


Strengthening Integrated Emergency Handling as Part of Global Health Resilience

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Article Info	ABSTRACT
Keywords: Global health resilience, GHSA, Indonesian National Armed Forces (TNI), pandemic, emergency response.	Global health faces major challenges due to high population mobility, climate change, and the threats of infectious diseases and bioterrorism. Indonesia, with its strategic position, plays a crucial role in strengthening global health resilience. The Global Health Security Agenda (GHSA) serves as a key initiative to prevent, detect, and respond to cross-border health threats. The Indonesian National Armed Forces (TNI) hold a strategic role in GHSA by enhancing emergency health response centers, promoting civil-military interoperability, and fostering international collaborations with WHO, CDC, and other global organizations. Strengthening a rapid emergency response system and multisectoral coordination is essential in addressing potential pandemics and biological threats. This study highlights the importance of strengthening emergency preparedness capacity through training, infrastructure development, and adaptive policies in response to global health challenges. The findings indicate that integrating health and security approaches, along with strong international cooperation, can enhance both global and national health resilience.
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INTRODUCTION

Health a country in development global moment This has shift from the issue Which *low politics* Which nature dominant policy national become *high politics* involving regional and global areas. These changes occur as a result of globalization. happen a number of decade Then Which increase intensity interaction And population exchange between countries. Rapid and massive movement of people has implications for public health conditions throughout the world, especially the risk of spreading disease. This risk will increase if population movements are carried out irregularly. Refugees/asylum seekers who leave their home areas due to conflict, for example, prone to to problems health like hunger and malnutrition and lack of access to adequate health services.¹

Indonesia is in a strategic position at the intersection of two continents and two oceans and is the largest archipelagic country in the world. with 300 entry and exit points for the movement of people, animals, goods and services at the border. In 2019, before the COVID-19 pandemic, the flow of human movement in Indonesia reached 16.11 million traveler overseas; matter the Not yet including with the flow of illegal immigrants has begun to make Indonesia not a transit country but a destination country.²

Indonesia as the driving force and chair of the GHSA (Global Health Security Agenda) Troika in 2016 initiated efforts to prevent the outbreak from becoming a global health problem. epidemic regional or pandemic, detection fast And respond threat to help build the capacity of countries to create a safe and secure world. protected from threat disease infectious And increase security global health as a national and global priority.

In implementing GHSA, the TNI has the ability and capacity to carry out 11 package action with utilise House Sick, boat House Sick and a health battalion manned by medical personnel. In addition, the TNI has taken steps strategic Good on level tactical, operational and also strategic by working with all stakeholders both domestically and abroad. Strengthening the handling emergency is Wrong One package action from GHSA, And In this case, strengthening will increase the level of preparedness and readiness in facing global health security threats.

RESISTANCE HEALTH GLOBAL AND CONDITION MOMENT THIS

The general global health condition is currently experiencing a lot of progress. WHO noted that there has been an improvement in life expectancy at the world level.³ There has been an increase country Which own level hope life on 80 year from 15 countries to 29 countries in the period 2002-2017; then the increase in the birth rate is twice as much as the death rate. In the period 2005-2015 there was a decrease in deaths of children under 5 years; decreased by 25% in the same period. Likewise, the death rate from other diseases decreased such as HIV decreased by 50%, malaria decreased by 49%, cardiovascular disease decreased by 14%, cancer decreased by 11% and due to accidents decreased by 7%. This condition provides hope in achieving the 2030 Agenda for Sustainable Development (Sustainable Development Agendas/SDGs).

But the world still faces major challenges in achieving these targets. SDGs.⁴ On year 2015, 2.1 million person infected HIV so that add total people Which life with HIV on end year 2015 become 36.7 million person. Data The same also shows that in 2015 there were 212 million cases of malaria in the world and has swallow victim as much as 429,000 soul. In year Which The same there is 10.4 million new cases of Tuberculosis (TB) and 1.4 million deaths due to TB.⁴

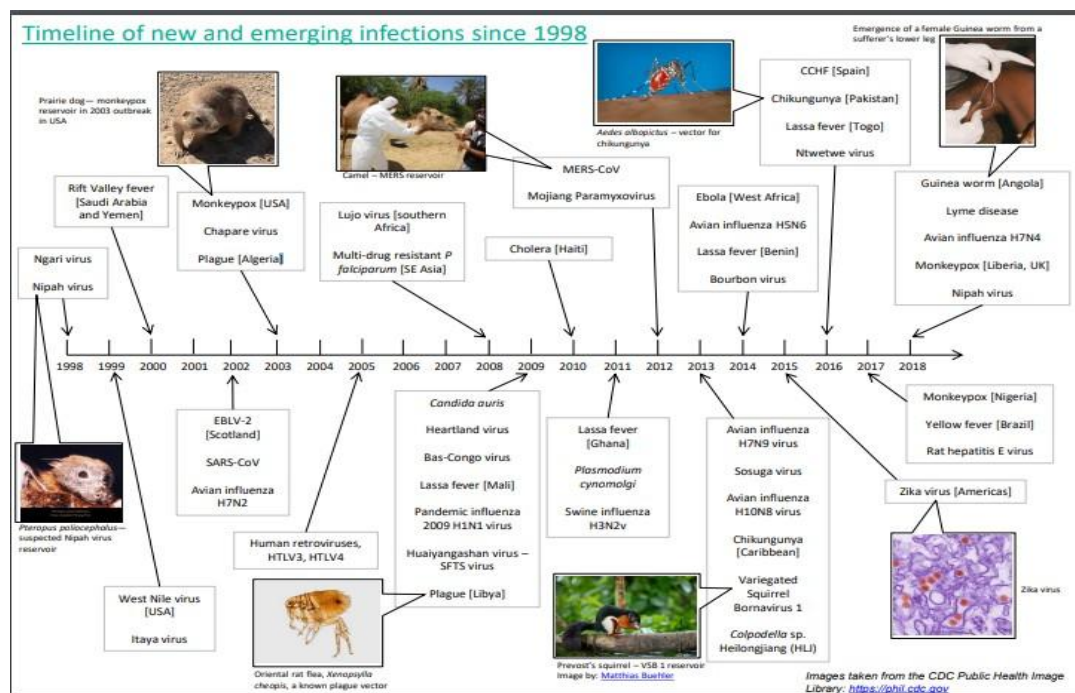
More carry on, diseases infectious Also will Keep going become threat global.⁵ Globalization causes infectious diseases to spread faster and with wider reach. History has recorded how global pandemics can cause loss big Good in victim soul and also loss economy. The plague pandemic known as The Black Death occurred in Europe and Asia in the 14th century and claimed the lives of 375 million people.⁶ Influenza viruses have caused three pandemics: H1 Spanish Flu, H1N1 Swine Flu, and H5N1 Avian (Bird) Flu. Based on research, the greatest threat of a pandemic is in tropical and subtropical areas where there is a high level of interaction between humans and animals, especially wild animals.⁷ The "hotspot" areas of this pandemic include eastern China, Southeast Asia, eastern Pakistan, northeast India and Bangladesh, Central America and countries in central Africa such as Guinea, Nigeria, the Democratic Republic of Congo, Rwanda, Burundi and Ethiopia.⁸

In addition to natural factors, a pandemic can occur due to deliberate factors using biological weapons. The development of biological weapons today has developed much

further compared to when the Biological Weapons Convention (BWC) was agreed in 1975. With advances in science and technology, biological weapons can now be obtained more easily at a lower cost. Advances in genetic engineering technology have succeeded in producing *Clustered, Regularly Interspaced, Short Palindromic Repeat* (CRISPR). This technology has two uses, where on the one hand this technology can be used for breakthroughs in medical therapy and vaccine production, but on the other hand side other can used For increase malignancy virus/bacteria as biological weapons. The CRISPR technology hardware is openly traded and inexpensive .⁹

Predicting future pandemics is extremely difficult. That is why in 2015, WHO held a meeting of experts in Geneva to do identification Emerging Infectious Diseases (EID) Which will pose a threat in the near future.¹⁰ Then WHO updated the list of types of diseases that have the potential to produce a pandemic by publishing the WHO Research & Development (R&D) Blueprint in February 2018. The Blueprint identified a number of priority diseases that have the potential to become a pandemic and require further research, including: (Figure 1)

1. Crimean Congo Hemorrhagic Fever (CCHF)
2. Ebola Viral Disease And Marburg Viral Disease
3. Lass Fever
4. Middle East Respiratory Syndrome Coronavirus (MERS-CoV) And SARS
5. Nipa palm And henipaviral diseases
6. Rift Valley Fever (RVF)
7. Zika Disease
8. Disease X



Picture 1. Line Time Journey Disease Infection Which arise since 1998

Since the discovery of 4 coronaviruses that are globally endemic to humans, coronaviruses have emerged and spread pandemically in an era before viruses were recognized as pathogens for humans. Starting from the severe acute respiratory syndrome (SARS) coronavirus, SARS Co-V in 2002-2003, the Middle East respiratory syndrome coronavirus, MERS-CoV in 2012 to the current global pandemic, COVID-19 in late 2019 is a recent example of disease pandemic Which new, No unexpected And nature destroy. ¹¹ COVID Pandemic 19 until moment This Keep going rolling with emergence wave attack. Third Wave in Europe, second wave of attacks in Asia, the emergence of new, more virulent variants and the ability of the virus to *immune escape* to vaccination is a challenge in a number of year forward.

GHSA (GLOBAL HEALTH SECURITY AGENDA) AND ROLE Indonesian National Armed Forces

Starting with the increasing challenges in controlling the spread of disease due to the emergence of new diseases and the increasingly intense global movement of animals and goods that can become agents of spreading infectious diseases, happen revision on IHR (International Health Regulation) year 1969 Which happen in the year 2005 with focus on response fast source plague compared to on efforts to prevent the spread of disease at ports and airports in the IHR 1969. ¹⁰ The revision requires countries to meet the "8 core capacity requirements" that enable countries to detect, assess, notify and report outbreaks.

¹²

For more intensify forum Which handle health in level global, In February 2014 the GHSA (Global Health Security Agenda) was launched. This initiative appear as form response to increasing vulnerability public global to the possibility of the emergence of various new types of diseases and pandemics. GHSA aims to carry out preventive measures, detection and rapid response to various infectious disease threats at the global level, both due to natural causes or the presence of element intention or disaster. GHSA is a vehicle in facilitating implementation For reach capacity core from agreement INR 2005. GHSA involves multi-sectoral, multi-stakeholders and several world body partners, namely WHO (World Health Organization), FAO (Food and Agriculture Organization), OIE (World Organization for Animal Health), Interpol, ECOWAS, UN Office for Disaster Risk Reduction (UNISDR), World Bank, G7, APEC, African Union and the European Union. ¹³

At a meeting in Washington DC, United States in September 2014, it was agreed that there would be 11 action packages against biological threats divided into 3 clusters, namely:

¹³

Prevent:

1. Antimicrobial Resistance Antimicrobial
2. Zoonotic Disease Zoonosis
3. Biosafety and Biosecurity
4. Immunization/Immunization

Detect/Detection

1. National Laboratory System/System Laboratory National
2. Real-Time Surveillance/Surveillance

3. GHSA Reporting

4. Workforce

Development/Strengthening HR Response/Response

1. Emergency Operations Centre/Center Emergency Handling
2. Linking Public Health with law and Multi-sectoral Rapid Response
3. Medical Countermeasures and Personnel Deployment Action Package/Mobilization of aid and medical personnel

GHSA is driven by a steering group in which Indonesia is included. The mechanism for selecting the chair uses the Troika system, namely three countries involving the previous chair, the current chair and the next chair). Indonesia became the chair of the Troika in 2016 and was appointed as *the Lead Country* for zoonotic diseases and *Contributing Country* for microbial resistance, surveillance and legal framework and multisectoral rapid response.

In year 2016 Indonesia become Chairman Three GHSA (Minister Health Republic of Indonesia, Prof. Dr. dr. Nila Djuwita Faried Anfasa Moeloek, Sp.M(K)), together with the TNI became the Chairperson General from ICM (International Committee of Military Medicine) that is Brigadier General TN dr. Terawan Agus The Prince Sp.R (K)RI happen synergy (interoperability civil And military) in the implementation of the GHSA program in the form of joint WHO response exercises in response to epidemics and pandemics at the international and national levels. level operational Good technical, tactical And strategic Indonesian National Armed Forces own ability and capacity in implementation 11 package action GHSA with utilise structure TNI military health operations from the regions to the center. In 2020, Indonesia initiated the resolution " *Global Health and Foreign Policy: Strengthening Health System Resilience through Affordable Healthcare for All* " which emphasizes the importance of easily accessible and affordable health services to strengthen the global health resilience system. This resolution is also in line with Indonesia's role as Chair of the Global Health and Foreign Policy Initiative, which actively supports global efforts to overcome the impact of the Covid-19 pandemic.¹⁶

The TNI's strategic role in the global arena is the result of *the Jakarta Call for Action* during *the Table Top Exercise* in 2017, which was a collaboration between the TNI, the Indonesian Ministry of Health, WHO, and the US DTRA (*United States Defense Threat Reduction*) . *Agency* . Matter This is form cooperation First WHO with military intervention. In 2019, at the GHS meeting in Sydney, the TNI revealed that the resilience health is threat for security national Which can multilateral in nature; And on meeting the issued *The Sydney Statement on Global Health Security* .

STRENGTHENING CENTER EMERGENCY HANDLING

In the GHSA document, strengthening emergency response centers is *Response 1* and it is stated that the target within 5 years for each country is to have a general emergency operations center with a minimum standard of:¹⁵

1. Look after team responsive fast multisectoral (Rapid Response Team) Which trained, functional and has a network of " real time " biosurvey monitoring laboratories and information systems
2. Staff EOC (Emergency Operations Centre)/Center Handling Trained emergency

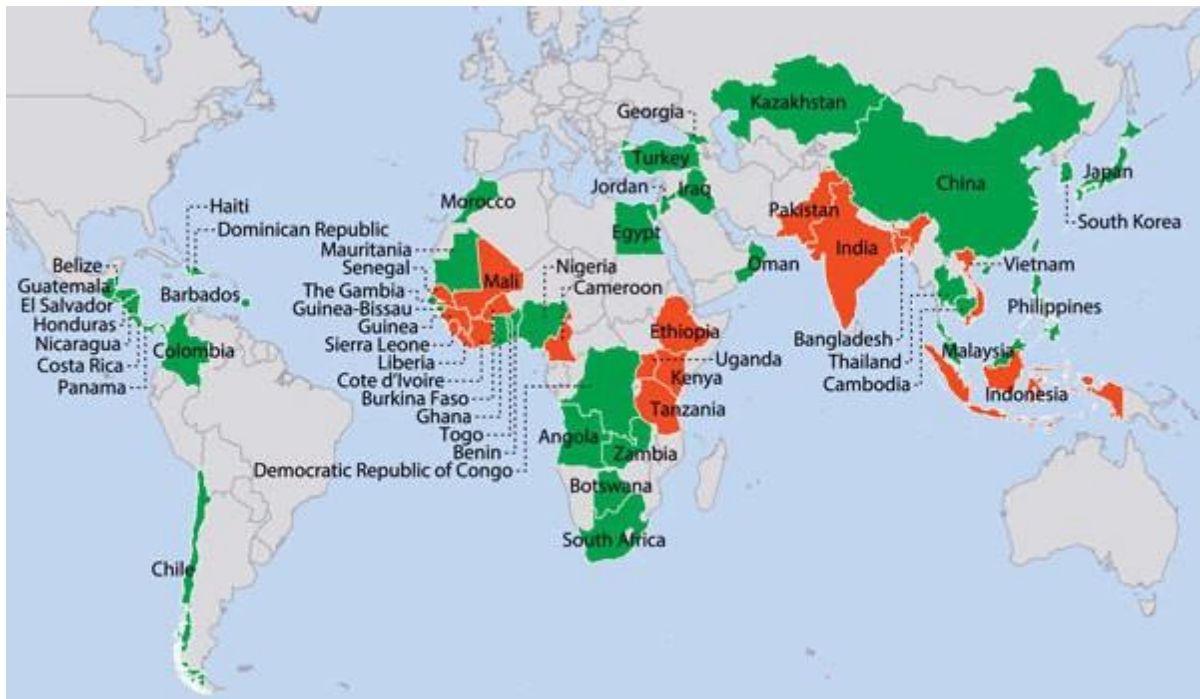
responders are able to activate a coordinated emergency response within 120 minutes of identifying a public health emergency.

3. Team Responsive Fast Multisectoral (PRC) is team response fast Which consists of from a trained multidisciplinary team that can be used for health emergencies public in part wherever from country in time 24 O'clock to investigate and characterize epidemics, evaluate patients, collect clinical specimens, oversee containment measures, and communicate with public health authorities.
4. A "Real Time" network is a network or system where the information produced by One node in network or system can distributed to other nodes in the network or system within 60 minutes.
5. Activating a coordinated emergency response is defined as conducting a first conference call or meeting including all relevant emergency management sectors and functions (e.g., command/management, operations, planning, logistics, administration/finance, and communications).

The countries that play a role in *the Leading Country* in this action package are Malaysia and Turkey, while the contributing countries are Ethiopia, Kenya, Saudi Arabia, England and Vietnam.

CDC AND STRENGTHENING CENTER HANDLING EMERGENCY

In 2014, the United States government signed a commitment to provide support to the GHSA, a collaboration between countries and international organizations that serves as a roadmap for countries to achieve the capacities outlined in the 2005 IHR.¹⁷ The Center for Disease Prevention and Control (CDC) as one of the agencies in the United States is in a position to provide an effective technical system for the Response 1 action package, namely the EOC (Emergency Operations Center). While the aim of the action package highlights the need for every country to have a functioning PHEOC (Public Health Emergency Operations Centre), what *the Global Health Security Demonstration Project has shown is that that response responsive fully only da[at achieved with program Comprehensive PHEM (Public Health Emergency Management)*. Through GHSA, CDC has provided technical assistance to 17 countries in 3 areas: training and mentoring PHEM staff; strengthening adequate PHEOC infrastructure; and developing a streamlined system, including SOP plans and liaison with other health ministries (figure 3).¹⁸



Picture 3. CDC PHEM. Color red to signify agreement GHSA PHEM; Green to signify agreement PHEM another; color gray not a and agreement. ¹⁸

CDC developed a standard package for technical assistant activities using several foundational emergency management documents including the International Organization for Standardization 22300 Societal Security series; the WHO EOC Framework; and industry-specific standards, such as the National Fire Protection Association 1600 Standard on Disaster/Emergency Management and Business Continuity/Continuity of Operations. ^{19,20} Of the 17 GHSA countries, 16 have received CDC in-country technical assistance and completed data collection for emergency management technical assistance planning, and 12 have conducted CDC emergency management training. Although the WHO EOC Framework provides guidance for countries on how to establish PHEM programs, each country faces unique circumstances and challenges in implementing these programs. Laws, policies, and authorities vary widely, and because PHEM is still a relatively new concept for most developing countries, high-level support must be developed. ¹⁸

The United States CDC is working with DTRA to address the health crisis. in Jordan in planning preparation emergency, training EOC, and exercises focusing on civil-military coordination during humanitarian crises and health emergencies.

STRENGTHENING CENTER EMERGENCY IN COUNTRY OTHER

UGANDAN

Ability ²¹

PHEOC Still in stage development with functions Which explained although it overlaps with several objectives, in short the platform needed to plan, organize, support, maintain, develop and evaluate performance to meet the elements of success namely preventing, detecting and responding. The EOC does establish district preparedness for reporting and

reporting electronic case.

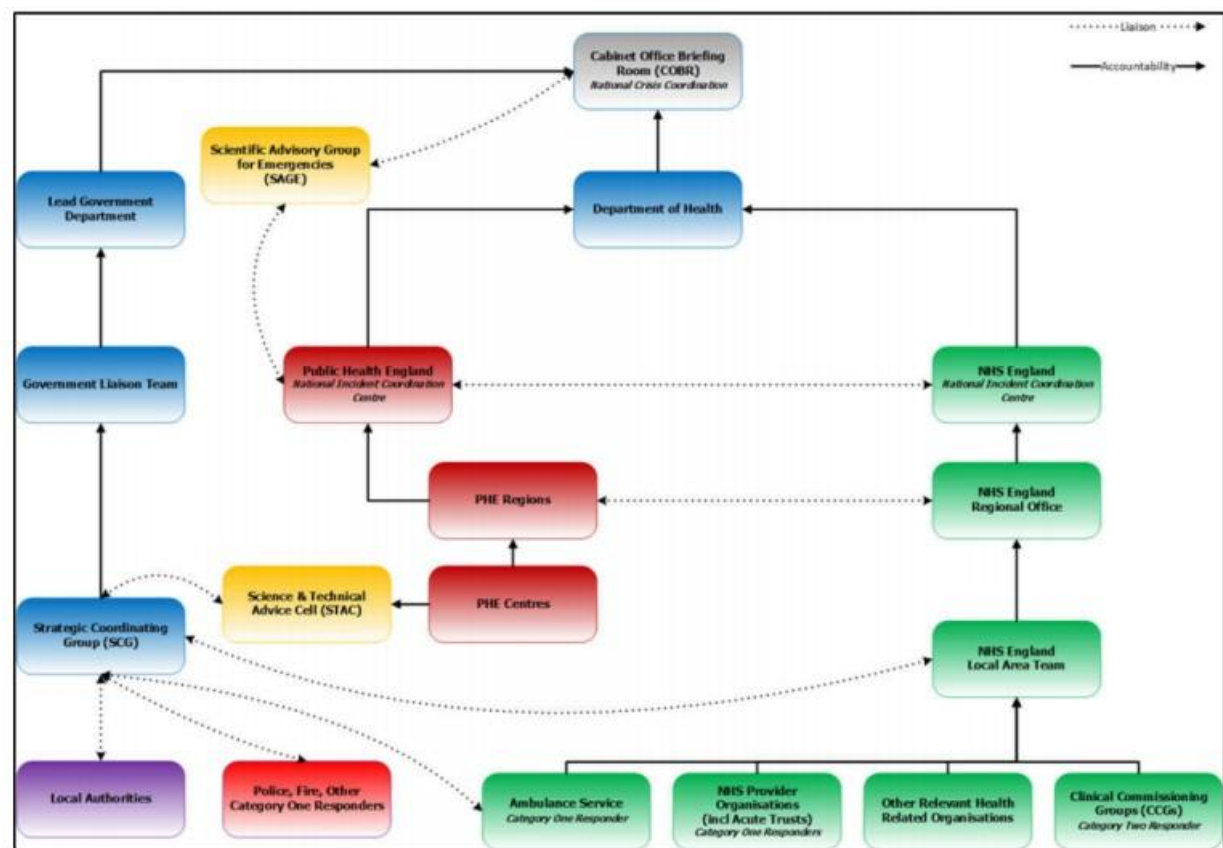
Suggestion²¹

For stronger commitment and support for Health Emergency Coordination at all levels of Government of the Ministry of Health, through HSSIP priorities and investments in National Health Policy and Systems, PHEOC must entered to in office new For operational And emergency coordination health public. Which will report every existing developments to the Director General of Health Services to provide a mandate and authority in coordinating all public health emergencies.

ENGLISH

Ability²²

Coordination national. Response emergency national coordinated through the leadership EOC, Center coordination incident national PHE Which have track communication with department health, NHS And department other And agencies both local, regional and national. (shown in the scheme below)



Picture 4. Coordination National³⁵

Escalation or de-escalation will be driven by the nature, scale and complexity of the emergency, coupled with Public Health England's response expectations. Every response incident can changed after held review, including risk assessment from a strategic perspective and operational management of emergencies.

Suggestion ²²

Effort response health global moment This need coordinated with more well and standard triggers for response are identified and agreed. Enhancing established mechanisms such as WHO GOARN can enable a faster and better coordinated approach to providing an international response to health crises. Establishment of pre-accreditation teams And trained Which can accessed And spread out by WHO GOARN would quickly help facilitate this, as FAO has done.

Table 2. Criteria Escalation ²²

Criteria for Escalation	Criteria for De-escalation
the need for additional internal resources	reduction in internal resource requirements
increased severity of the incident	reduced severity of the incident
increased demands from partner agencies or other government departments	reduced demands from partner agencies or other government departments
heightened public or media interest	reduced public or media interest
increase in geographic area or population affected	decrease in geographic area or population affected

INDONESIA

In the implementation of GHSA in 2016, GHSA and WHO revised the IHR monitoring and evaluation framework through the JEE/Joint External Evaluation tool in order to evaluate the 11 GHSA action packages, namely in prevention, detection and response. In February 2017, the Indonesian government voluntarily asked WHO to organize the JEE evaluation and the results of the Indonesian JEE evaluation get results Good. On success from JEE, Indonesia developing *the National Action Plan for Health Security 2020-2024* (NAHPS). The development of NAPHS is process Which owned And motivated in a way national with directions strategic from senior government officials, and active involvement and guidance from experienced national experts. Stakeholders who had been involved in JEE were invited by the relevant technical area focal points to plan the NAPHS. ²³ The approach clearly shows how activities in each of the 19 technical areas are logically linked to the appropriate indicators to achieve the required capacity. Development NAPHS is process Which owned in a way national with WHO strategic guidance Approach GHSA in Indonesia with 2 the way is:

1. Health approach

Approach Security Health One roof. Not only eradicating *NATURAL DESEASES* , but also focusing on threats disease which in a way on purpose designed And made For attacking humans, animals, agriculture which has an impact on the country's economy.

2. Security Approach

Integration in a way professional in field Security , Enforcement Law and Intelligence involving the Military, Police, law enforcement, and experts in medicine, veterinary

medicine, agriculture, the environment, and public health.

The above approach must also take into account the differences in stakeholders. (Country – Country Which other) as well as bodies UN that is WHO, FAO and OIE. Indonesian National Armed Forces is at in security cluster under Ministry of Defense Which will share Biological disaster policy is divided into 4 stages, namely, pre-disaster stage, minor disaster stage, moderate disaster stage and national/international disaster stage.

The Pre-Disaster Stage is the stage for preparing the legal umbrella, policies and strategies up to SOP and Technical Guidelines, Capacity Building Health Cluster according to 11 Action Package GHSA, capacity building security Cluster for HR with education, training, TTX, CPX, FTX, CIS and implementation guidelines, namely OSLO Guideline, IASC Guideline, ASEAN SASOPS, APC MADRO.

Stage disaster scale small is cluster PMK Which will involving Ministry of Health (Directorate General of P2PL and Ministry of Health Crisis Center), Health Services/RSUD-RST throughout Indonesia, research institutions and BSL3, and BPBD levels 1 and 2.

The medium-scale disaster stage is the BNPB National cluster which will involve BNPT (if intentional), the TNI Commander appointed as Incident Commander, cross-ministerial reinforcement, TNI (Yon Nubika, Yonkes, TNI Hospital, TNI HR, TNI ALutsista, Ships, Helicopters etc.), Civilian and military Foreign Medical Assistance, UN Forum (IASC OCHA, WHO, OIE, WFP, FAO etc.) and G to G Forum, military to military (APC MADRO, ASEAN SASOPS, IASC Guideline).



Picture 5. Diagram TNI involvement in GHSA

The large-scale/massive disaster stage is *a security cluster* controlled by the DKN (National Security Council); the President will take over command, the entire cabinet and high state institutions are involved. The international impact (multi-track diplomacy) occurs travel ban, forced quarantine, reduction in the flow of goods in and out in airport And harbor sea, backup oil 18 day. Impact national namely domestic riots, isolated patients and families rebelling, fighting over vaccines, social unrest, and demonstrations everywhere.

Multilateral cooperation with other countries and world bodies in the implementation

of GHSA includes cooperation with WHO in the development of PHEOC, with the US CDC through advice technical PHEOC, workshop training And become Sir House for one member department of health For fellowship 4 month in CDC Atlanta. CDC Also cooperate by establishing a FETP for veterinarians (FETPV). Indonesia also collaborates with Australia in the Australia Indonesia health security partnership investment design. ³⁶ The same thing is also done in Bangladesh where military capacity is strengthened by providing training to the military in handling outbreaks and public health management. ²⁴ Under This a number of exercise multisectoral And multilateral Which has done TNI:

1. 2016; Counter-terrorism Simulation using CBRN, Civil Military Interoperability on Influenza Pandemic at RSPAD Jakarta
2. 2017; Simulation of handling the epicenter of the influenza pandemic in Tangerang which is a collaboration with Australia. ²³
3. 2017 TNI-WHO collaboration: Table Top Exercise on Managing Future Global Health Risk by Strengthening Civilian and Military Services in Jakarta
4. Commander Indonesian National Armed Forces as Incident Commander in Countermeasures Covid-19 and the TNI Health Center as the Coordinator of the Wisma Atlit Covid-19 Emergency Hospital (as the largest Covid-19 Emergency Hospital in the world). ¹⁴

CONCLUSION

Indonesia with a strategic position and role in the field of global health security sued in a way adaptive For can follow dynamics challenge health that occurs. TNI as part of the Security Cluster system can play a bigger role considering that technically, tactically and strategically TNI Health operations have a clear structure and measurable readiness. Strengthening the emergency center can be done through training pattern cooperation with other parties such as CDC or strengthening through collaborative civil and military cooperation.

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