

RESEARCH ARTICLE

# COVID-19 and Singularity: Can the Philippines Survive Another Existential Threat?

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**Abstract:** In general, existential threats are those that may potentially result in the extinction of the entire human species, if not significantly endanger its living population. Among the said threats include, but not limited to, pandemics and the impacts of a technological singularity. As regards pandemics, significant work has already been done on how to mitigate, if not prevent, the aftereffects of this type of disaster. For one, certain problem areas on how to properly manage pandemic responses have already been identified, like the following: (a) not being able to learn from previous experiences, (b) the inability to act on warning signals, and (c) the failure to reach a global consensus on a problem (i.e., in a timely manner). In terms of a singularity, however, it may be said that further research is still needed, specifically on how to aptly respond to its projected negative outcomes. In this paper, by treating the three problem areas noted above as preliminary assessment measures of a country's capacity to coordinate a national response to large-scale disasters, we examine the readiness of the Philippines in preparing for an intelligence explosion. By citing certain instances of how the said country, specifically its national government, faced the coronavirus disease 2019 pandemic, it puts forward the idea that the likely Philippine disaster response towards a singularity needs to be worked on, appealing for a more comprehensive assessment of such for a more informed response plan.

**Keywords:** technological singularity, artificial intelligence, COVID-19, existential threat, Philippine disaster response

In general, existential threats are those that may potentially result in the extinction of the entire human species, among others, if not significantly endanger its living population. Bostrom (2006), for one, explained that “[a]n existential risk is one that threatens to annihilate Earth-originating intelligent life or permanently and drastically curtail its potential” (p. 181). Among the said threats include, but not limited

to, large-scale pandemics and the negative impacts of misaligned artificially intelligent systems (Bostrom, 2002). Considering that advancements in artificial intelligence (AI) may later result in the production of superintelligence—beings that are “far beyond the most intelligent human” (Chalmers, 2010, p. 11), the latter kind of threat has been closely related to the possibility of a singularity.

The singularity, short for technological singularity, is a hypothetical scenario that is expected to happen once greater-than-human-level intelligences have been developed (Chalmers, 2010). Eden et al. (2013, p. 1) further explained that there are two distinct paths towards a singularity, namely: (a) through upgrading the cognitive capacities of present-day human beings and (b) via developing superintelligent artifacts that possess artificial minds. In relation to the latter, Turchin and Denkenberger (2018) forewarned that “AI could pose a global catastrophic risk in the very early stages or at the very late stages of its evolution” (p. 161). Thus, the potential negative impacts of such are also currently being looked into.

At present, significant work has already been done on how to mitigate, if not prevent, the effects of pandemics. For instance, select problem areas in pandemic response management have already been identified, such as the following: (a) not being able to learn from previous experiences, (b) the inability to act on warning signals, and (c) the failure to reach a global consensus on a problem (i.e., in a timely manner). However, not a lot of research has been done on how to properly respond to a singularity.

This study treats the problem areas mentioned above as preliminary assessment measures of a country’s capacity to coordinate a national response to large-scale disasters. In this paper, we examine the readiness of the Philippines in responding to a singularity. Citing key instances that exemplify the Philippine government’s COVID-19 pandemic response, it advances the notion that the likely Philippine disaster response towards a singularity needs to be worked on. Noting the seriousness of a singularity as an existential threat, the study ends with an appeal for a comprehensive assessment of the Philippine disaster response management toward a more informed singularity response plan. To demonstrate this, the following section first provides a brief discussion on singularity. Key problem areas in pandemic response management are then discussed in the subsequent section. The next section cites studies and reports that highlight how the Philippine government generally addresses disasters such as the COVID-19 pandemic. Then, drawing insights from those studies and reports, this study claims that the Philippines is not that ready to respond to threats such as a singularity. The last section of this article provides a few concluding remarks.

### *Artificial Intelligence and the Singularity*

Though the concept of a singularity has been previously employed in mathematics and physics (Kurzweil, 2005, pp. 35-36), in the context of AI research, it may be defined as “the point in time at which we build a machine of sufficient intelligence that is able to redesign itself to improve its intelligence, and at which its intelligence starts to grow exponentially fast, quickly exceeding human intelligence by orders of magnitude” (Walsh, 2017, p. 59). As earlier mentioned, one of the ways to arrive at a singularity is by modeling human-level intelligent artifacts (Eden et al., 2013, p. 1). Note that this parallels Vinge’s (1993, p. 1) idea that an intelligence runaway would soon follow once advanced AIs have been created.

Contextualizing the projected effects of a singularity, Vinge (1993) explained that:

When greater-than-human intelligence drives progress, that progress will be much more rapid. In fact, there seems no reason why progress itself would not involve the creation of still more intelligent entities -- on a still-shorter time scale... We humans have the ability to internalize the world and conduct “what if’s” in our heads; we can solve many problems thousands of times faster than natural selection. Now, by creating the means to execute those simulations at much higher speeds, we are entering a regime as radically different from our human past as we humans are from the lower animals. (p. 12)

Vinge (1993, p. 12) further held that the ensuing changes resulting from an intelligence explosion would be very drastic (i.e., to the extent that previously set human rules would have to be thrown away). Such is the case given that, much like how the same idea is understood in physics and maths, a technological singularity “highlights instances wherein our standard models for understanding things just breakdown” (Boyles, 2018, p. 184). So, once a singularity occurs, most current theories would not be able to account for the things that are usually deemed elementary, like our commonsense notions about life, reality, and perhaps even our standard sense of morality, to name a few.

For Good (1966), the continuous emergence of higher-order intelligent technologies is inevitable after the creation of the first superintelligent machine, explaining further that:

Let an ultraintelligent machine be defined as a machine that can far surpass all the intellectual activities of any man however clever. Since the design of machines is one of these intellectual activities, an ultra-intelligent machine could design even better machines; there would then unquestionably be an “intelligence explosion,” and the intelligence of man would be left far behind... Thus the first ultraintelligent machine is the last invention that man need ever make, provided that the machine is docile enough to tell us how to keep it under control. (p. 33)

As noted by Good (1966), one issue that may arise from the realization of human-level intelligent artifacts, also called “artificial general intelligence” (AGI) by Goertzel (2014), and beyond is whether or not such machines could be controlled. This issue has come to be known as the AI control problem.

In a nutshell, the control problem of artificial intelligence deals with the issue of how to develop intelligent, autonomous artifacts that would act and perform in the manner intended by their designers (Bostrom, 2017, p. 5). Van Wynsberghe and Robbins (2019) noted that the increased automation level of AIs entails that such would also likely find themselves in morally salient situations. In relation to such, Yampolskiy and Fox (2012) thus claimed that there has been an increased interest in the following research areas: machine ethics, computer ethics, robot ethics, cyborg ethics, computational ethics, ethicALife, machine morals, roboethics, robot rights, artificial morals, and Friendly AI. Note that these fields are mainly “concerned with the application of ethics to machines that have some degree of autonomy in their action” (Yampolskiy & Fox, 2012, p. 217).

The field of machine ethics, for instance, concerns itself with “giving machines ethical principles, or a procedure for discovering a way to resolve the ethical dilemmas they might encounter, enabling them to function in an ethically responsible manner through their own ethical decision making” (Anderson & Anderson, 2011, p. i). For Wallach and Allen (2009), the said ethical machines may come in the form of artificial moral agents (AMAs), which are artificially intelligent machines with the capacity to carry out moral decisions (Cervantes et al., 2019).

Alternatively, Yampolskiy and Fox (2012) proffered to further augment philosophical discussions on

ethical AIs by appealing to the applied sciences and engineering in what they call “AI Safety Engineering,” a research area aimed at developing safe machines. Yampolskiy and Fox (2012) further held that research on the potential threats resulting from present and future AIs should veer away from purely philosophical and science fiction discussions, perhaps with the help of institutions such as the Singularity Institute, Future of Humanity Institute, and the like.

Though the disruptive effects of advanced AI systems have already been previously pointed out, like how such technologies would affect economies (King et al., 2017), politics (König & Wenzelburger, 2020), and the medical field (Meskó et al., 2018), among others, the issue surrounding the possibility of humanity’s extinction is also being considered. For Chalmers (2010, pp. 24-29), such remains a concern because sophisticated AIs might have a different set of values (i.e., as compared to humans).

Advanced AIs, for instance, might not value what human beings deem as important. Given the differing value systems of the said two species, potential negative outcomes resulting from the creation of superintelligent machines are also projected. Boyles (2018, p. 187) likewise maintained that “[t]he annihilation of humanity is not as far-fetched as one may think given that it is possible that AI systems and their next generations could have a different set of values compared to human beings,” and such is somehow due to the increased intelligence levels of advanced AIs.

At present, autonomous machines already exist in societies, and they perform tasks that affect humans (Wallach & Allen, 2009). “In the worst cases,” Wallach and Allen (2009, p. 8) explained, “they have profound negative effect[s].” In the future, however, the possible existential threats due to the presence of advanced AIs would only be amplified (i.e., as their capacities for autonomy, intelligence, and the like further increase). Recall that there may be a gap between the value system of superintelligent AIs with that of their human counterparts. Chalmers (2010) also clarified that:

...[an intelligence explosion] has enormous potential dangers: an end to the human race, an arms race of warring machines, the power to destroy the planet. So if there is even a small chance that there will be a singularity, we would do well to think about what forms

it might take and whether there is anything we can do to influence the outcomes in a positive direction. (p. 4)

If a singularity does occur, the gravity of risks involved is somehow comparable to, if not greater than, that of the spread of an infectious disease. Thus, perhaps key lessons may be drawn from previous research on how to properly mitigate, if not counteract, the aftereffects brought about by such outbreaks.

### **Problem Areas in Responding to Disasters with Existential Risks**

Research scientist Victoria Krakovna (2020) is one of those who gave some insights on how the global community responded to the COVID-19 pandemic and on properly preparing for a slow AI takeoff, which may be understood as the “process by which an AI becomes much more capable than humanity... happens on a time scale that allows ongoing human interaction, whereas in a hard takeoff, there will be some inflection point after which the AI will increase in capability very quickly, breaking out of effective human control” (Sotala, 2018, p. 321). Supposedly, certain problem areas could be drawn from how the world responded to the COVID-19 outbreak, namely: (a) learning from experience, (b) warning signs, and (c) consensus on the problem. Actually, previous pandemic-related studies have already identified traces of the said problem areas. Saqr and Wasson (2020, p. 4), for instance, explained that “COVID-19 is not the world’s last pandemic and we have to learn what we have missed, and how to avoid the failures.”

In relation to the first problem area, Saqr and Wasson (2020, p. 4) emphasized the importance of learning from past experiences. They surmised that, in responding to the COVID-19 crisis, certain lessons from the past were ignored, specifically those related to the 1918 influenza pandemic. Known back then as the “Spanish flu,” the influenza pandemic was caused by the H1N1 influenza virus A (Chowell et al., 2007, p. 459). Saqr and Wasson (2020) pointed out that previous studies on the said outbreak already underscore the effectiveness of the following pandemic-related measures: wearing surgical masks, prohibiting public gatherings, observing social distancing, closing down

schools, isolating sick people in hospitals (or letting them undergo home quarantine), and so on.

Despite already knowing the effectiveness of the said things through previous experience, Saqr and Wasson (2020) explained that “[a]lthough these measures have worked in the past, are recommended by experts, and have been shown to work in countries that were ahead of the curve, many countries were late to implement such measures, and some have not taken them seriously” (p. 4). Additionally, it may be said that Saqr and Wasson’s (2020, p. 5) observation regarding the reluctance to employ already existing solutions (i.e., to address issues ensuing from COVID-19) could also be related to the first problem area. They, for instance, stated that:

Although we had solutions that have proven effective, for example, working from home, online education, and online meeting[s], they were not implemented in a timely manner. Take, for example, education, after many years of offering research and solutions for online learning that have basically been ignored in traditional universities, this changed overnight! Suddenly, as countries introduced various shutdowns and social distancing regulations, universities had to move their teaching online, entrenched with logistical, pedagogical, technological, and legal challenges due to these extraordinary measures. (Saqr & Wasson, 2020, p. 5)

Parment and Rothstein (2018) also highlighted the value of learning from the influenza pandemic of 1918, noting that “the threat of emerging infectious diseases remains, as does the danger of both panic and neglect. We hope that stressing the lessons we have learned and those that we are still attempting to learn can help us avoid that cycle so that the horrors of 1918 will never be repeated” (p. 1436). In a way, Hoffman (2016) also shared the same sentiment of giving utmost importance to learning from the past.

In light of the 2014 Ebola outbreak, Hoffman (2016, p. 30) posited that three simple lessons must be learned from the said crisis: (a) properly funding public health interventions, (b) investing in research and development (i.e., for new technologies and strategies), and (c) reforming our global health agencies. As regards the first lesson, Hoffman

(2016) argued that properly funding public health interventions could prevent the spread of viruses. For one, heightened disease surveillance should always be present, especially today, wherein hypermobility and transcontinental travel are prevalent. For the second lesson, citing Hoffman and Røttingen (2012), Hoffman (2016) explained that there is a need to further invest in research and development so that new technologies and strategies could be realized, better preparing the global community for future outbreaks. Lastly, in terms of reforming our global health agencies, Hoffman (2016) noted that:

Many of us global health researchers have been ringing alarm bells for years... But now, the names and failings of these global health institutions have been splashed across the front pages of the world's leading newspapers and on prime-time television. Reforming WHO and the International Health Regulations, for example, has attracted political attention at the highest levels, including G7 heads of government and the United Nations Security Council. Ordinary citizens have discussed these agencies' failings in public forums, on the radio, and at their kitchen tables. (pp. 30-31)

However, Hoffman (2016) warned that “[l]earning lessons is great, but such lessons will only help the world and honour the 11,323 lives lost in this Ebola outbreak if we actually act upon them. So far that has not happened in a sufficiently meaningful way” (p. 30).

Considering the views mentioned above, it appears that learning from previous outbreaks is key in mitigating, if not preventing, the spread of potential diseases in the future. Note that this parallels the conclusion of Pergolizzi et al. (2021). In their research on the important lessons that may be drawn from select outbreaks (i.e., influenza, SARS, H1N1, and COVID-19), Pergolizzi et al. (2021) held that:

Each of the four pandemics in the past 100 years has had a devastating effect but has also left us with lessons to learn that may blunt or even prevent future disasters. The Spanish flu exposed a shortage of trained nurses that has since been largely remedied. The SARS epidemic drove home the fact that ECMO was an important part of treatment and guidance

is often urgently needed not just from experts but from frontline clinicians. In the H1N1 pandemic, the role of WHO in pandemic care was highlighted and certain key questions emerged about how well one global organization can manage a long-term pandemic. Today, in COVID-19 pandemic the role of “viral” media in the context of a viral pandemic will no doubt fuel many later studies. (p. 4)

Furthermore, Saqr and Wasson (2020, p. 4) also maintained that another area of concern related to the COVID-19 pandemic deals with warning signs, specifically the inability to act on warning signals that might help in mitigating risks. For one, Saqr and Wasson (2020) argued that, even before the spread of COVID-19, “we have had serious epidemics with new pathogens. Scientists, opinion leaders (e.g., Bill Gates), and World Health Organization (WHO) experts have warned that an unprepared world may face a nightmarish pandemic that no one seems to listen to” (p. 4). So, to address the risks of such existential threats, one must be aware of the relevant warning signs, like expert opinions and research that are already available beforehand. However, it could be said that proper awareness was not that present during the early stages of the COVID-19 outbreak.

In relation to the problem of acquiring medical supplies to fight against COVID-19, Lemire (2020) explained that:

Insufficient attention to early warning signs, inadequate stockpiling, lack of access to testing kits and personal protective equipment (PPE), and nationwide variability in the approaches to testing, distribution of PPE, and timing and degree of social distancing measures likely all affected the spread of the disease. Countries such as South Korea successfully contained the disease with robust testing, quarantine measures, monitoring, and contact tracing. (p. 380)

As regards the case of South Korea, note that the said country was reportedly also able to address the previously mentioned problem area by learning from previous experience. Lee et al. (2020), for instance, claimed that a possible reason why South Korea did relatively well in responding to the COVID-19 outbreak is that its crisis management system is well-

structured and adaptive. Park and Chung (2021, p. 5) further explained that “because South Korea had the opportunity to learn from the past and undergo institutional transformation... it performed relatively efficiently compared to countries that lacked such a precedence.”

So, in relation to the problem area regarding the ability to act on warning signals, it appears that a number of western nations were not able to take advantage of the lead time that they had to stock up the needed PPEs, build up their testing capacity, and the like (Amaro, 2020). Note that several of the said countries purportedly had around a month to prepare (i.e., upon first hearing about an outbreak that was spreading in China).

For Saracci (2020), the COVID-19 pandemic comes as a result of certain prevention failures because disease prevention is not given constant priority. The fact that such a crisis somehow came as a surprise to almost everyone (i.e., despite repeated warnings the last few years), Saracci explained, only demonstrates that, within the health system, the idea of prevention as a guiding principle of choice and action has not been fully realized; it is just an important option at present. Saracci (2020) posited that:

The high likelihood of an epidemic disaster has been repeatedly emphasised in the last two decades, most recently in the 2019 WHO-World Bank document on global (un) preparedness for health emergencies: the fact that it has occurred as a surprise (including to epidemiologists mostly looking in other directions) cannot be understood other than as the product of a way of thinking in which anticipation and prevention are important options but not constant guiding principles of choice and action. (p. 690)

Finally, in relation to the third problem area, Saqr and Wasson’s (2020, pp 4-5) ideas could also offer possible insights into why there have been failures to reach a global consensus on a problem (i.e., in a timely manner), specifically whenever there are infectious disease outbreaks. For one, with regard to the misinformation around COVID-19, Saqr and Wasson (2000, p. 5) stated that:

Some of the misinformation was being spread by politicians and celebrities. Such problems

with misinformation pose serious threats to disease control efforts. Misinformation is as old as information itself; however, it has been made worse with the massive instant connectivity, we have today. Of course, the problem of misinformation is far from solvable in the near future; however, the problem was taken lightly, and the world has not invested enough in countering the dangerous and far-reaching enemy misinformation. A strong consistent message was badly needed as early as when the threat of the outbreak became imminent. Efforts are needed to target both disease and misinformation, they are equally destructive.

Note that the issue regarding misinformation somehow parallels Lasco’s (2020) view that, when news about COVID-19 broke out, it was not taken that seriously. This is because some just dismissed the disease as if “[i]t’s just like the flu” (Lasco, 2020, p. 1418). Thus, for Lasco, there appears to be a simplification of COVID-19—it was downplayed by “promising quick fixes like an effective drug (e.g., hydroxychloroquine) or a forthcoming vaccine, or making simplistic arguments that pit liberty and the economy against public health” (Lasco, 2020, p. 1418), preventing the global community from reaching a consensus on the problem.

Boyd and Wilson (2021, p. 184) further maintained that the World Health Organization was late in declaring COVID-19 as a public health emergency of international concern (PHEIC) due to certain doubts that it may trigger a response much greater than the scope of the problem. Supposedly, such reluctance in labeling COVID-19 as a full-blown pandemic inadvertently slowed global responses. Watkins (2020, p. 1) also argued that identifying it as such would have allowed “nations, commerce, and healthcare... [to] move into a much more rational phase with resources targeted at those most at need.”

In a similar vein, The Independent Panel for Pandemic Preparedness and Response (2021), which was initiated by the World Health Organization to conduct “independent and comprehensive evaluation of the lessons learned from the international health response to COVID-19” (“Independent Evaluation of Global COVID-19 Response Announced”, 2020, p. x) claimed that there was a failure to find common

ground in the early days of the virus' spread. Their report mentioned that:

On 30 January 2020, it should have been clear to all countries from the declaration of the PHEIC that COVID-19 represented a serious threat. China had reported upwards of 20 000 confirmed or suspected cases and 170 deaths. The number of countries to which the virus had spread and where local transmission was occurring was growing by the day. Even so, only a minority of countries set in motion comprehensive and coordinated COVID-19 protection and response measures — a handful even before seeing a confirmed case, and the remainder once cases had arrived... The Panel's analysis suggests that the failure of most countries to respond during February was a combination of two things. One was that they did not sufficiently appreciate the threat and know how to respond. The second was that, in the absence of certainty about how serious the consequences of this new pathogen would be, "wait and see" seemed a less costly and less consequential choice than concerted public health action. (The Independent Panel for Pandemic Preparedness and Response, 2021, p. 29)

In essence, the lack of a mutual understanding regarding the virus somehow created varying immediate responses from countries around the world, resulting in the failure to promptly contain COVID-19.

Considering the three problem areas discussed above, perhaps the global community should not only learn from these ideas but also use them to prepare for the possible dangers that might result from other existential threats. By analyzing how infectious disease outbreaks were previously handled, there may be useful insights on how to better prepare for prospective AI-related safety issues, like those that might ensue from a singularity.

### **Initial Assessment of the Philippine Readiness for a Singularity**

With regard to research on the Philippine disaster response, significant work has already been done (Alcantara, 2014; Santiago et al., 2016; Brower et al.,

2014). On the other hand, there are also a handful of studies on the impacts of AI technologies in the same country (Concepcion et al., 2019; Manguerra et al., 2020). For example, Kim et al. (2019) looked into this issue specifically in the context of the readiness of the Philippines for a fourth industrial revolution. However, it may be argued that, considering the potential dangers of advanced AIs, more research must be done on how the Philippines might be affected by an intelligence explosion. The three problem areas noted earlier shall be operationalized to act as provisional assessment measures to preliminarily examine the country's preparedness for a singularity. Key instances of how the Philippines, specifically its national government, responded to the COVID-19 pandemic will be cited and correlated with such problem areas (i.e., to ground the idea that the Philippine disaster response to an intelligence explosion needs to be worked on).

### ***Learning from Experience***

In terms of the problem area of learning from previous experiences, it seems that this issue obtains in the Philippine context. For one, the country has suffered from a number of catastrophic typhoons, volcanic eruptions, earthquakes, and other natural disasters. Despite these past experiences, the government has yet to completely close the gaps in emergency response management and rehabilitation (Federigan, 2020).

A recurring obstacle that the Philippine government has constantly faced is the procurement of disaster-related projects, medical supplies, and the like. In the wake of super typhoon "Yolanda" (referred to as "Haiyan" internationally) in 2013, for instance, the national government faced several challenges in providing victims with good quality shelters (Araja, 2018), processing contracts of third-party suppliers and service providers (Nonato, 2018), and completing rehabilitation projects efficiently, to name a few, which marred the recovery efforts (del Mundo, 2014). Note that, in relation to the COVID-19 response of the government, almost the same set of procurement-related issues persists.

In responding to the COVID-19 crisis, the Philippine government encountered issues in procuring PPE and other medical gear necessary to protect healthcare workers (Buan, 2020). Note that the costs of these equipment were also a subject of an investigation by the country's lawmakers (Fernandez, 2020). Moreover, the government lagged in securing deals for

a vaccine (Tomacruz, 2021), while around 50 countries have already started administering them (“Some 50 countries start Covid-19 vaccinations”, 2020). So, it appears that the root of the problem, in a way, points to certain procurement policy issues.

It has been said that the Government Procurement Reform Act, Republic Act 9184 (2003), appears to be prone to delays (Galvez, 2020). Though the enactment of Republic Act 11469 (2020), or the Bayanihan to Heal as One Act, aims to address this problem by exempting crisis-related procurement activities from the lengthy process of competitive public bidding, some have observed that the mode of procurement embedded in this law remains vulnerable to corruption and substandard quality (Borja, 2020). Jones (2013, p. 2) further maintained that the procurement system in the Philippines, despite the several reforms initiated by the government, is only good on paper because these mechanisms “have all too often been undone by serious weaknesses in the system of implementation.”

If Philippine procurement laws and policies, if not their strict implementation, have already been cited as causes of concern in the past, then certain steps should have been taken to aptly address them. As mentioned earlier, the country periodically suffers from natural disasters, like typhoons, earthquakes, and so on. Thus, the disaster responses to these calamities, specifically the challenges surrounding the country’s procurement system, should have been seriously treated as learning opportunities to mitigate risks from prospective large-scale catastrophes such as the COVID-19 outbreak.

Furthermore, the spread of COVID-19 is not the first time that the Philippines has encountered a large-scale pandemic. The influenza pandemic of 1918-19 bears striking resemblances to the challenges confronted by the said country at present. In explaining the effects of the said pandemic, Gealogo (2009) stated that:

The influenza pandemic of 1918-1919 was one of the deadliest and most virulent epidemics ever to hit humanity. By most estimates, more than half of the global population became ill and at least 50 million individuals died in the pandemic. Unlike the regular seasonal flu, which tends to victimize mostly the elderly and the sick, the flu virus of 1918 killed mostly young adults. Ninety nine percent of excess deaths were among people under 65 years old. In most countries, mortality peaked in the 20- to 34-year-

old age group. Women under 35 accounted for 70 percent of all female influenza deaths. The 1918 influenza pandemic killed more people in a single year than the bubonic plague in the Middle Ages killed in a century. (p. 262)

In the Philippines, the disease also spread in “distinct waves, with noticeable age-specific mortality rates comparable to the experience of other countries” (Gealogo, 2009, pp. 272-273), which eventually claimed the lives of around 80,000 Filipinos (Tiglaol, 2020).

An interesting point to note on the Philippines’ response to the influenza pandemic is the type of issues that arose back then. Gealogo (2009) contended that the country’s response to such was marred by numerous issues, like the shortage of health services personnel, ineffective quarantine measures, and other bureaucratic problems, to name a few. Note that these problems somehow manifest in almost the same form in the present COVID-19 crisis. Perhaps such issues could have been avoided, if not mitigated, if only certain lessons of the past were taken more seriously.

### ***Warning Signs***

As regards the second problem area (i.e., the inability to act on warning signs), it appears that this issue also prevails in the Philippines because there are instances wherein the national government does not seem to give that much credence to alerts raised by key experts, or provided by certain studies. In 2009, for example, the staggering flood levels brought upon by tropical storm “Ondoy” (internationally called “Ketsana”) left 241 dead, 394 injured, and incurred Php 570,187,587.00 in damages to property (Sato & Nakasu, 2011). In a way, these outcomes could have been mitigated if only certain warning signs were acted upon accordingly.

As early as the 1970s, urban planner Felino Palafox, guided by a 1977 World Bank-funded study, already forewarned the national government of a likely catastrophic flooding around Metro Manila (i.e., unless certain measures were taken). The said warning, in turn, led to a proposal to create a “Parañaque spillway to flush out the excess water to the Laguna Bay and South China Sea, but this was never done” (Gagalac, 2009). Palafox further explained that a bureaucratic development process has added to the hindrances of having these projects materialize, stating that:

You see the irony here. National government agencies are aware that there is a flooding level of so many meters, then another national government agency would approve subdivision plans for only nine-meter high houses. There are about 32 signatures to obtain just to do a development project. It's like an obstacle course. (Gagalac, 2009)

Additionally, the World Bank also published a report entitled *Natural Disaster Risk Management in the Philippines Reducing Vulnerability*, in 2005. According to the said report, the Philippines is “one of the most natural hazard prone countries in the world” (World Bank, 2005, p. S-1). With regard to the issue of flooding, one of the recommendations was for Metro Manila to further “[i]mprove [its] existing flood control and drainage structures and facilities” (World Bank, 2005, p. 324). In one sense, such may also be construed as an early warning sign, which, if only acted upon, could have decreased the casualties and losses brought about by tropical storm “Ondoy.”

Perhaps other studies on the issue of flooding may also be employed as early warning signals. In their study on the effects of the late-2004 typhoons in Eastern Luzon, for instance, Gaillard et al. (2007) already identified political, socioeconomic, and demographic factors that contribute to the problem of mitigating flood-related risks. They further maintained that:

The late-2004 disaster in Eastern Luzon can hardly be called ‘natural’ for the sole reason that it has been triggered by heavy typhoon-linked rainfall and landslides. Nor may it be attributed only to illegal loggers. This disaster is rather deeply rooted in three age-old and interacting socioeconomic factors, which are unmanaged population growth, access to land and resources and rampant corruption within the government. (Gaillard et al., 2007, p. 268)

So, it may be argued that the national government does not lack the resources in terms of early warning signs, if not critical information, which are available way before certain disasters occur; what is crucial is how it makes use of such.

Note that the Philippines’ inability to respond efficiently to warning signals was also evident in

other natural disasters, particularly in the January 2020 eruption of Taal, one of the country’s most active volcanoes. Despite warnings from local seismologists as early as March 2019 (Flores, 2020), thousands of residents living on the volcano island and in high-risk areas had to be evacuated as the volcano spewed stones and clouds of ash. Unfortunately, it seems that the Philippine government was also not able to timely act on the COVID-19-related warning signs.

Before COVID-19 evolved into a full-blown pandemic, prompting the World Health Organization to declare it a PHEIC on January 30, 2020, several warning signals emerged to aid the country’s response in efficiently constraining the spread of the virus. For one, the first death from what was then referred to as a “mysterious pneumonia outbreak” was reported as early as January 11, 2020 in Wuhan, China (Lin, 2020), where the virus is believed to originate. Within 10 days, the virus was detected in Asian countries outside China, specifically in Thailand, Japan, and South Korea (Wee, 2020). However, the Philippines only restricted travel by January 31, 2020, and only for passengers coming from Wuhan (Beltran, 2020). By February 1, 2020, the first COVID-19-related death outside of China was reported in the country.

The first COVID-19 fatality in the Philippines was a Chinese man from Wuhan who arrived in the Philippines via Hong Kong on January 21, 2020 (dela Cruz, 2020). To curb the spread of COVID-19 in the Philippines, the national government expanded the travel ban and implemented a nationwide lockdown in March, two months after the first COVID-19 death was reported (Luna, 2020). If only the said warning signs were considered more seriously, like in the effective and efficient imposition of travel bans, perhaps the spread of the disease could have been further mitigated. Note that the first COVID-19 fatality entered the country on January 21, 2020—10 days before the first travel restriction was imposed.

### ***Consensus on the Problem***

As for the problem area of reaching a timely consensus on a problem, it may be said that the Philippines’ COVID-19 pandemic response has been marred by medical populism. As per Lasco and Curato (2019, p. 1), the latter may be defined as a “political style that constructs antagonistic relations between ‘the people’ whose lives have been put at risk by ‘the establishment’,” and the government seems to have

employed this strategy in confronting the COVID-19 crisis.

Lasco (2020) pointed out that the Philippine government has simplified the pandemic, dramatized the crisis, forged divisions, and invoked (false) knowledge claims, which caused additional confusion and delay in properly addressing the predicament. Supposedly, all of such transpired during the first half of the country's COVID-19 response, while other nations have already deemed the pandemic as something to be wary of. Lasco (2020) further noted that:

President Rodrigo Duterte... was quick to simplify and downplay the pandemic, only ordering a ban from Hubei on January 31, after the province had already been placed under a 'lockdown' by the Chinese government... he claimed that 'Filipinos are not very easily hit by the illness. In the first place, prayer is powerful... It's when you do not follow rules that trouble comes in and that's true for all human acts.' (p. 1421)

So, it seems that the government did not consider the COVID-19 pandemic of high existential risk (i.e., at least during the time that other countries were already taking it seriously). Note that there are some similarities here in how the Philippines responded to the influenza pandemic of 1918-19.

Gealogo (2009) explained that:

While other societies were quick to ascribe an external origin to the disease, Philippine officials were quick to ascribe to it an autochthonous origin, and were comfortable in claiming that the epidemic was native to the country. The use of the local term *trancazo* helped in the linguistic localization of its origin. By using *trancazo* in official discourse, the health officials were no longer concerned with "othering" the disease, but rather were comfortable in owning it. (p. 286)

Furthermore, Gealogo (2009, p. 289) also argued that the influenza pandemic became difficult to contain because there was not much effort to recognize the virus' foreign origin. This is because authorities have already dismissed it as something indigenous. Thus, it

appears that, since then, the Philippines has somehow lacked in reaching a consensus on a problem (i.e., in a timely manner). In light of the COVID-19 outbreak, note that there are other instances wherein challenges related to this problem area also manifest themselves.

There were difficulties, for instance, in reaching a consensus regarding the country's vaccination plan because a number of lawmakers proposed alternative measures to improve its pace. Senators pushed to allow local government units and the private sector to engage vaccine makers on their own, as "this would be faster than having all deals coursed through the national government" (Tomacruz, 2021). However, the country's vaccine program chief, Carlito Galvez Jr., countered that "no company anywhere in the world will go to the [local government] or to the private sector" (Yap, 2021).

Earlier, senators also urged the government to ban travel from Europe due to a new coronavirus strain in the United Kingdom. Specifically, the health department was told to act immediately by Senator Franklin Drilon, citing the earlier decision of the government agency not to impose a travel ban on China as early as February 2020 (Mercado, 2020). The travel ban was imposed on all flights from the United Kingdom only but was later expanded to include more jurisdictions (Musico, 2020). So, it seems like the Philippines has to further work on the third problem area identified above to avoid these issues in the future.

Citing the key instances above, it could be said that the Philippine COVID-19 response possesses all three problems noted above. For one, the national government, despite facing almost the same challenges in previous disasters, failed to anticipate certain pandemic-related issues, like stocking up on medical supplies, ensuring an adequate number of healthcare personnel, and preparing for post-disaster rehabilitation and recovery efforts, among others. As a result, the said pandemic response may be considered less strategic than it could have been. The government also seems to have ignored expert opinions, relevant research, and local and international reports that would have informed a more timely pandemic response. Lastly, it appears that government officials failed to reach a timely consensus on risk assessment and strategy, leading to a response that is fragmented and decentralized.

For a prospective Philippine singularity response to be effective, it would help if the government

seriously considers the three problem areas identified earlier. First, it needs to evaluate how and why we consistently have recurring issues during disasters. Just like COVID-19 and any other large-scale disaster, a singularity would compromise and weaken our infrastructures in economics, politics, and so on, while also threatening our very existence. Such variability would disrupt the norm, if not increase the demand for things that would either prevent, address, or mitigate the risks that come along with it.

Disasters pose significant security threats; quality of life would naturally be disrupted or reduced in different ways and degrees. Unlike typhoons, earthquakes, and other natural disasters, however, there may be no clear-cut rehabilitation plans (i.e., for things to normalize) when a singularity does occur. Thus, a well-thought-of response that considers the severity of the potential dangers and disruptions must be in place and ready for implementation whenever appropriate. Perhaps people could also be better educated on what the singularity is all about in the first place. Hoffmann and Muttarak (2017) maintained that “education seems to provide a protective effect against natural disaster threats” (p. 44). If the said strategy of educating and learning from the past works in preparing for natural disasters, then such should also be exploited in planning for any singularity response.

Furthermore, the national government needs to consider and respect expert advice, conduct its own research, and be informed on the recent developments related to AI and the singularity. This would help identify the warning signals that would prompt us to set in motion a proper singularity response. Additionally, Alcayna et al. (2016) further noted that:

Risk perception, cognitive barriers and cultural values shape how people will respond to disaster warnings and preparedness initiatives. Interventions and knowledge campaigns must be tailored to ensure maximum acceptance and adoption by people and their communities.

So, to craft an appropriate response, all these factors should be considered and further studied as well.

Finally, government agencies need to have a consensus on the singularity problem, specifically, a value, knowledge, and action agreement. There must be an agreement on which counts as priority needs beforehand, so that appropriate plans of action can

be carried out to mitigate potential risks. They also need to agree on what the singularity is and, more importantly, its impact on our quality of life. Having a consensus on these things would make it easier for government agencies to agree on an action plan. However, one aspect related to such that also needs to be further studied is the level of participation of each government agency concerned. Hall (2010, p. 120), for instance, noted that “[v]arious government agencies have differential capabilities in disaster management with some agencies... having a national response center and technical support in place while others... have no existing plans.” So, the seamless coordination and participation of all government agencies involved are necessary because such allows for an appropriate disaster response that is not random—all decisions are instant and available but properly informed.

## Conclusion

Considering its response to the recent COVID-19 pandemic, it seems that the Philippines would likely be challenged in addressing future, large-scale disasters such as what an intelligence explosion might ensue. The three problem areas present in pandemic-related research cited earlier appear to be true in the Philippine context, especially if one looks into the nation’s track record of addressing disasters. Thus, further research on topics related to such should be endeavored.

For the Philippines to be better prepared for a singularity, if not other existential threats as well, its national government, academicians, and other non-government organizations, to name a few, should further promote and embark on research that focuses on the potential risks that would endanger the existence of the said country. Note that such research would be similar to those conducted for other nations, like Israel. The Institute for National Security Studies, for instance, released a study entitled *Existential Threat Scenarios to the State of Israel*, in 2020. As per Winter et al. (2020, p. 14), the said work “provides an analysis of scenarios that could, in the future, pose existential threats to the State of Israel, while seeking to encourage governmental and public discussion on the issue.” Discussions regarding the preparedness of the Philippines for future existential risks would be more meaningful if the said type of research were readily available.

Furthermore, perhaps lessons that may be drawn from analyzing other existential threats could also be employed in projecting and preparing for the potential impacts of a singularity. Cooper and Nagel (2022), for example, made comparisons between the COVID-19 crisis and climate change (i.e., to underscore the public and policy responses that would help address prospective disasters). Considering that there is already climate change-related research in the Philippines (Bollettino et al., 2020; de Leon et al., 2016; Lasco et al., 2009), the possibility of gaining key insights from these studies, if not translating significant lessons from such in relation to the singularity, should be further explored.

Lastly, more research must be done in relation to the potential impacts of AI technologies in the Philippines. One important issue related to such that should be further looked into deals with modeling autonomous weapons systems (AWS), which may be defined as artifacts “that, once activated, can select and engage targets without further intervention by a human operator” (Department of Defense, 2012, p. 13). Though there have been pioneering studies on how the development and deployment of lethal AWS relate to Philippines laws (Nonviolence International Southeast Asia, 2020), more concrete research on preventing catastrophes related to these advanced technologies needs to be undertaken.

The challenge now is on how to further prepare for potential catastrophes that may bring about significant existential risks (i.e., no matter how minute or seemingly impossible these disasters might be), like what might possibly result from a singularity. We, thus, end with an appeal for a more comprehensive assessment of the Philippine disaster response management toward a more informed singularity response plan. If our nation misses the small window to prepare for the said large-scale disaster, it might be too late to do anything practically.

### Declaration of Ownership

This report is our original work.

### Conflict of Interest

None.

### Ethical Clearance

This study was approved by our institution.

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