Natural Disasters: Epidemics, Pandemics and Use of Armed Forces in Support of Risk Management

Marcos Ruano Lima
Independent Researcher

Epidemics or pandemics are configured as events corresponding to a biological risk, which can be of natural or anthropogenic origin, intentional or involuntary, which cause a great impact on the population, showing the vulnerability of the human being. Thus, the States, governments and various entities that confrontt, eventually with the support of international organizations and NGO's, seek to provide a timely response to reduce the uncertainty and fear that exists in the citizenry. Thereby, part of the institutions that support the first response is the military power, which with its mobilization, logistics, leadership, command and control, among other capacities, provides its human resources, goods and equipment to face these threats, which in addition to being a problem of public health, can become a problem for the security, peace and stability of a State. And although in all countries the Defense sector is considered to strengthen the response, there are similarities and differences regarding their employ, also identifying the importance of preparing and synchronizing plans between civil and military entities to improve their capabilities by time to attend emergencies of this type. Finally, the importance of taking care of military personnel who will carry out support missions to other State entities is considered, where physical and psychological health will avoid diminishing the aid capacity, as well as training activities, organization and generation of doctrine, to have ready units that collaborate effectively and do not hinder actions, especially in functions that go beyond the activities of protection, isolation and physical security.

Keywords: epidemic, pandemic, military

INTRODUCTION

The phenomenon of globalization facilitates the rapid spread of biological agents such as bacteria, fungi, toxins and viruses, which cause damage to human health and can therefore be used as lethal biological weapons to affect countries, thus threatening their peace, security and stability. (Martinez, 2018) (Coats, 2019)

This notion has a greater connotation, considering that, in addition to being used in a recognized armed conflict, biological agents can be useful to terrorism, better defined as bioterrorism, with the aim of causing death, disease, terror and panic among the population.

This situation is complicated by the increasing concentration in urban areas, social inequality, human migration and the interconnectivity of critical infrastructures, variables that alter the scope and scale of incidents, creating environments that configure complex disasters that are difficult to solve. (Kirschbaum, 2017) (Cucunubá, 2016).

These disasters can have a natural and/or anthropic origin, accidental or intentional (Moya, 2018), generating epidemics and/or pandemics, with direct incidence on the population and human safety.

Thus, events classified as biological natural disasters, according to (Bustamante, 2019) and (Nieto, 2019), such as swine flu, avian flu, SARS, MERS and COVID-19 appear all over the world and in people's daily lives, recalling the vulnerability of human beings, with the belief that with time and money, scientists will find a solution. (Cockerill et al, 2017)

In this way, society has become accustomed to a problem-solution-problem cycle, which generates consequences that cannot be anticipated, also preventing the implementation of control and prevention mechanisms, which generate awareness that this type of disease will always occur (Cockerill et al, 2017), and on the contrary, have encouraged people to focus on the individual search for their own health, comfort and survival.

Therefore, a pandemic, classified as a natural event, is not only a health problem, but also a personnel and national security problem, where it is difficult to predict facts, circumstances, and conditions that may occur, in order to determine what resources will be needed. (Kirschbaum, 2017)

Thus, one of the challenges of States is to control known viral agents and isolate, identify, characterize and control emerging or re-emerging viral agents (Martinez, 2018); with a role for governments being the management of preparation and human behavior activities to minimize risks. (Cockerill et al, 2017)

Governments must also be transparent and agile, to communicate potential security threats and associated risk to the community, identifying citizens not as victims or objects of protection, but as elements of resilience. (Zekulić at al, 2017)

Therefore, politicians establish a common representation of epidemic or pandemic diseases, in terms of local, national or global security, an example being the Ebola outbreak, which was catalogued as a threat to international peace and security. (Sánchez, 2018)

Globalization itself, however, has led to worldwide awareness of outbreaks such as SARS (2003), H1N1 influenza pandemic (2009- 10), Ebola (2014), Zika (2016) and Covid-19 (2019-2020), all viral infections that have been linked to the apocalypse and terrorism, increasing widespread popular fear. (Comelles & Perdiguero, 2016), (Roos et al, 2017)

In this context, according to Michaud et al (2019), the military has several applicable capabilities for global health, which may include research, surveillance, medical expertise, large logistical capacity, transportation, and security, and despite having limitations in these types of activities, it can be part of the emergency response in natural or anthropogenic disasters, being an essential tool to protect health and life, and prevent violence.

In this way, according to Kirschbaum (2017), while recognizing that an epidemic or pandemic can be natural, accidental or deliberate, such an outbreak may affect the military's ability to carry out support missions, affecting response times in collaboration with civilian entities, if they have been exceeded in their capabilities, as well as jeopardizing ongoing military operations, which may be worsened if the percentage of sick and absent people increases.

SUPPORT FROM MILITARY POWER IN AN EPIDEMIC AND/OR PANDEMIC

For Nieto (2019), the Oslo process, draws a set of guidelines that are included in the document of the Office for the Coordination of Humanitarian Affairs of November 2007 titled “Guidelines on The Use of Foreign Military and Civil Defence Assets In Disaster Relief”, where the military response to disasters is subjugated to the civil authority, being able to contribute in areas of logistics, self-protection and defense.

Also Bustamante (2019), indicates that the Office for the Coordination of Humanitarian Affairs of the UN establishes that national security continues to be an indispensable element for peace and stability in complex scenarios, where old and new threats are related, such as pandemics, which highlight human vulnerability and whose damage can be reflected in a crisis of difficult solution, requiring efficient prevention.

At the national level, Zekulić et al. (2017) states that resilience requires a holistic approach to bring together resources, knowledge and mechanisms; as well as the assessment of sources that cause insecurity

and, although states have developed crisis response systems and procedures to assess risks, plans are not always coordinated with the military.

Hamer et al. (2018), adds that government agencies play important roles in preparedness and response in collaboration with NGOs and international organizations to provide essential services such as security, logistics, communications, and health care to the population, to build trust and stability.

Therefore, according to Qian et al. (2020), public responses are varied, a product of the cultural situation, while changes in behavior or conduct are associated with the level of government involvement, the perception of the disease, and the stage of the outbreak, among others.

Thus, governments, depending on the situation that occurs and their capacities, could close cities, create hospitals, deploy doctors to affected areas, extend vacations, undertake intense communication campaigns, and take punitive actions to cause the desired effect on the population. (Qian et al, 2020)

Moya (2018), for his part, points out that the response to this type of emergency should be carried out through the 3Cs: containment, consciousness and communication. Containment, to avoid rapid dissemination that aggravates consequences and complicates the response; consciousness-raising, to reduce effects through better preparation of the society; and, communication, to inform about progress, measures to take and avoid rumors.

Likewise, the response to emergencies must be handled in a multisectoral and multidimensional way, in order to provide an integral response, which allows for the reinforcement of convergences instead of focusing on divergences, according to (Moya, 2018), considering that the population demands immediate attention.

Also, Blackwell (2017) points out that success in this type of situation depends on how well the military force works with other services, and also that the instruments of military power can support other instruments of national power.

TABLE 1
EMERGENCY RESPONSE THROUGH THE 3C

Activity	Description	Mechanisms
Contention	Perform contact tracing for quarantine and isolation.	• Intensive surveillance. • Decontamination efforts with civil-military collaboration.
Consciousness	Consciousness-raising as way to reduce impact and therefore risk.	• Educational activities, such as the correct use of protective equipment. • Use of recognized social actors, to motivate the population and improve resilience.
Communication	With a transversal, truthful and credible approach, which avoids the development of a generalized state of alert.	• Use of radio, TV, social networks, health education campaigns

Source: own elaboration from Moya (2018)

In this context, according to Michaud et al (2019), much of a country's response capacity lies in the strength of its military force, since it is generally better equipped for rapid mobilization on a large scale than other actors, so its role in disaster response is diverse, covering the deployment of health units, coordination, communication and logistics, among others, with an understanding of the dichotomy between the need to protect and the need to isolate.

Therefore, in a complex or negative scenario, one assumption may be that the virus spreads rapidly, resulting in a high demand on the health system, where in addition to using international health regulations, the Defense sector can provide support for evacuation to places where hospital care has been activated, logistical support assisting public safety, medical response and public health operations, water and food

supply, distribution of medical supplies to mass care centers, sewage disposal, vector control, human waste assistance and management, including victim identification. (Kirschbaum, 2017)

Such is the case of the United States, which through its Department of Defense, coordinates with the Departments of Health and Homeland Security of that country, to establish interagency working groups, liaison officers, training exercises, both internal and with the support of state institutions involved, to establish coordinated procedures and synchronized efforts, to improve readiness during the preparation phase and improve the effectiveness and efficiency during the response. (Kirschbaum, 2017) (Blackwell, 2017)

Likewise Moya (2018), establishes that there must be operational procedures for intervention and isolation units to manage cases according to the scope of action, in addition to systems for detection and identification of chemical, biological and bacteriological agents, as well as laboratories and trained personnel, land and air evacuation capacity with biosafety conditions.

Also Martinez (2018), makes reference to the support in the control of epidemics, epidemiological surveillance, identification of places of difficult access by land and with sanitary limitations and safety for teams of experts that work in the field to contain the outbreaks.

In turn, Barrero (2018) considers the control of epidemics and pandemics as a challenge for Spain, according to the National Security Strategy of 2017, also establishing that, due to climate change, the heat belt will rise, causing vectors to carry viruses such as Zika, and defrosting will enable bacteria and viruses contained in the primordial ice to affect humans.

Forestier et al. (2016) also indicates that in civil-military cooperation, the armed forces can provide leadership, logistical and engineering expertise, as well as medical support, which can become factors of analysis under the Warden methodology for identifying centers of severity.

Similarly, Bustamante (2019), indicates that the British National Security Council approved in 2010 the National Security Strategy, which determines that one of the priorities and important risks are natural disasters, such as pandemics, which can cause serious damage with a significant impact on the population, economy and environment; requiring the cooperation of all national, regional and local institutions.

Such is the case of the management of Ebola in Sierra Leone in 2014, where British armed forces established a training center that provided security measures to mitigate direct and indirect risks during operations, provided advisors and chiefs of staff to coordinate the operation and assist the head of the crisis room, a facility that must have an effective infrastructure of command and control, being a tool that allows a multilayer and comprehensive response. (Forestier et al, 2016)

However, according to Kirschbaum (2017), it should be considered that even if personnel and equipment are available for support, the appropriate type of personnel, equipment, training to address the tasks and missions assigned cannot be relied upon adequately, and a rapid military response, while it may simulate a solution, may create false expectations in the population. (Cockerill et al, 2017) (Michaud et al, 2019)

Therefore, military employment is done as a last resort for emergency management, once the responsible organizations require assistance to fill the capacity gaps that they cannot deliver or provide and the political authority authorizes the employment, which can be omitted when the conditions are so serious that time does not allow for an approval. (Cockerill et al, 2017), (Forestier et al, 2016), (Bustamante, 2019).

ACTIVITIES WITHIN THE ARMED FORCES

According to Roos et al. (2017), 100 years ago U.S. military leaders understood that their Army's operational capability is diminished when the health of its members is compromised, so in the 2009 national strategy to contain biological threats, they recognized that a natural disease, such as an influenza pandemic, becomes a national security threat, similar to a military attack that seeks to incapacitate personnel, thus reducing operational capability in a matter of days.

And although the armed forces, fulfill missions related to the defense of sovereignty and integrity, according to Barrero (2018), the competencies cannot be limited to a conventional war, needing flexible, adaptable, multitasking units, that are in the capacity to help in the control, foreseeing future demands to

anticipate a situation of response, where the plans must be developed to reach the desired final state. (Hamer et al, 2018)

Thus, Kirschbaum (2017), indicates that in the case of the United States, the Northern Command (NORTHCOM[1]), is designated to provide a strategic planning guide, which establishes the efforts for preparation and response, in areas such as bio-surveillance, monitoring of the disease, sharing of best practices and, within the capacities, evaluates the protective equipment for personnel and medical countermeasures, identifying in its plan 6 phases: preparation, protection, mitigation, response, stabilization, transition and recovery.

In the same way, Mayo (2018) establishes that it is a challenge for the military healthcare and sanitary intelligence, to evaluate situations of alerts and emergencies that can affect the military personnel and therefore, the operability, having to focus on areas with risk of propagation, as well as the surveillance of active members, civilians that work for the institution, dependents and providers Kirschbaum (2017), to maintain a healthy environment.

On the other hand, to achieve results in multisectoral and multidimensional work, according to Forestier et al (2016), in civil-military relations, the uniformed must understand the civilian form of consensus, and these, the military form of direct action, for decision-making.

Therefore, to work with civilians in these events, open-minded personnel with collaborative and flexible leadership styles should be considered, in accordance with Forestier et al. (2016), skills that should be considered in preparation through training and coaching, because the military's role and leadership style can be important at the beginning of a crisis response, providing experience in planning and coordination that other agencies or institutions may not possess.

Within the organization, the formation of units can be considered, such as the initiative of the Peruvian Army's Natural Disaster Relief Center (Bustamante, 2019), where the means and capacities generated to respond to earthquakes, tsunamis, among other natural risks, can be used to attend to emergencies or collaborate with the surveillance of epidemiological fences, as well as curfews, for example, with the use of drones and sensors for the detection and identification of NRBC threats.

Another example, and a reference in Europe, is the Military Emergency Unit (MEU) of the Spanish Army, created in 2005, which has two companies for intervention in technological emergencies (CIET in Spanish), to face NRBC type missions, which among their means, have vehicles with high-efficiency particulate absorbing filters “HEPA”, to reduce the possibility of contagion. (Sánchez, 2018)

Likewise, Bustamante (2019) indicates that decentralized employment should be considered in response to prevention operations, to improve speed, versatility and opportunity, and there should be an emergency military unit with permanent training to develop specific operational capabilities.

On the other hand, in order to prevent and solve psychological problems of the people who make up the military environment, including the family, isolated for indefinite periods, one should think about forming teams and online and offline applications to provide psychological counseling services, even more so for the personnel who are on the front line fulfilling their assigned missions. These activities help maintain mental and physical health, as well as improve their immune system, according to Wang et al. (2020).

Stoecklin et al. (2020), also refers to the use of translators or interpreters for the collection of information and timely activation of protocols, considering that when a biological risk appears, foreign citizens as well as fellow citizens who speak various dialects (native), will also require assistance.

CONCLUSIONS

The outbreaks of biological agents are not a new threat, but due to globalization, interconnectivity, agglomeration, among other factors, increase their impact and therefore the risk to the population, which given its vulnerability, requires the action of state entities to address the emergency, however, the agencies with primary responsibility, should be responsible for providing the response, being supported by other institutions, including the military, to increase their capabilities.

The actions during the preparation and response to biological threats, natural or anthropic, should be oriented to generate resilience in the population, which according to the scenario that is presented, need coordination and synchronization to generate effective actions resulting from international and regional efforts, the private sector, in addition to government action and its institutions.

Although there is no standardized way for the armed forces to participate in events such as pandemics, there is a convergence of preparedness activities that include organization, training, doctrine generation and, in the response stage, the deployment of health, logistics, engineering and support elements in surveillance and security activities.

The military forces, as part of their preparation, must generate training, doctrine and organization, considering in the training, aspects of inter organizational coordination that produce better responses in operations, organization where the logistic units, of health, of bacteriological warfare or of attention to natural disasters, play an important role to offer the support, sustained in a leadership that allows the interaction with civil entities and is translated in an appropriate employment of the personnel; considering that an inadequate use of units or units that do not have the organization, qualification and training, can generate distrust in the population, increase risks of contagion and damage to the deployed forces.

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ENDNOTES

1. While NORTHCOM is primarily responsible, according to Kirschbaum (2017), the other Commands also have plans according to their specificity and area of operation.

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