EN BANC

G.R. No. 208702 – Cynthia A. Villar, Former Member, House of Representatives, Lone District of Las Piñas City [supported by Three Hundred Fifteen Thousand Eight Hundred Forty Nine (315,849) Residents of Las Piñas City, *Petitioners, v.* **ALLTECH Contractors, Inc., Philippine Reclamation Authority, Department of Environment and Natural Resources, Environmental Management Bureau and Cities of Las Piñas, Parañaque, and Bacoor,** *Respondents.*

Promulgated:

May 11, 2021

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DISSENTING OPINION

LAZARO-JAVIER, J.:

I respectfully dissent and vote to partially grant the petition.

Paje v. Casiño[1] has held that a petition for the privilege of the writ of kalikasan addresses (i) whether the alleged defects or irregularities in the issuance of an environmental compliance certificate have a causal link or at least a **reasonable connection** to the **actual or threatened grave violation** of the constitutional right to a balanced and healthful ecology in terms of the territorial scope of such damage; and (ii) whether **actual environmental damage will occur** if the project is implemented.

Whether the defects or irregularities in the issuance of an environmental compliance certificate have a causal link or at least a reasonable connection to the actual or threatened grave violation of the constitutional right to a balanced and healthful ecology in terms of the territorial scope of such damage

Paje has recognized that **the use of a wrong environmental impact assessment document type** is a defect or irregularity in the issuance of an environmental compliance certificate that has a **causal link** or at least a reasonable connection to the **environmental damage of a magnitude that transcends political and territorial boundaries.** This is because a wrong document type results in an **erroneous environmental impact assessment and flawed environmental compliance certificate**, which government agencies and local governments, with final authority to implement the project, in turn, incorrectly rely upon in approving the implementation of the project.

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[1] 752 Phil. 498 (2015).

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Here, respondents used the wrong environmental impact assessment document type. According to *Paje*, an Environmental Performance Report and Management Plan (EPRMP) is used in the following instances:

> 1. Expansion of existing projects (including undertakings that have stopped operations for more than 5 years and plan to re-start with or without expansion);
> 2. Operating projects without ECCs;
> 3. Operating projects with previous ECCs but planning or applying for clearance to modify/expand or re-start operations;
> 4. Existing projects for modification or re-start up; and,
> 5. Single, non-implemented project applying for a major amendment of its ECC.

The Las Piñas Coastal Bay Project and the Parañaque Coastal Bay Project are **new projects**. Hence, as held in *Paje*, each of these projects requires an environmental impact statement. These projects cannot use an **EPRMP** because neither of them is an operating or existing project.

They cannot be tacked with the PEA-Amari Coastal Bay project because this project never took off as its ECC expired five (5) years from the date of its issuance. This was because the governing legal structure for the projects, **the Amended Joint Venture Agreement between the Public Estates Authority (PEA) and the Amari Coastal Bay Development Corporation, was nullified by the Court in 2002**.

The Las Piñas Coastal Bay Project and the Parañaque Coastal Bay Project are **not non-implemented projects** applying for major amendments of their ECCs.

Indeed, it is **counterintuitive** to insist upon an EPRMP as the environmental impact assessment document type for the Las Piñas Coastal Bay Project and the Parañaque Coastal Bay Project when there is no ongoing or existing project, and the PEA-Amari Coastal Bay project **they seek to ride on** was **based on environmental assessment and data dating back to 1996**. The EPRMP is appropriate for ongoing and existing projects or non-implemented projects seeking to amend substantially their ECCs because, as clearly explained by petitioner:

> 138. The rationale behind requiring only an EPRMP for projects that have operated initially is to dispense with needless submissions of new studies as there presumably exists a number of useful data about the actual environmental impacts of a project as observed. Of course, there is no need to duplicate the tedious processes of an *Environmental Impact Statement* when the effects of a project have been recorded upon its implementation and where historical environmental performance and status of the project and its management plan are already known.
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> 139. Given a project that had operated but stopped for a period of more than five (5) years, what is required is an

> environmental impact report on how well the mitigation and enhancement measures worked, using its environmental management plan ("EMP") as a yardstick. The convenience of preparing an EPRMP leaves the proponent to focus on ways to enact improvements on a project that has been implemented and has operated with plans for modification, expansion or a restart. This shortcut allows the proponent to suggest modifications and changes in the original plan to augment environmental performance without the costly distraction of undertaking a comprehensive environmental impact statement study.[2]
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> 140. Being a documentation of the actual cumulative environmental impacts and effectiveness of current measure for single projects, basic logic dictates that there has to be a project that had physically come onto fruition and had actually become operational. For, otherwise, there is no source from which a report can be made on such a single project.[3]

One must not confuse an EPRMP with an Environmental Impact Statement, or conflate one with the other. The reason, according to *Paje*, is that:

> The appropriate EIA document type vis-à-vis a particular project depends on the potential significant environmental impact of the project. At the highest level would be an ECP, such as the subject project. **The hierarchy of EIA document type, based on comprehensiveness and detail of the study or report contained therein,** insofar as single projects are concerned, is as follows:
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> 1. **Environmental Impact Statement (EIS),**
> 2. Initial Environmental Examination (IEE) Report,
> 3. Initial Environmental Examination (IEE) Checklist Report,
> 4. **Environmental Performance Report and Management Plan (EPRMP)**, and
> 5. Project Description 170 (PD) or Project Description Report (PDR).[4]

It was **therefore speculative** for the Court of Appeals to have based the environmental soundness of the Las Piñas Coastal Bay Project and the Parañaque Coastal Bay Project upon an **EPRMP** and to have **concluded that conducting an EPRMP would not have made any difference** from an environmental impact assessment, since these environmental assessment document types are distinct varieties of studies in both processes, requirements, and in all likelihood, findings. **Otherwise**, the wise bureaucrats in charge of environmental protection in the country would **not have required an EPRMP in distinct circumstances** and **an environmental impact assessment in others.**

To be clear, I am not saying that the ECC is an outright permit to operate, but it is, nonetheless, a necessary step in the process of acquiring

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[2] *Reflections of J. Marvic M. V. F. Leonen dated April 26, 2021,* pp. 5-6.
[3] *Rollo*, p. 106.
[4] Supra note 1 at 599-600.

such permit. Here, since Alltech did not submit the correct environmental impact assessment document type, the ECC issued to it is incipiently and irreparably defective, hence, should be revoked at once. For government agencies and local governments should not be misled into approving the implementation of Alltech's projects based thereon.

Whether actual environmental damage will occur if the project is implemented

For one, aggravated flooding in the Cities of Las Piñas and Parañaque is conceded to happen as a result of the Las Piñas Coastal Bay Project and the Parañaque Coastal Bay Project. Even the Court of Appeals has admitted this when it said **"the threat of flooding as a consequence of land reclamation is conceded and thus the causal link between the human activity of reclamation and environmental threat of flooding is established."** The assailed Decision summarized petitioner's evidence on this allegation of environmental damage:

> Petitioner Villar also commissioned Tricore Solutions, Inc., an engineering consultant, to evaluate and assess the impact of the proposed reclamation project. Tricore came up with a report entitled "Flood Assessment and Evaluation for Las Piñas City, Parañaque City and Bacoor, Cavite." In order to determine the existing flood extent along the vicinity of Las Piñas City, Parañaque City and Bacoor, Cavite, the following scenarios were considered in the said report: 1) highest rainfall magnitude (as recorded) without reclamation; 2) highest rainfall magnitude (as recorded) with reclamation; 3) maximum rainfall magnitude and maximum high tide with reclamation; 4) highest rainfall magnitude (as recorded) with the highest storm surge, maximum high tide and sea water rise brought about by climate change with reclamation, 5) highest rainfall magnitude, highest storm surge and maximum high tide, sea water rise- again due to climate change with reclamation; and 6) highest rainfall magnitude, highest storm surge and maximum high tide, sea water rise- again due to climate change with reclamation and another reclamation in Bacoor, Cavite. According to Engineer Carvajal, who is the President, head hydrologist, sanitary, geo-technical, structural and coastal engineer of Tricore, based on their hydrologic and hydraulic calculations, in a worst case scenario, taking into account Alltech's reclamation project and recorded maximum rainfall brought about by Typhoon Ondoy and strong winds experienced during Typhoon Pedring and other factors such as a maximum high tide of 1.44 meters and a one-meter rise above Mean Sea Level as may be occasioned by climate change, no less than 37 barangays in the Municipality of Bacoor, 17 barangays in Las Piñas City and 11 barangays in Parañaque City, will be totally submerged under 0.15 meters to 5.12 meters of floodwater. In other words, almost two-thirds of the entire areas of the cities of Las Piñas, Parañaque and Bacoor will be practically submerged or inundated when reclamation takes place.[5]

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[5] *Id.* at 19-19A.

Geological expert Kelvin S. Rodolfo, PhD[6] cites four (4) reasons why reclamation of nearshore Manila Bay is "**a very bad idea**"[7]:

1. **Rapid subsidence** of coastal lands is **enhancing the risk of flooding and high tides.**

2. Among the reasons for this rapid subsidence, says Rodolfo, is rapid loss of groundwater due to decades of uncontrolled pumping. Loss of groundwater has also caused the ground level to fall, leaving these areas vulnerable to flooding.[8]

3. Storm surges are an ever-worsening threat, due in part to subsidence, but also because climate change is increasing the frequency of the strongest typhoons.

4. **Reclaimed coastal areas are very susceptible to liquefaction and enhanced ground-shaking during earthquakes.**

5. These risks are enhanced by DPWH's and JICA's ignoring or minimizing the phenomena in their projects.

This scientific claim does not stand alone, as other studies, too, have noted the negative impact of reclamation, specifically of Manila Bay, *viz.*:

> Manila Bay was once a productive fishing area; destructive fishing practices, massive pollution, and unabated land conversion of wetlands and coastal areas have contributed to the marine ecosystem's deterioration. The destruction of Manila Bay's marine ecosystem threatens the food supply stability of surrounding communities.
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> Coastal communities around Manila Bay are already exposed to numerous natural hazards, particularly those related to earthquakes (e.g. liquefaction, tsunamis) and hydro-meteorological events (e.g., floods, storm surges). The effects of these hazards are exacerbated by accelerated land subsidence due to over-extraction of groundwater.
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> The Philippine government has a clear directive to rehabilitate and preserve Manila Bay through the writ of continuing mandamus issued by the Philippine Supreme Court. Land reclamation directly contradicts that mandate. Furthermore, scientific evidence clearly shows the negative socio-economic

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[6] PhD in Geological Sciences, University of Southern California, 1967 MS in Geological Sciences, University of Southern California, 1964 BS in Geology, University of the Philippines, 1958; Fellow, American Association for the Advancement of Science; Fellow, Geological Society of America; American Geophysical Union; Geological Society of the Philippines; Society of Sedimentary Geologists (SEPM).

[7] Dangerous Aspects of Reclamation Along Manila Bay and Laguna de Bay: NAST Policy Discussion on the Hazards, Risks and Profits of Reclamation, February 15, 2016, Kelvin S. Rodolfo.

[8] Rina Jimenez-David, https://opinion.inquirer.net/93493/why-reclamation-is-a-very-bad-idea, posted 12:20 AM March 06, 2016; Last Accessed March 9, 2021 14:43.

> effects of reclamation in Manila Bay. More reclamation project proposals continue to be entertained, nonetheless.[9]

Verily, the **question is not** "whether actual environmental damage will occur" anymore, but **how much more damage will it cause**, for it has consistently been found and proven that **reclamation had actually and already caused environmental damage**. In fact, it is not only the aforementioned areas that will be exposed to flooding and inundation, **but also the very reclaimed lands** themselves.

For another, these reclamation projects and the eventual construction of road networks and bridges will more likely than not **cause direct negative impacts upon the Las Piñas-Parañaque Critical Habitat and Ecotourism Area (LPPCHEA)**. The Court of Appeals summed up petitioner's evidence on this claim:

> The Center for Environmental Concerns-Philippines (CEC-P) was also engaged by petitioner Villar to conduct a technical assessment of the Las Piñas-Parañaque Coastal Bay Project. The study made by CEC-P involved the identification of plausible impacts of the Las Piñas-Parañaque Coastal Bay Project on biodiversity and the critical habitat, on flooding and on the socio-economic situation of the residents in the cities of Las Piñas and Parañaque. It did not assess the whole development plan as described in the proponent's EPRMP. The main document scrutinized by CEC-P in the study was the EPRMP submitted by Alltech to the DENR in August 2010 because it considered the same to be the final report on the proponent's proposed management of the environmental impacts before the issuance of the March 2011 ECC. The said EPRMP was the source document of CEC-P on how the proponent expects its project to affect the landscape and ecology of the project site, and what measures it has taken or will take to minimize the adverse effects that may be brought by this change. The CEC-P concluded that as a large scale project that will change the landscape of the area, the reclamation can be considered a looming danger to the habitat. The CEC-P findings are as follows: 1) As to the biophysical resources, the large-scale project will change the landscape of the area; development activities that will be undertaken in Manila Bay would likely impact the natural ecosystems and its ecological functions and services; 2) The expansion of the reclamation area will deposit and spread additional sediments to the Las Piñas- Parañaque Critical Habitat Environment Area (LPPCHEA) which will further destroy habitats of existing biodiversity; 3) With respect to the mangrove ecosystem situated in relation to the Coastal Bay Project, the coastal construction for the reclamation project will change the shoreline by altering the hydrodynamic characteristics of the Bay that include current, wave actions, tidal fluctuations and transport of sediments along the coasts, which would restrict circulation of coastal water bodies resulting to degradation of its water quality and environmental ecosystems; the mangrove ecosystem is also poised to undergo

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[9] Eco, R.C., Manila Bay reclamation and its impacts on the people and environment, https://ui.adsabs.harvard.edu/abs/2018AGUFMPA43E138x_5E/abstract, last accessed March 9, 2021, 15:08.

> fundamental alterations and changes since the planned reclamation, which will begin from the coasts of the LPPCHEA facing the south China Sea, is likely to threaten and impede the continuous flow of seawater into the lagoon; 4) With regard to the biodiversity, the EPRMP, provides little or no information on the ecological functions of the mangroves, birds, and other living things which may be found in the reclamation area which suggests a haphazard study of the natural resources and the particular ecosystem that will be subject to the reclamation activity; 5) As to the marine life in the areas, construction activities such as dredging and filling would cause water turbidity and sedimentation that would result to decline in water quality, loss of species and toxic contamination of ecosystems; and 6) As to the socio-economic and cultural effects of the proposed Coastal Bay Project, one of the foreseen effects on the people would be diminished aquaculture production as the habitat and breeding ground of marine life will be destroyed.
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> According to Frances Quimpo, the Executive Director of the CEC-P, the study made by CEC-P had established firm bases to conclude that the LP-P Coastal bay project has not truly addressed the identified threats of flooding to surrounding areas, threats on biodiversity loss, as well as the threat of displacement of local livelihood; and that it lacks a clear scientific study on the flooding hazards of the reclamation, appropriate mitigation measures to counter the dangers of reclamation to the LPPCHEA, as well as the potential economic displacement of the fisher-folks in the area with the destruction of the bottom organisms that replenish marine life. She further asserted that the absence of an Environmental Impact Statement (EIS) was but redundant evidence that the Coastal Bay Project has not undertaken the *de rigueur* of a full-fledged environmental study in order to impart scientific confidence that the proposed reclamation project will not devastate the surrounding environment, whether human or wildlife, to within a manageable and acceptable margin. She finally recommended that the reclamation project be halted until competent, comprehensive, deeper research and study are conducted to ensure that lives, human or otherwise, are not unduly and unnecessarily put at the risk of irreparable harm and damage.
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> Another member of CEC-P, Giovanni A. Tapang, who is an Associate Professor in Physics in the National Institute of Physics, also noted that the coastal bay project lacks complete, multi- faceted blueprint for addressing the problem of flow of seawater; that Alltech's EPRMP did not specify measures for the maintenance of the brackish waters, and engineering interventions that would utilize the access road from Roxas Boulevard to facilitate sea water flow to the lagoon; and that the bold claim by Alltech that if the mitigation measures are implemented, the reclamation might even improve the flooding situation in the two cities, was not supported by data presented in Alltech's EPRMP.[10]

The Court of Appeals also examined the evidence for respondents. Their pieces of evidence point to this conclusion:

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[10] Rollo, (Vol.1), pp. 19-A-22.

> On the other hand, Alltech and the other respondents were able to establish that scientific and expert studies assessed the potential flooding and flushing impact that may arise from the coastal bay project. The expert, objective studies conducted by DCCD, Surbana and DHI, revealed that **if all the recommended mitigating measures were to be implemented, the Coastal bay project would not aggravate the flooding situation in the river mouths of Parañaque, Las Piñas-Zapote Rivers**, and it may even reduce the level of flooding.[11]

Hence, **even respondents' evidence confirmed** the conclusion of the Court of Appeals that "the threat of flooding as a consequence of land reclamation is conceded and thus the causal link between the human activity of reclamation and environmental threat of flooding is established."

Worse, respondents' position rests on the premise that **the recommended mitigating measures** being in place would purportedly prevent or "would not aggravate" the flooding situations and "even reduce the level of flooding." Rodolfo, however, remains unconvinced and unimpressed by such measures for being historically ineffective and even aggravating,[12] *viz.*:

> **History of ignoring science while building projects that fail**
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> 1980s: Flimsy lahar dikes built at Mayon Volcano despite my scientific objections. Dike building continued until Super Typhoon Reming breached them all in 2006, killing 1,266 people who had sought safety by living behind them (Paguican et al. 2009).
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> 1990s: Same lahar-dike builders' mistakes on a much larger scale at Pinatubo despite scientists' objections. October 1995: Tropical Storm Mameng lahars breached Gugu dike, totally destroyed Bgy Cabalantian in Bacolor, Pampanga. Hundreds of people killed.
>
> 2000s-present: DPWH builds numerous costly, ineffective flood-control structures in Central Luzon and KAMANAVA. Academician Siringan's and my objections made no difference. Year after year, they fail, and more money is spent on cosmetic repairs.
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> **KAMANAVA Flood Control Project**
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> 2003: P3-billion contract to Nishimatsu to be completed in June 2007.
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> x x x x
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> 2008: Nishimatsu contract expired. Only 88% completed.

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[11] *Id.* at 49.

[12] Dangerous Aspects of Reclamation Along Manila Bay and Laguna de Bay: NAST Policy Discussion on the Hazards, Risks and Profits of Reclamation, February 15, 2016, Kelvin S. Rodolfo.

> February 2009: DPWH awards local contractor BMWAD Joint Ventures P996 million to complete the remaining works.
>
> October 2009: 94% of the project completed.
>
> July 2010: DPWH: "resumes full blast operations, project will be completed by mid-September." P5.18 billion already spent.
>
> 2011: project director Macaria Bartolo says project 99.5% complete.
>
> August 2012: Polder dike overtopped by habagat floods, has to be raised another meter.
>
> August 19, 2013: Malabon residents evacuated as floods rise.
>
> July 16, 2014: Typhoon 'Glenda' floods force 1.000+ Malabon evacuation.
>
> September 23, 2014: Tropical storm "Mario", southwest monsoon and high tide force Malabon evacuations.
>
> July 6, 2015: CAMANAVA flooded.
>
> July 29, 2015: MMDA lists 12 most flooded areas in Malabon City.
>
> October 11, 2015: DPWH-NCR office gives additional 931 million to Camanava from the P351-billion Flood Management Master Plan for Metro Manila and Surrounding Areas.
>
> December 15, 2015: Typhoon Nona floods Malabon. ...
>
> And so it goes...

Clearly, respondents' confidence is misplaced. Short of any certainty, the promise of safety is but ideal and theoretical. In effect, respondents, again, have clearly acknowledged, nay, admitted that the proposed reclamation would cause devastating environmental impacts.

I personally commend the Court of Appeals for examining the evidence painstakingly on this claim of petitioner. But I most respectfully submit that the conclusion to dismiss the instant petition outright disregards the rationale for the writ of kalikasan. **This writ is a protective remedy**, one where the usual balancing of the probative value of evidence is **outweighed by the inclination to be cautious about activities** that could probably wreak havoc on the environment.

Rule 20 of the *Rules of Procedure for Environmental Cases* recognizes this principle as a rule of law in assessing the evidence in environmental cases:

RULE 20
PRECAUTIONARY PRINCIPLE

> **Section 1.** *Applicability.* - When there is a **lack of full scientific certainty in establishing a causal link between human activity and environmental effect, the court shall apply the precautionary principle** in resolving the case before it.
>
> **The constitutional right of the people to a balanced and healthful ecology shall be given the benefit of the doubt.**
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> **Section 2.** *Standards for application.* - In applying the precautionary principle, the following factors, among others, may be considered: (1) **threats to human life or health**; (2) inequity to present or future generations; or (3) **prejudice to the environment without legal consideration of the environmental rights of those affected**.

Here, everyone seems to concede that flood will come as a result of the Las Piñas Coastal Bay Project and the Parañaque Coastal Bay Project. There will also be direct negative environmental impacts on the LPPCHEA as a result of the reclamation and related construction works. The Court of Appeals believes respondents' claim that **only complete mitigation measures could foil** the environmental degradations that the projects will bring about.

But is there certainty that the mitigation measures will come to pass, and if they do, will they produce what respondents hope they would? I do not think that respondents' pieces of evidence preponderantly resolve these questions in their favor. There are lots of variables in the projections ventured by respondents' evidence.

Worse, the Court of Appeals was made to decide the environmental impact of the projects *as if from scratch* simply because the government agency used the wrong document type in issuing the environmental compliance certificate. Had there been proper compliance from the start with the process of adducing the necessary variables in making the environmental assessment through, among others, the use of the appropriate document type, then we can state, indeed, that more likely than not, all environmental damages wrought by the projects will not come to pass.

Petitioner's burden of proof is not proof beyond a reasonable doubt. All she has to prove is that more likely than not, if the reclamations do take place, damage to the environment will happen. I believe she has done that. Respondents merely claim in response that mitigation measures can offset this environmental damage. Their claim is not that there is no link between the projects and the harm; rather their claim is that their proposed mitigation measures might thwart the harm from taking place.

Clearly, as things stand, **the totality of the evidence shows the causal link between the projects and the environmental damage**. The mitigation measures *may* prevent harm from happening, but that is conditional upon the mitigation measures being funded and done properly

and later working properly as believed. At their best, thus, respondents' pieces of evidence prove and stand for an *uncertainty* in the context of a lack of full scientific certainty in establishing a causal link between human activity and environmental effect.

In this light, the Court is in the right to apply the **precautionary principle** in resolving the present case because (i) threats to human life or health as a result of the projects will occur if the mitigation measures do not work, and there is no certainty that they in fact will; (ii) inequity to present or future generations will be the costs of the uncertainties that the mitigation endeavours can only bring about; and (iii) prejudice to the environment without legal consideration of the environmental rights of those affected will be the price to pay as the environmental agency in charge of the environmental assessment failed to consult and obtain the consent of the residents to be greatly impacted by the projects.

Taking all things into consideration, the balancing of the evidence adduced by petitioner and respondents calls for a conclusion that **the constitutional right of the people to a balanced and healthful ecology shall be given the benefit of the doubt**. This means **indulging the present case a second hard look** at what the evidence presents us – an uncertainty that the Court can remedy by sending back the projects for environmental impact assessment using the Environmental Impact Statement as the document type and involving the residents in a genuine, not fake, consultation and consent-seeking foras. Thereafter, when the environmental people and the stakeholders have done all these and the conclusion is acceptable as it is reasonable and both rights- and evidence-based, if this matter ever reaches the Court of Appeals and the Court again, the justices will no longer be hard-pressed to choose between competing evidence, and in the process, to speculate about **WHAT IFs and WHAT NOTs**.

Whether the actual environmental damage that has been assessed is fatally speculative

The world we live in is not fraught with environmental disasters and dangers because tree-huggers simply want to scare people from achieving development. **These disasters have come and gone. They are a reality.** We have all been witnesses to them. The lockdown caused by CoVID-19 has clear environmental aspects to it. And yet, here we go again trying to ignore the integrity and truthfulness of the ***science of patience and due diligence*** in our development endeavours.

What are we going to lose from seeking another and perhaps last round of weighing and determining the enormous environmental impact of respondents' large scale reclamation projects?

The **only projected losses**, if losses they really are, **simply equate to the delayed profits and more profits for respondents and their**

investors. In contrast, if the Court were to **allow post-haste the reclamations** to go on **without first settling the environmental issues**, when history beckons, **the Court will be the real proximate cause of the disaster that will be done to the lives and properties of millions of already impoverished Filipinos**. As it is, **the Court and petitioner in her role as a well-respected Senator** are the **only last bulwark of reason to stop this impending environmental pillage.**

Senator Villar is no ordinary petitioner. She carries with her the weight of the Philippine Senate as one of its outstanding leaders. She bears the burden of her constituents who stand to be severely affected by the adverse consequences of respondents' reclamations. She has put her reputation, if not her political career, into the cross-hairs of the causes, especially the present one, she tirelessly advocates. If the Court would not even care to hear her, who else will the Court listen to?

The issues involved in this case are **literally transcendentally important**. The environmental impact will adversely affect Las Piñas and Parañaque initially and thereafter transcend to contiguous territories and thereafter engulfing the entire country. It will initially impact the residents of these localities and thereafter transcend to swallow communities in the metropolis. The conversation that this case entails should not stop here and now. Lots are uncertain but can be clarified by further proceedings below. Massive floodings and other adverse environmental impacts of the reclamations are not our only choice, certainly not my only choice. I am still afraid to live in a raft.

Whether an environmentally critical project should be allowed to proceed only in the clearest of cases

The **precautionary principle** mentioned above should compel the Court to hold that an environmentally critical project should be allowed **to proceed in the clearest of cases**. Hence, whenever **there is doubt** about a project's environmental impact, the project **must be re-evaluated** to investigate, weigh, mitigate, address, assess and resolve the oppositions to it.

The **precautionary principle** is **very crucial** especially when the President himself **has vigorously espoused** a **policy against reclamation projects**. The **President** has been recorded to have enunciated this policy in the most colourful and emphatic language clearly for **editorial** impact. He said:

> Not during my time. I will only allow maybe plans of whatever reclamation if it is in connection with a government project. I will not allow massive reclamation for the private sector. Not now. Because if I – if you approve one, you approve all. Ganun 'yan eh.

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The entire Manila City would be environmentally at peril. So pag-aralan ninyong mabuti 'yan. For the next administration, whoever gets to be the president of this country, study it very carefully. Because that Manila there, that old city is an old city and it will decay if you add so many things in front of Manila Bay.

x x x x

No – no reclamation. You wait until the next president who would be – they would look – they might look at it kindly at a different lens.[13]

Independent expert studies also confirm the adverse environmental impact of reclamations. I have quoted them below in the interest of full disclosure:

Reclaimed lands are also to blame for the rise of the water level on the bay which causes massive flooding and storm surges. They badly affect not just the lives of the residents but also may shut down local economic activities particularly those in low-lying cities. These disasters actually intensify the vulnerability of our cities.[14]

Reclamation activities changed the environment such as coastal morphology, hydro-oceanography, mangrove and coral reefs deterioration. Other effects are the hill-cutting and tree-cutting of the surrounding area to get filling materials for the reclamation project. Among the consequences observed and recorded were flooding, erosions, sedimentations, and adverse influences on the seawater quality, sea biota, local depletion of several kinds of fishes such as snappers, groupers, and shrimps. These have reduced the income of the fishermen, forcing them to switch to other professions such as becoming tradesmen, laborers, and farmers.[15]

BIOLOGICAL IMPACTS

The process of coastal land reclamation starts off with sand mining and dredging operation carried out offshore, followed by backfilling. The activities carried out during reclamation have direct impacts towards the coastal ecosystem. The impacts include:

Loss of marine benthic ecosystem

Reclamation activities affect the composition of biodiversity through the destruction of ecosystems such as coral reefs, sea grass meadows and mudflats. This will lead to a net decline in faunal

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[13] SPEECH OF PRESIDENT RODRIGO ROA DUTERTE DURING THE INAUGURATION OF THE SANGLEY AIRPORT DEVELOPMENT PROJECT AND PRESENTATION OF THE SANGLEY POINT INTERNATIONAL AIRPORT PROJECT (https://pcoo.gov.ph/wp-content/uploads/2020/02/20200215-Speech-of-President-Rodrigo-Roa-Duterte-during-the-Inauguration-of-the-Sangley-Airport-Development-Project-and-Presentation-of-the-Sangley-Point-International-Airport-Project-converted.pdf).

[14] https://www.smartcitiesdive.com/ex/sustainablecitiescollective/unsustainable-truth-about-land-reclamation-worsening-impacts-manila-bay-r/1271899/

[15] http://eprints.utm.my/id/eprint/2066/1/MRafeeMajid2009_ImpactReclamationActivities.pdf

biomass and abundance or a shift in species composition. Once the ecosystem is disturbed, it will take some time for it to recover to its original state, depending on the ecosystem's resilience.

xxxx Modification of the ocean floor by reclamation works causes destruction to habitat of the benthic organisms. The disturbance to bottom sediment from dredging works and placement of fill materials will bury and smother bottom dwellers and cause permanent loss of habitat of benthos. Marine sediment extraction causes disturbance and removal of benthic in fauna and epifauna (Yasser, 2011).

Alteration of sediment composition caused by dredging and backfilling is another contributing factor to loss of marine benthic ecosystem. Sediment composition is a key factor in determining benthos distribution. Long-term recovery of benthic ecosystem can occur only where original sediment composition is being restored.

Destruction of buffer zone

Coastal reclamation is often associated with the loss of coastal ecosystems such as mangroves, seagrasses and mudflats. These ecosystem acts as natural buffers against wave energy and minimising the impacts of wave on coastal areas, thus protecting the coastal area from being flooded and eroded due to wave action.

Removal of the ecosystems will leave the coastal communities vulnerable to flooding and natural disaster such as tsunami. As widely reported since 2004 when the worst tsunami in record hit South East Asia, extensive areas of mangroves can reduce the loss of life and damage caused by tsunamis by taking the first brunt of the impact and by dissipating the energy of the wave as it passes through the mangrove area.

The survival of the fisherfolks at Pulau Betong, south-west of Penang Island, was attributed to the mangroves growing there. The mangrove forests had helped to buffer the impact of the tsunami heading inland as compared to other places that received a direct hit (Penang Economic Report, Jan. 2005, Vol. 7, Issue 1).

Disruption of food chain

Coastal developments directly disturb the substrates and microenvironments that benthic macro invertebrates depend on to survive. xxxx

Mangroves also serve to reduce coastal erosion and is a habitat for many species of marine life. They serve as a transit place for more than 30 species of migratory birds, and house mudskippers, fish, crustaceans, and a whole ecosystem of its own. They are a home to all kinds of fish, snails, cockles, shrimps and crabs, reptiles like snakes and monitor lizards, migratory and local birds, insects and mammals such as monkeys, wild boars and otters. Birds seek these places as their sanctuary and feeding place during their migratory season from October to March.

It is proven that land reclamation does cause disjunctions in the consistency of suitable habitats for these organisms which we predict will affect organisms higher in the food chain (Chee & Sim, 2016; Chee et al., 2017). The stress tolerant species will become dominant and replace other species as they are able to stand the changes.

Collapsed ecosystems cannot sustain marine organisms that are dependent on it for survival. Shoreline modification and reclamation works will affect the existing biotic and abiotic factors that are linked in food chains. Any changes or disruption to the close relations between certain species will affect the ecosystem's balance. Removal of primary producers such as mangrove and seagrasses will affect the rest of the food chain as they serve as a base where every other organism depends on directly or indirectly for survival.

Coastal water pollution

Pollution can be controlled to some extent, but ecological and environmental impacts of reclamation cannot be restored. Suspension of organics, heavy metals and other pollutants into sea through dredging activities will cause disturbance to bottom sediments. Land filling with dredged materials may release contaminants which will have impacts on marine life. Eventually, low water quality will affect the sea biotas around the area, and negatively affect the lives of the fishes and coral reef (Priyandes & Majid, 2009).

Corals that are stressed by siltation, mechanical damage, or pollution have a greater likelihood of being subjected to diseases (Clark 1996). As coral reefs are well known as spawning ground, feeding ground, and nursery ground for enormous number of marine life, its destruction will cause breakdown in the ecosystem.

Other than that, sea grass leaves improve[d] water quality by absorbing nutrients in runoff from the land and slowing the velocity of water, capturing sand, dirt and silt particles. When the bottom sediments are disturbed during reclamation projects, it causes the release of toxic chemicals including heavy metals and polychlorinated biphenyls (PCB) into water column which was trapped by sea grass earlier. The release of toxic compounds will degrade the water quality and affect the aquatic life.

Increase in siltation and turbidity

Dredging and extraction of aggregates from the benthic zone or the seabed is a form of disturbance that leads to increase of suspended particles in the water column. Dredged material may cause suspended solids during dredging as a result of substratum disturbance and during transport to the surface, overflow from barges or leakage from pipelines during transport between dredged and disposal sites (Yasser, 2011).

Aggregate particles that are too fine to be used are rejected by dredging boats, releasing vast dust plumes and change the water turbidity, resulting in major changes to aquatic habitats over a large

area. The ecosystems that will be greatly affected by siltation are the coral reefs and sea grasses. Siltation kills corals by shading and smothering them and reduces recruitment of juvenile corals (DENR 2001).

Smothered sea grasses will not be able to take up the sunlight efficiently to carry out photosynthesis. In addition, increased turbidity will increase the scattering of light penetrating the water, causing difficulties to photosynthetic benthic organism to absorb the sunlight. xxxx

SOCIO-ECONOMIC IMPACTS
Livelihood and fisheries

Coastline changes in the coastal areas due to reclamation will impact the local community in that area. Local fishers whose livelihood and source of income depended on the fishing industry are adversely impacted due to land reclamation. xxxx

Other adverse impact includes the reduction of daily fish catch by the fishermen, forcing them to either double their efforts in catching fish or totally abandon their age- old profession to try other jobs (Priyandes & Majid, 2009). However, without experience and knowledge, it will be difficult for them to adjust to their new way of life. xxxx

PHYSICAL IMPACTS

(A) Saltwater intrusion and alteration of groundwater system

Land reclamation activities in coastal areas causes changes on local groundwater systems (Guo & Jiao, 2007). This is because the removal of crucial ecosystems such as mangrove and mudflats maximises the impacts of wave on coastal areas, causing seawater intrusion into groundwater. This will affect nearby agriculture land as the pH of the soil is altered thus making it unsuitable for plant growth, especially species that are sensitive to salinity changes. xxxx

OTHER IMPACTS

Temporary increase in noise pollution and air quality is likely to occur at the site, caused by construction and reclamation processes. Dust and particulate generation due to movement into and off the site like scrappers, bulldozers, and loaders and due to excavated soil is the negative impact of temporary workforce (Yasser, 2011). This gives a negative psychological and physical impact to the people around the area. xxxx

The stress level of the residents might increase due to traffic congestion as many routes will be inaccessible for reclamation development. Therefore, the residents were left with no choice but

to take alternative routes, causing inconveniences due to the restrictive access.[16]

Contrary to the *ponencia*'s dismissive attitude towards the foregoing studies, these studies show that the **precautionary principle** does apply in this case. The Court **cannot ignore** these studies because they are cited precisely to justify the **plausibility** of the project's adverse environmental impact. The **proper forum** for considering these and other studies is of course the Department of Environment and Natural Resources. **However**, by affirming the assailed Decision of the Court of Appeals, and approving the commencement of the project, the Court is **thereby foreclosing** any further deliberate studies on the real adverse impact of the project. This could prove to be disastrous for the communities near the project site.

Notably, the Rules on Evidence allows the Court to take judicial notice of certain facts, such as the laws of nature. In ***MMDA v. Concerned Citizens of Manila Bay***,[17] the Court took judicial notice of the environmental pollution as a cause of climate change, its ill effects including but not limited to the destruction of forests, and other critical habitat, oil spills, and the unabated improper disposal of garbage in Manila Bay.[18] So too, can we take judicial notice not only of the independent expert studies which either confirm or dispel the adverse environmental impact of reclamations. It is our bounden duty to leave no stone unturned when it comes to the safety and protection of our environment.

ACCORDINGLY, I vote to grant the petition in part, to revoke the environmental compliance certificate issued for the Las Piñas Coastal Bay Project and the Parañaque Coastal Bay Project, and to refer these projects back to the Department of Environment and Natural Resources for the proper conduct of the environmental impact assessment using as document type the Environmental Impact Statement.

AMY C. LAZARO-JAVIER
Associate Justice

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[16] Impacts of Coastal Reclamation in Malaysia, published by Sahabat Alam Malaysia (Friends of the Earth Malaysia), accessed at: https://foe-malaysia.org/wpcontent/uploads/2020/12/190226_Impacts_of_Coastal_Reclamation_in_Malaysia-compressed.pdf

[17] 595 Phil. 305, 320 (2008).

[18] *Id.* at 320.