three-year cycle compared to the previous five year interval.¹⁷ Rainfall evaluations illustrated that results of under normal precipitation discharges in provinces in Western Mindanao and Ilocos Norte were already experienced in the past three months of 2019.¹⁸ Approximately, 72,000 families are affected which is quantified to nearly 360,000 people in the five municipalities in the province of Cotabato alone, 60% of

16 Sönke Kreft, et al., "Who Suffers Most From Extreme Weather Events? Weather-related Loss Events in 2013 and 1994 to 2013," *Global Climate Risk Index 2015*, (Bonn & Berlin: Germanwatch, 2013), 6–7.

17 Silvino Tejada, Vicente Tuddao & Edna Juanillo, "Drought conditions and management strategies in the Philippines," Country Report, (2014), 2–5.

18 ReliefWeb International, "Southeast Asia: Drought - Feb 2019," *Regional Report*, Accessed October 23, 2019, <https://reliefweb.int/disaster/dr-2019-000113-phl>

which are from Pikit. Thus, the Provincial Disaster Risk Reduction and Management Office involving the local government units were opted to declare a State of Calamity.¹⁹

It is the reality now in the Philippines that 19 typhoons annually hit the country. It makes it harder for the economy and infrastructures to recuperate from the damages. The marginalized sector living in coastal regions are in peril from the blows of extreme tropical storms, i.e., high sea surges and waves. Agriculture, too, suffers since plane lands mostly are flooded because of heavy rain and deforestation, trees are illegally logged.

Climate change in the Philippines, over the 20th century, has exhibited by augmented warming and more intermittent precipitation patterns during the rainy season. Temperatures have drastically increased in the entire country, which could intensify drought probability, predominantly when merged with a interval in the onset of rains.²⁰

2.2. Food security

The context of the country's agriculture as excerpted from Philippine Agriculture report by the Philippine Statistics Authority, elaborated that there is an eleven per cent fall in production in 2014. Results are apparent that not only Mindanao, but the rest of the country also rely on rice supply from all these areas. Consequently, alarming issues in food security may surface, reflecting Mindanao's central provinces such as South Cotabato, North Cotabato, Sultan Kudarat, and Sarangani are the rice-producing region of southern Philippines.²¹ A farmer from M'lang, Cotabato said that in one-and-a-half-hectare rice field they would normally harvest 150 sacks and up. Nevertheless, with El Niño, they were only able to yield eight sacks. The agricultural lands are too dry and too burnt to sustain life for their rice considering that farmlands were reeling from the 36–40°C temperature index and almost six months since the last rainfall.²²

19 United Nations, "Philippines," *Situation Report*, (Office for Coordination of Humanitarian Affairs, 2019), 1–2.

20 World Food Program, "More intense typhoons: What does a changing climate mean for food security in the Philippines?," *The Philippines* (2015), 6.

21 International Federation of the Red Cross and Red Crescent, "Information bulletin Philippines: Drought and dry spells," (2016), 2.

22 Mohamadan Abdulkasan, "Dear future president: I appeal on behalf of our farmers," Rappler Social News Network, Accessed October 4, 2019, <https://www.rappler.com/views/imho/130527-dear-future-president-youth-appeal-farmers>.

For the past ten years, the government disbursed 45 billion pesos in support covering the insufficient rice production areas, and other operational farming lands are highly exposed not only from land degradation but also from the upshots of climate change and the rapid conversion of agricultural land to urban use. The increasing socio-economic stresses which come from the rapid increase in population growth led to more demands on building residential spaces; hence, fertile and large tracts of agricultural lands end up distorted.^{23,24}

Food security, relating to all natural and human-made events, is correspondingly consequent to the reassurance of continuity of agrarian activities and self-reliance in food production systems comprising the availability of food in everyone's table, notwithstanding one's social status. Food security, in a more comprehensive approach, implies sustainable food production systems that maintain enough food supply regarding the distribution and accessibility of food commodities in the market for the consumer. Nearly half of the Philippine economy is accounted for profoundly from the agrarian industry. With the threat climate change has brought, it poses a remarkable setback to food security. Water security, too, is affected as frequent drought is happening in the country. Insecurity in water resources exacerbates the very status of agricultural production, and it affects food production.

2.3. Sea-level rise

The influences of climate change such as increasing tidal inundation, submergence prompted by extreme typhoons and sea-level rise can initiate internal migration pattern. Research has found that the Philippines dominated the list for having seven out of the 25 cities highly exposed to a 1-meter sea-level rise among developing countries. The increasing sea-level rise is seen to instigate damage to livelihood, infrastructures impairing the economy and might arrange population displacements coastal communities specifically in those low-lying coastal regions and small islands in the Philippines.

Sea Rise Level exposes the potentiality of environmental migration from the mentioned coastal cities in the Philippines: Manila claims the top spot with 3,438,334 population exposure; Taguig gets the 10th rank with 232,703 pop-

23 Mario Casayuran and Vanne Elaine Terrazola, "Rice subsidy costs gov't P45 B in past 10 years –Angara," Manila Bulletin, Accessed October 24, 2019, <https://news.mb.com.ph/2018/02/27/rice-subsidy-costs-govt-p45-b-in-past-10-years-angara/>

24 Benedict A. Exconde, "Rice Production and Consumption Trends in the Philippines from 2000 to 2015," (Manila: De La Salle University, 2016), 17.

ulation exposure; Caloocan ranks next having 212,853 population exposure; Davao has 119,101 population exposure which made the city get the 15th rank; Butuan is the 16th with 102,901 population exposure; Malabon is at the 20th place with 89,497 population exposure; and lastly, Iloilo followed the ranking with 87,548 population exposure.²⁵

3. Environmental security setbacks

Environmental security is emerging to be an alarming issue in the Philippines for the results of environmental destruction pose an afflicting conclusion to human security. In a more conformist position, security revolves on state sovereignty and defence to and from internal and external human-made threats. However, time shaped its societal mark contemplating ecological disturbances of all forms is becoming a threat to humankind. When people have limited resources in terms of food, shelter, water, and other natural capitals indispensable to survive, unsteady societal dispositions are more likely to arise, therefore, the problem of environmental security kicks in.

Demands to ‘climate security’ characterize a contemporary and impartially successful effort to introduce environmental concerns into the security agenda.²⁶ Arguably, the convergences of the conventional idea of security and ecological protection employing policy development mechanisms have designed the science of environmental security. Hence, it merits a spot on the political table, whether at the local and national levels.

Environmental security is deemed to be parallel to environmental sustainability linking to the pursuit of sustenance of humankind. However, how does environmental security being manifested? Its fulfilment actually is regarded on three major components: (a) the prevention of environmental damage or the restoring the damage to the ecosystem due to degradation and war-conflict; (b) pre-emption of environmentally-incited conflicts to avoid destruction to the ecosystem; and (c) environmental protection and conservation contemplating to the intrinsic ethical response.

25 Henrike Brecht, et al., “Sea-Level Rise and Storm Surges: High Stakes for a Small Number of Developing Countries”, *The Journal of Environment & Development*, Vol. 21, No. 1, (JSTOR, 2012): 129.

26 Maria Julia Trombetta. “Environmental security and climate change: analysing the discourse,” *Cambridge Review of International Affairs*, 21:4, (UK: Routledge, 2008): 585. DOI: [10.1080/09557570802452920](https://doi.org/10.1080/09557570802452920)

Moreover, correlating to components *a* and *c*: the given circumstance the Philippines is in is somewhat worrisome, reflecting that the country's economic growth is substantially reliant in the industries of agriculture, forestry, and aquatic resources. There has been a massive depletion of the country's natural assets because of rapid population growth, on-going industrialization, and continues environmental degradation undertakings such as deforestation, mining activities, waste mismanagement, water and air pollution and etcetera.

Forestlands' huge portion fell merely to 20%, which is roughly 6 million hectares of the Philippines' total landmass, and only less than 1 million hectares of which is considered virgin forest. It is projected that forest resources are depleting swiftly by an average of 120,000 hectares yearly. It is also projected that the Philippine forest may be virtually diminished in the next 20 years because of the dire conversion of lands because of societal demands.²⁷ Persistent degradation of the environment in the Philippines due to mismanagement has long been an open secret to all. It directed to the explicit collapse and depletion of the natural resources because of the excessive consumption and mismanaged usage of natural capitals as well as rampant government corruption.

A booming population and rapid industrialization are relatively other huge factors that serve as add-ons to the degradation of the environment. It is only natural that when population growth increases, demands of communal requirements intensify. The Philippines' population has rocketed with quite a percentage. In 1948, 19 million populations had doubled with a span of nearly 25 years and stretched to 42 million in 1975.²⁸ In the last quarter of 2018, the Commission on Population recently declared that the population growth of the country has exceeded to 107 million. The Philippine Statistics Authority has estimated that growth will expand to 142 million by 2045.^{29,30}

In a global context, Manila is named as the most densely inhabited city in

27 Olivier Serrat, "Deforestation in the Philippines," *Environmental Resource Management* Researchgate, Accessed October 26, 2019, https://www.researchgate.net/publication/291056301_Deforestation_in_the_Philippines

28 Emma Porio, "Urban Transition, Poverty, and Development in the Philippines," Department of Sociology and Anthropology, (Manila: Ateneo de Manila University, 2009): 7–24.

29 Mara Cepeda, "Philippine population to exceed 107 million by end-2018 – PopCom," *Rappler*, Accessed October 26, 2019, <https://www.rappler.com/nation/192783-philippine-population-2018>

30 Philippine Statistics Authority, "Population Projection Statistics," Accessed October 26, 2019, <https://psa.gov.ph/content/142-million-philippine-population-2045>

the world with 1,780,148 residents, with a population density of 41,515 people km². Caloocan City meanwhile claims the fourth rank, home for 1,489,040 residents with 27,916 km².³¹ The steady progression of migration from rural communities moving to urban centres is entrenched with logic that highly industrialized cities are contemplated to be a gateway for opportunities for the rural poor since significant business hubs are there.

With the increasing concentration of the population in cities, it may result in various complications such as high crime rate, food, and water insecurity, pollution, and environmental degradation. For instance, solid waste management has remained to be a supplemental setback to the Philippine society more particularly to urban centres like the remarkable case of Metropolitan Manila. In 2012, the country produced 37,427.46 tonnes wastes daily and gradually augmented to 40,087.45 tonnes later in 2016 with an evaluated average of 0.40 kilograms per capita waste generation in both urban and rural every day.³²

There is no such way an increasing population cannot change the condition of the environment for both are socio-environmentally knitted together. For one, population modifies its environment reflecting the immense reliance of the latter for its primary consumption, i.e., food, shelter, water, energy, and even air. The substantial mismanagement on natural resources for human consumption is a ground for the decline the quality of life of people the fact that the course of rapid industrialization is way more imperative for a capitalist nation setting aside its adverse impacts to the environment.

Conferring to components *a* and *b*, the case of land reclamation and military presence of China in the West Philippine Sea and the South China Sea are considerably an appalling maritime activity for the marine ecosystem, not to mention its political implication to the Philippines. In 2014, China was leading a series of significant degrees of land reclamation, military installation, and construction in the South China Sea, specifically in the Spratly Islands³³, including Johnson South, Cuarteron, Gaven, Fiery Cross, Subi, Mischief and

31 Geoffrey Migiro, "The World's Most Densely Populated Cities," *World Facts: World Atlas*, Accessed October 26, 2019, <https://www.worldatlas.com/articles/the-world-s-most-densely-populated-cities.html>

32 Senate of the Philippines, "Philippine Solid Wastes At A Glance," *Senate Economic Planning Office*, (Manila: Senate of the Philippines, 2017), 1.

33 The reality on Spratly group of islands is that China, Taiwan, Vietnam, Malaysia, and the Philippines all permanently occupy features. See: Mark E. Rosen, "Philippine Claims in the South China Sea: A Legal Analysis," *CNA Occasional Paper*, (2014): 1–2.

Hughes Reefs. The speedy composition and intensity of the on-going manufacturing of land and infrastructure are said to have no matches among any other reclamation undertakings³⁴. As to why China is diligent in securing this segment of the sea is because it is indeed a prominent maritime transportation crossway with \$5.3 trillion worth of trade emerging throughout its waters annually, and that is practically one-third of the over-all maritime trade in the world.³⁵

Hence, the Aquino administration chose to bring the issue and to file a protest before the United Nations Permanent Court of Arbitration in The Hague in 2013 following the intense standoff in 2012.³⁶ Nonetheless, China decided not to partake; on the one hand, the International Court favoured the Philippines' stance and ruled some of the fundamentals of China's maritime rights as illegitimate in 2016. The Tribunal highlighted that the non-involvement of China in an arbitration case could not disinherit the Court's absolute jurisdiction.³⁷ On the other hand, as the new administration took its authority, it then decided to take the issue differently through a bilateral negotiation for Duterte always says that the Philippines cannot afford to go to, in worse scenario, a war for it will result to massive destruction.³⁸ The two parties have on-going bilateral negotiations to chiefly address and discuss the growing maritime tensions in the South China Sea and West Philippine Sea. For one, this might end up to cooperative undertaking on resource utilization in the area, a quite devastating exchange for the ecosystem.

The architected reclamation islands have an unembellished impact to the marine biodiversity encompassing coastal environment since it underscores a

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- 34 Shinji Yamaguchi, "Strategies of China's Maritime Actors in the South China Sea: A Coordinated Plan under the Leadership of Xi Jinping?", *China Perspectives, Open Edition Journals*, (2016), 23–31. ISSN: 1996-4617
- 35 Uptin Saïdi, "Here's why the South China Sea is highly contested," CNBC Asia Pacific News, Accessed October 5, 2019, <http://www.cnbc.com/2018/02/07/heres-why-the-south-china-sea-is-highly-contested.html>
- 36 Matikas Santos, "PH wins arbitration case over South China Sea," *Inquirer.net*, Accessed October 25, 2019, <https://globalnation.inquirer.net/140358/philippines-arbitration-decision-maritime-dispute-south-china-sea-arbitraltribunalunclositlos#:~:targetText=It%20has%20finally%20been%20decided,the%20Permanent%20Court%20of%20Arbitration.>
- 37 Je'an-Luc Hebert, "The South China Sea Arbitration Award and Its Widespread Implications", *Oregon Review of International Law*, Volume 19, (2018): 297–305.
- 38 Macey Alviar, "Philippines can't afford war with China: Duterte," *Politics, Asia-Pacific, Anadolu Agency*, Accessed October 25, 2019, <https://www.aa.com.tr/en/asia-pacific/philippines-can-t-afford-war-with-china-duterte/1154133>

large-scale construction that is categorically perceived to be destructive not to mention China's military engagements that may progress to a national security concern in the side of the Philippines, similarly detrimental to environmental security. Maritime context, as such, initiates a sequence of environmental modifications in the marine ecosystem, thus, may end up disturbing human security in some aspects. Coastline communities nearby or neighbouring countries adjacent to the area can enormously be stretched of security concerns in terms of livelihood, the local economy at large—ecological support to several sorts, i.e., fisher folks, industries, trades and the well-being of the marine ecosystem which determines the well-being of the people dependent to marine resources.

4. Socio-political actions on the Paris Agreement

The climate deal is acclaimed as the foremost legally binding accord on climate change that 197 countries pledged to reduce and limit their carbon emissions to counter the impacts of global warming. The agreement also encourages Parties to foster enhanced climate resilience strategies and related policy development that are important to countries vulnerable to extreme weather conditions such as the Philippines.

In light of the climate accord, the Commission on Human Rights has called on 47 carbon producers to appear in the initial conference in its enquiry into their corporate accountability for climate-related human rights mishandlings. The first-ever opportunity for the petitioners to convene with the delegates of the fossil fuel companies to discuss the issue. Typhoons survivors from super-typhoon Yolanda along with some climate petitioners, NGOs and Greenpeace Southeast Asia, originally filed a petition before the Commission for the investigation in 2015.³⁹ The petition is meant to hold the companies accountable to the sufferings of the communities from the impacts of climate change.

Furthermore, there has been a socio-political clamour on the ratification of the Paris Agreement 3 years back. Several societal stakeholders, from non-governmental organizations, environmentalists to individuals staged several protests before the authorities to voice out the urgency of joining the interna-

39 Greenpeace, "The Climate Change and Human Rights Petition," Press Release, Accessed October 2019, <https://www.greenpeace.org/philippines/press/1237/the-climate-change-and-human-rights-petition/>

tional pact by ratifying it in the Philippine Congress.

President Rodrigo Roa Duterte affirmed in a statement that; it could not be refused to talk about the basis of the prevention of climate change. It is not a debatable subject, as it is already a reality. He then mentioned that nongovernmental organizations are criticizing him for not signing the Paris Agreement. He repeated that the lack of sanctions for countries that violate carbon emissions restrictions is the problem in the international accord.⁴⁰ More so, he called the UN of being “hypocrites” for creating a pact that obliges all countries, not just the developed to cut rates on greenhouse gases.⁴¹

Duterte was displeased on the climate deal when he learned that Trump withdrew from the latter. He said in a conference that, “I had my doubts if could we ever compel the other nations, especially the big and powerful ones to also obey the commonality of our determination.”⁴² With that mentioned, US, India, China and other states do not support top-down internationally determined commitments which would compel these countries to move out from the circle of this long-tackled negotiations.⁴³ Thus, his misgivings for the Paris Agreement escalated considering the United States are one of the great producers of carbon globally. Duterte clearly wants to emphasize that negotiating reasonable and justifiable compulsory emissions reduction objectives for each country is quite impossible.

The Former President Fidel Ramos criticized Duterte for consistently insulting and throwing tirades against the US, EU, UN and for complaining about the international pact. He claimed Duterte is unknowingly shooting himself in the mouth including the Filipino people and even posed an inquiry if the President will allow his people to remain to suffer from the upsetting impacts, naming the recent strong typhoons that hit the country. Ramos then reiterated

40 Pia Ranada, “Duterte: Climate change real but Paris treaty unfair,” *Rappler News Website*, Accessed October 28, 2019, <https://www.rappler.com/nation/155071-duterte-climate-change-real-paris-agreement-unfair>

41 The Guardian, “Philippines won’t honour UN climate deal, says president,” *Guardian News & Media Limited*, Accessed October 28, 2019, <https://www.theguardian.com/environment/2016/jul/19/philippines-wont-honour-un-paris-climate-deal-president-duterte>

42 Virgil Lopez, “Duterte wondering why Trump withdrew US from Paris agreement,” *GMA News Online*, Accessed October 29, 2019, <https://www.gmanetwork.com/news/news/nation/661852/duterte-wondering-why-trump-withdrew-us-from-paris-agreement/story/>

43 Raymond Clemencon, “The Two Sides of the Paris Climate Agreement: Dismal Failure or Historic Breakthrough?,” *Journal of Environment & Development*, Vol. 25(1) (2016): 18. DOI: 10.1177/1070496516631362

that the Philippines must join international cooperation posing a collective action in addressing climate change.⁴⁴

After much discussion with the cabinet Secretaries, Duterte said he would sign the agreement since a majority of voted for the agreement and that only one or two did not.⁴⁵ Hence, Duterte inked the ‘Instrument of Accession’ in February 28, 2017 indicating the Philippines’ ratification of the long-sought, controversial climate change treaty. Subsequently, Senator Loren Legarda received the document and said she would sponsor it for Congress’ concurrence⁴⁶ and with a unanimous vote, the Senate agrees in Accession to the Paris Agreement.⁴⁷ The Paris agreement entails to limit global warming to below 2°C over pre-Industrial Revolution carbon concentrations and remain attempting for 1.5°C.⁴⁸

A provision under the pact states that, developing countries like the Philippines will be assisted in reducing carbon emissions even in the mitigation and adapting mechanisms to the fallouts of climate change. The agreement fosters action and implementation through time since developed countries have agreed to resume the prevailing collective mobilization commitment on finance amounting to \$100 billion annually, through 2025. And prior to 2025, developed countries would establish a contemporary shared calculated goal of mobilizing at least \$100 billion for climate finance.⁴⁹

On the other hand, the Duterte reiterated again that “the one thing that is not present and therefore becomes a very inutile commission is it does not have sanctions. You can commit so many things there, excess of carbon monoxide and all, and yet there is no sanction. You should better understand that. It has

44 Fidel Ramos, “Climate change – Attention: P. Digong, Cabinet, and Congress,” Manila Bulletin, Accessed October 29, 2019, <https://news.mb.com.ph/2016/10/29/climate-change-attention-p-digong-cabinet-and-congress/>

45 Enrico dela Cruz, “Philippines’ Duterte signs Paris pact on climate change,” Reuters, Accessed October 29, 2019, <https://www.reuters.com/article/us-climatechange-accord-philippines/philippines-duterte-signs-paris-pact-on-climate-change-idUSKBN1683HX>

46 Argyll Cyrus Geducos, “Duterte signs Paris Agreement for PH,” Manila Bulletin, Accessed October 29, 2019, <https://news.mb.com.ph/2017/03/01/duterte-signs-paris-agreement-for-ph/>

47 Senate of the Philippines, “Senate Unanimously Concurs in Accession to the Paris Agreement,” Senate Press Release, https://www.senate.gov.ph/press_release/2017/0314_legarda2.asp

48 United Nations, Paris Agreement, 2.

49 Natural Resources Defense Council, “The Paris Agreement on Climate Change,” Issue Brief, (2017), 3.

to have a sanction for violators”,⁵⁰— though the Philippines already ratified the Paris accord, Duterte implied that the Paris Climate Treaty would not take into reality, if there no sanction is arranged to its members who will fail to follow the accord directing to limit and reduce countries’ carbon emissions with mitigation, adaptation and support financially.

5. Environmental Security Policies and the Paris Agreement’s related framework

The obligation of the government to the environment can be determined through its policies that underline the political strategies and mechanisms delivered to address environmental setbacks mainly for the general welfare of the people and the State. Environmental policies’ fundamental objective is to control the use of natural resources and reduce the escalation of waste pollution to indorse environmental security that is equivalent to human security. The general and binding principles are always attributed to the 1987 Constitution of the Republic of the Philippines henceforth other decrees, laws, policy and declaration need to reassess its constitutionality if it is supposed legal and legitimate which are always regarded for the best interest of the State.

National Environment Protection Council was established under the promulgation of the *Presidential Decree No. 1121* in 1977 administering the program for environmental security and comprehensive management in addition to the Philippine Environmental Code that requires ecological management comprising natural resources management and conservation, land management use, water and air quality management, protection of wildlife, forestry and soil conservation, natural calamities and flood control program, waste management, and even energy development including their respective guidelines.⁵¹

Executive Order 263 and Presidential Decree 953 have a slight similarity on an ecological enterprise that complex on the conservation and protection

50 Ali Vicoy, “Duterte: Without sanctions, Paris Agreement on climate change will fail,” Manila Bulletin, Accessed November 23, 2019, <https://news.mb.com.ph/2019/11/22/duterte-without-sanctions-paris-agreement-on-climate-change-will-fail/>

51 The President of the Philippines, “Presidential Decree 1151, s. 1977: Philippine Environment Policy,” *The Official Gazette*, Accessed October 30, 2019, <http://www.officialgazette.gov.ph/1977/06/06/presidential-decree-no-1151-s-1977/>

of the environment centring on environmental management mechanisms. The former promotes forest restoration, preservation and environmental security in delivering the obligations through environmental management strategies directed by the Department of Environment and Natural Resources⁵² while the latter expresses the enhancement of ecological conditions through reforestation along river banks and highways including the promulgation of necessary punishments for illegal undertakings such as cutting of trees with no permits and other environmentally destructive activities.⁵³

The government is looking for alternatives to address energy shortage that would somehow help to their pursuit of limiting carbon emissions, hence, the enactment of *Renewable Energy Act* and *Biofuels Act*. Renewable energy act determines to fast-track research and development re sustainable energy production (i.e. solar, wind, hydro, geothermal and ocean energy). This strategy can at least decrease the dependency of industries from a conventional source of energy production. It can somehow assist the economy to provide an alternative energy source.⁵⁴ Biofuels Act, on the one hand, on a very comparable justification, is recognized as a policy to lessen the reliance of the State from imported fuels. If progressed, it will source sustainable energy consumption suitable for the environment.⁵⁵ These two Acts may back the government on its efforts to partially limit carbon emissions a considerable aspect of the altering climate conditions as far as dealing with climate change is concerned.

Commission on Climate Change was established in 2009 through the passing of the Republic Act No. 9729. As a Party involved in the Climate Convention and the pursuit of environmental security, the Philippines has adopted its ultimate objective, which centres on the principle of protecting the climate

52 The President of the Philippine, "Executive Order 263, s. 1995: Adopting Community-based Forest Management as the National Strategy to ensure the Sustainable Development of the country's Forestlands Resources and providing Mechanisms for its Implementation," *The Official Gazette*, Accessed October 29, 2019, <http://www.officialgazette.gov.ph/1995/07/19/executive-order-no-263-s-1995/>

53 The President of the Philippines, "Presidential Decree 953, s. 1984: Requiring the Planting of Trees in certain Places and Penalizing Unauthorized Cutting, Destruction, Damaging, and Injuring of certain Trees, Plants, and Vegetation," *The Official Gazette*, Accessed October 29, 2019 <https://www.officialgazette.gov.ph/1984/05/04/executive-order-no-953-s-1984/>

54 Congress of the Philippines, "**Republic Act No. 9513-2008: Renewable Energy Act of 2008**," (Manila: Congress of the Philippines, 2008), 1–2.

55 Congress of the Philippines, "**Republic Act No. 9367-2007: Biofuels Act of 2006**," (Manila: Congress of the Philippines, 2006), 1–2.

system and the maintenance of the equilibrium of GHG concentrations at a level that would thwart the daunting anthropogenic interference.⁵⁶ According to the World Bank, the enactment of this law will successfully be employed if the subsequent actions are realized: (a) the Commission shall possess qualified staff and adequate financial support; (b) developing and enhancement of guidelines of the implementing rules and regulations; (c) conveying a profound national climate change strategy fostering in an action plan; (d) consolidation of sectoral stakeholders, local governments as a pre-requirement in mainstreaming climate change mitigation and adaptation efforts reflected in local ordinances, plans and programs; and lastly, (e) enhancement of donor coordination to secure climate change programs' support.⁵⁷

Concerning environmental security, climate change adaptation and mitigation related action plans can strengthen efforts to support initiatives on the latter. Though the adaptation and mitigation programs are attempting to address climate change, it then benefits security action plans on the environment as both the climate change initiatives and environmental security have a vis-à-vis relationship. In the light of this given scenario, the Philippine government ought to feature its assets employing adaptation and disaster preparedness contemplating the country's vulnerability and high exposure on extreme climate-related events.

In addition, the World Bank further expounded that the succeeding strategies need to be realized: (i) mainstreaming adaptation and disaster risk management in key local, regional and national levels including sectoral development policies, plans and programs; (ii) protection of crucial infrastructure and livelihood against the results of climate change; and (iii) developing financing capabilities in response to adaptation and disaster management.⁵⁸ Understanding the sways of climate change and the call for disaster management, Disaster Risk Reduction Plan aims to institutionalize policies on disaster preparedness and risk reduction and entails to reinforce Disaster Management Strategies providing national and local disaster management framework and institutional management systems in times of calamities. It also upholds fostering funds

56 Congress of the Philippines, "Republic Act No. 9729: Climate Change Act of 2009," (Manila: Congress of the Philippines, 2009), 1–3.

57 The World Bank, "A Strategic Approach to Climate Change in the Philippines," *Sustainable Development Department East Asia & Pacific Region*, (2010), 2.

58 The World Bank, "A Strategic Approach to Climate Change in the Philippines," 1–2.

appropriation intended for disaster-related means.⁵⁹

The National Climate Change Adaptation Plan 2011-2028 indicated that adaptation procedures are based on impartiality, in accord with mutual but distinguished responsibility, distinct consideration, too, is given to safeguard equal and justifiable protection of the poor, women, children as well as other exposed and underprivileged sectors.⁶⁰ The framework itself distinguishes the essence of creating inclusive multi-stakeholder participation to secure effective partnership on climate change policies and strategies with the promotion of environmental security. It is, therefore, effectual to build community partnerships from civil society, private sector and local governments including the exceptional participation of the indigenous people and marginalized sector who are the most exposed to the impacts of climate change.

With regards to environmental degradation, preventing land erosion, practising sustainable forest management and improved agricultural land management, i.e., conservation tillage and rehabilitation of damaged cropland are the models of win-win alternatives for carbon appropriation and promote more dynamic and sustainable farming systems. Livelihood models and payment for environmental services approaches could incorporate carbon finance as a possible source of funding for sustaining the carbon stock.⁶¹ It might be sourced out from the agreed *special climate change fund* and *adaptation fund* both under UNFCCC including the ongoing the Paris climate accord financing adaptation and mitigation mechanisms for developing countries like the Philippines. This financial support could be a chance for the small-scale farmers to reward ticket to innovative income-earning opportunities.

In 2015, the Philippines communicated its Intended Nationally Determined Contributions to UNFCCC following the country's recognition of its critical geographical point and the complexity of the severity of impacts instigated by climate change. Nevertheless, the country's pursuit of institutional reform has been continuously taken into consideration sustainable and responsible utilization of natural capitals, including the promotion of environmental protection and conservation.

The INDC that the Commission had prepared and presented in 2015 par-

59 Congress of the Philippines, "Republic Act No. 10121-2010: Philippine Disaster Risk Reduction and Management Act of 2010," (Manila: Congress of the Philippines, 2010), 1-2.

60 Climate Change Commission, "National Climate Change Action Plan 2011-2028," (2011), 4.

61 The World Bank, "A Strategic Approach to Climate Change in the Philippines," 31.

ticularized the country's active participation in the global climate action; thus, it realizes the general goal of the Convention, which is to limit and to reduce CO₂ emissions. On top of that, the Philippines intends to reduce its emissions about 70% by 2030 relating to its Business as Usual (BAU) scenario of 2000-2030⁶² coming from the sectors dominated by the energy sector having 54% share, followed by agriculture with 33%, industrial processes accounted for 8%, and the remaining 7% is amassed by waste and a total of 0.33% contribution globally as conferring with the Philippines' GHG emissions in 2012.⁶³

Among other nations like Indonesia and Thailand, Philippines' 70% reduction commitment is quite a number since the two have committed to reducing their carbon productions by a much lesser rate. Thailand reiterates its 20% reduction by 2030, while Indonesia intends to decrease emissions by 26% by 2020. However, the 70% mark of the Philippines is conditional on whether there is aid prepared for the country. Thailand and Indonesia's pledges, on the one hand, are unconditional, although their targets would increase if aid is made available, too.⁶⁴

Conclusion

Environmental security alarms linked to climate change comprise the prospective issues over natural resources, food and water insecurity and environmental displacement as the result of sea-level rise and other wide-ranging biophysical and socio-environmental interferences. The extreme consequences of climate change often trigger the subjective reality of increasing natural calamities.

Meanwhile deliberating on status quo of the Philippines, the bearing of national security concerns accentuating the emphasis on threats induced by the environment has opened the table for political discourse regarding the substantiality of environmental security and climate change. As for the relationship of the two, the former entails factual environmental administration for human se-

62 Climate Change Commission, "Intended Nationally Determined Contributions," *Communication to UNFCCC*, (Manila: Climate Change Commission, 2015), 1-3.

63 USAID, "Greenhouse Gas Emissions in the Philippines," (2016): 1-2.

64 Pia Ranada, "Philippine climate pledge hailed as 'ambitious first step,'" *Rappler: Environment*, Accessed October 22, 2019, <https://www.rappler.com/science-nature/environment/107867-philippine-indc-ambitious-first-step>,

curity purposes and the latter, aside from human activities damaging the environment, causes insecurity to the ecosystem such as food production systems, extreme natural disasters, rising sea-levels and other climate-related impacts.

Now, the fallouts of the Paris Agreement on the Philippines arguably have rolled out in a risky socio-political path. The pronouncements and rhetoric comments of Duterte regarding the Philippines' commitment on the international pact were bold, that he would not intend to accept it for it is, in his standpoint despite the clamour of several state officials, NGOs, activists and individuals, unfair for developing countries such as the Philippines— the country needs to emit substantial amount of carbon emissions because the economy requires so. The Philippines' profound energy dependency is 54% from coal and fuel-powered energy plants and has 0.33% of overall GHGs emission contribution globally in 2012.

Duterte claimed that he could not commit to the Paris accord since there is no comprehensive sanction made available for the countries who will fail to realize its objectives, limiting and reduction of carbon emissions to meet the below 1.5°C target or above the pre-industrial 2°C global temperature. On the other hand, upon several consultations from his Cabinet secretaries, the President opted to give Paris agreement a greenlight notwithstanding his misgivings for he still infers the pact will not work not to mention his constructive thoughts on the supposed withdrawal of the United States.

Finally, the practical paradigm the Philippines have in terms of its susceptibility from the impacts of climate change is the foremost rationale behind the approval of the Paris agreement. The specified intended nationally determined contributions by the Philippines sent to UNFCCC divulge that the country would aim for 70% total reduction of emissions by 2030. However, considering this a significant fraction of the country's emission, it remains conditional unless assistance and support from other entities will be made available. This resolution is somewhat a shrewd decision on the part of the Philippines deliberating on the very status of the country: (i) environmental insecurity due to extensive environmental destruction and increasing demands on natural capitals; (ii) high risk on the conclusions of climate change to agriculture, coastal communities, food and water insecurity, extreme weather events; (iii) lacking in technological innovation fostering sustainable development; and, (iv) excessive energy dependency from coal and fuel-powered energy plants.

The fundamental justification of the Paris Agreement despite glitches in the Philippines, it aims to postulate a comprehensive adaptation and mitigation mechanisms and to establish reactive measures on climate change. The treaty also paves the way to open a timely socio-political discourse challenging the extent of security practices countries are undertaking for the welfare of its people and the environment. The treaty itself provides instruments that deliver more sustainable action plans with the promotion of stability between human security and environmental security through assisting on the formulation of comprehensive national mitigation and adaptation strategies associating with countries' respective national climate goals.

On a serious note, the fallout of Paris Agreement remains to be unclear in the Philippines. The dependency of the country from the fossil fuel age, an essential requirement for a developing economy, is triggered by inevitable entry towards the era of decarbonisation of the global economy. This international initiative led by a large-scale confederation in the international community is driven by the veracity of extreme impacts of climate change to human security; hence, the fortitude to combat climate change by limiting and reducing the productions of CO², a quite rigid situation for the Philippine economy but a practical gain in the pursuit of environmental security. The agreement seeks to provide a better option in dealing with climate change and sustainable development for the welfare of all. Though it is a prerequisite for the Philippines to cut back its emissions, Paris agreement, however, is an opportunity the Philippine officials should not miss out for it is the first crucial step in leveraging the mitigation on the results of climate change which is quite apparent in the country.

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