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SYSTEMATIC APPROACH TO RESOLVING CRISIS DUE TO EPIDEMIC/PANDEMIC DISEASES

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Abstract: *It is undeniable that threatened balances in the natural environment cause entropy in many segments of life on the planet. Lack and pollution of water, excessive exploitation and pollution of land, release or evaporation of chemical compounds into the constituents of the environment, inadequate monitoring of the environment influence the activation of pathogens in an indirect and immediate way. The method of their origin may be known, but they now appear in a modified form, there are different ways of transmitting them, their virulence has increased, and the human, plant and animal populations are not ready to recognize or quickly find an adequate solution to defend themselves.*

Analytical multi-criteria and multi-dimensional approach to the recently ended pandemic significantly determines cause-and-effect connections on efforts to act preventively on future pandemics from the point of view of various sciences and scientific disciplines, practical solutions, but also organizational segments and process functions of management.

The aim of the work is to determine the main areas that are considered in the planning, organization and implementation of activities on prevention, suppression of the spread and fight against epidemic/pandemic diseases, and to partially or fully form a system of dynamic modeling of the development of an epidemic/pandemic

Key words: *pathogens, epidemic/pandemic, dynamic modeling*

1. INTRODUCTION

Excessive exploitation of environmental constituents and changes and phenomena that appear as products led scientific and professional workers to look at the elements and segments that cause, encourage and spread epidemics/pandemics from different scientific platforms, levels of interactivity of different factors. It has been recorded that in addition to natural causes, which can be the melting of millennia-old ice surfaces above and below the sea surface, it can also be artificially created viruses and bacteria that can be fatal for human beings and plant and animal life.

Security paradigms, paradoxes and consequences now acquire new dimensions because already known security risks and threats now have an additional asymmetric effect.

If the health aspect itself is considered, then that narrower contextual plane gives an indirect and immediate reflection on health as a predominant point of view and on activities that arise from the medical aspect. When looking at the broader context, the imperative viewpoints and conception of sustainable development, the relationship between ecology and politics, socio-economic processes in general, but also contradictions in the pursuit of development projects.

The pandemic of the corona virus-SARS-CoV-2CV that causes the disease COVID-19 has had a devastating effect all over the world. As of May 20, 2020, 4,927,229 people have contracted the virus and about 324,035 have died from it. The Secretary General of the UN labeled it as a "threat to humanity". The dominant definition of the crisis that prevailed among executive politicians around the world is that the corona virus is extremely dangerous and that it should be fought by any means necessary. This led to draconian measures, literally closing down entire states, regions and municipalities (Christensen, Laegried, 2020).

2. ANALYTICAL APPROACH TO THE EPIDEMIC/PANDEMIC CRISIS

According to the development of science and scientific disciplines and from a sufficient time distance, the decomposition of the crisis situation caused by the corona virus pandemic can be carried out. The systemic approach enables not only an insight into the past situation, but also provides reflective effects on possible crises that would occur in the future.

Immediately after the end of the COVID-19 pandemic, Kevin M. Esvelt investigated the impact of this pandemic disease as well as the possibility that this and similar ones could be used to threaten security in the future. He set key premises that are reflected in the following: that not all viruses that could cause pandemics in the coming period are known; identification of this type of virus is when more than a thousand infected appear; one infected person can cause a pandemic reaction; viruses of this type can spread faster than the distribution of vaccines or drugs for this type of virus, and pandemic samples can be much more lethal than particles from nuclear devices and available to terrorists. Through his work, he emphasizes the importance of keeping viral samples, the modalities of their spread, and the fight against these forms of viruses. This work indicates how necessary it is to monitor various natural and social processes in order to act in a preventive manner in the fight against viruses (Esvelt, 2022:8).

During April 2023, a study by Austrian scientists who made an astonishing discovery - by analyzing the genes of microbes and discovered that thousands of previously unknown viruses "hide" inside their DNA, was published in the public. Scientists have found the DNA of more than 30,000 different viruses, embedded in the genes of various single-celled microbes, and the results of their research were published in the journal "Proceedings of the National Academy of Sciences". (Internet presentation: Dnevni avaz, May 2023). The study of viruses as the most numerous biological entity is now gaining even more importance.

In their work "Balancing the self", the authors Jackson and Moore (Jackson and Moore, 2022:3) point out that modern times are distinguished not only by conflicts, political turmoil, economic instability, but also by the difficult-to-achieve goals of good personal health and political stability.

Recognizing the inflammatory impact and consequences of the COVID-19 pandemic, a group of scientists, based on the direction of the US Congress, began researching the spectrum of the impact of this virus on international security and the living environment. The areas that are causally connected with the pandemic of this virus and on which fields it has the most impact have been established:

- World order, international institutions;
- The influence of the USA in the world;

- China's role as a potential world leader;

- US relations with Russia and China, including the pandemic as a tool for ideological confrontation;

- Relative predominance of democratic or authoritarian and autocratic regimes;

- Social tensions, reforms, transformations and stability in different countries;

- World economy, globalization and US trade policy;

- Characteristics of conflict management;

- Allies' defense budgets;

- Cohesion of the European Union;

- US national security budgeting;

- US defense strategy and military operations;

- US international aid programs and reduction of international debt;

- The amount of US attention devoted to international issues other than the topic of the pandemic;

- The role of the US Congress in setting and monitoring foreign and defense policy in pandemic conditions (Rourke, McInnis, Moodie, 2020).

All economic sectors and industries have been affected by disrupted global supply chains, weaker demand for imported goods and services, declining international tourism and declining business travel. Measures to combat the spread of the virus have particularly affected the SME sector and entrepreneurs. Unemployment and the number of people forced to seek state aid have increased dramatically. Many countries have "stepped out" of virus control measures to mitigate the impact of the economic crisis only to face the growing wave of cases in the fall of 2020, jeopardizing the recovery of the health system and further endangering human health. The exit strategy from the crisis was not linear, with possible strategies to stop and control the virus until the vaccine was available to a significant number of people (Jesic et a, 2021).

It is an interesting fact that despite the devastating impact of this virus, other, international aspects of security are also being investigated, on which most countries could not even have a declarative position during the pandemic.

3. A MULTIDIMENSIONAL RESPONSE TO AN EPIDEMIC/PANDEMIC CRISIS

An analytical approach to the outbreak, development, culmination and spread of an epidemic/pandemic indicates that cause-and-effect relationships arise from a combination of natural and artificial as well as socio-economic and technical factors. Given that the epidemic/pandemic is primarily a health problem, several factors are established from the point of view of the health system. According to the Manual of the World Health Organization (WHO, 2020) the discussion groups are divided into seven sections: prevention and health system preparation; communication during crisis situations and involvement of the social community; immunization; research and monitoring; organization of work of medical services for clusters and different cases; the need for special settings of the system and individual groups; public health and social protection measures. Accordingly, that pathogens are compatible in some cases, and in others not, the health platform for consideration should

contain assessments: the exact type of disease, approximately its exact outbreak, spread, mortality and the indirect impact of such a disease as a biohazard.

Figure 1a. Correlations observed during an epidemic/pandemic crisis provides a simple overview of problematic thematic units using a geometric figure with subsections as individual sectors. **Exhibit 1a:** Correlations observed during an epidemic/pandemic crisis
Source: editing by author

The other side of the rectangular parallelepiped considers the levels in the prevention and fight against the pandemic, which can be by taking individual and collective measures, that is, at the tactical, operational and strategic levels. As the basis of this segment, the division that can be followed in one international entity prevails and which as such uses the process management functions (planning, organizing, management, coordination and control) in solving the crisis situation caused by the pandemic. Furthermore, the next page of the square gives reflective effects on socio-economic relations, sociological approaches and relations apostrophized through factors: economy, politics, security, international law, religion, culture, ecological security, armed forces, technology, but also tradition and collective mentality as significant corrective factors of social reality. The interaction of the mentioned factors left traces on socio-economic processes, especially in times of crisis, when some of their effects multiply. Certain interactions between the mentioned factors always appeared in some form, recognizable for a certain era, transformed according to the historical moment. Undoubtedly, they leave an impact in a direct and indirect way during the outbreak, during and after the pandemic crisis.

On display 1b. a page that points to the need for humanity as a characteristic of humanity that should especially come to the fore during the loss of a large number of human lives stands out. The aforementioned features of global equality, solidarity, well-being, health care in agreement with the organizational elements of individual and collective care for the sick significantly indicate the need for empathy and humanity in its original form.

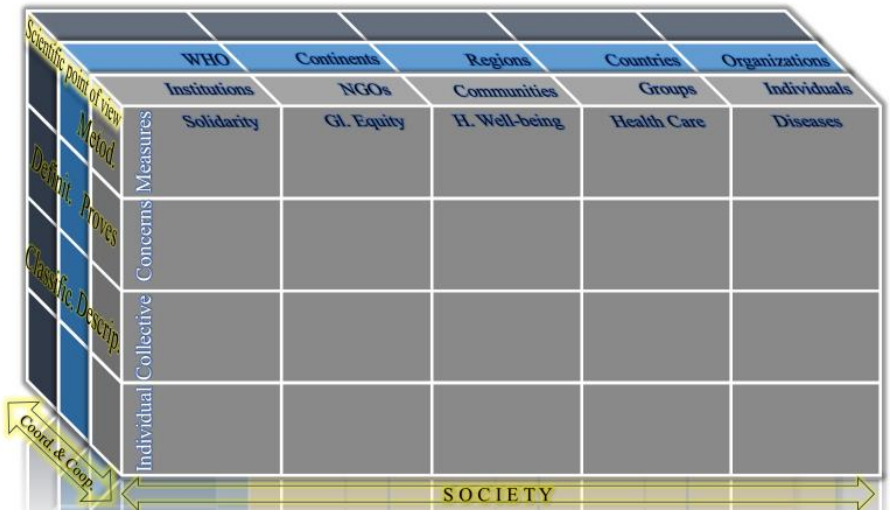

Figure 1a. Correlations observed during an epidemic/pandemic crisis provides a simple overview of problematic thematic units using a geometric figure with subsections as individual sectors. **Exhibit 1b:** Correlations observed during an epidemic/pandemic crisis
Source: editing by author

When the geographic-territorial approaches to the fight against COVID-19 are analyzed from this time distance, it can be seen that it was on a global scale and that organizations, associations and associations at that level, but also at lower levels, were compatible and synchronously fighting this honor using technical and technological achievements for the exchange and processing of data.

The world-wide crisis related to the COVID-19 virus has had catastrophic consequences for the economy and the population all over the world, and the importance of the response to this pandemic has been shown. All levels of government of the international subject - republican, provincial-regional, and local self-government authorities were faced with this pandemic (Karovic et al., 2021).

In order to coordinate activities from several scientific and practical areas, recommendations were given on the way of organization and operation of operational health centers in crisis situations, which were used in a certain way and with adaptation during the corona virus pandemic. The wider context in this publication gives an indication of how much care and support equipment must be taken to establish such a center at any level (WHO, 2015).

The scientific aspect of the analysis of epidemics/pandemics is multifaceted. This approach not only directs preventive activities in the field of natural sciences and medicine, but also provides a research path and procedures so that human lives can be saved or collectivities that are organized in different ways can be saved in a methodological way and with a proper approach in the fight against the pandemic.

4. CONCLUSION

It is evident and scientifically confirmed that epidemics/pandemics of a wider global scale occur periodically due to a number of causes. They are characterized by huge losses of human lives, disturbances in the socio-economic sphere, dysfunctions of social communities as well as entropy in the development of societies and states in general. An analytical approach to the epidemics/pandemics of various diseases recorded so far indicates that it is necessary to

implement a systemic approach in order to provide an adequate response in a planned and organized manner in the coming period. The combination of looking at the cause-and-effect relationships about the emergence and spread of these wicked diseases indicates that it is necessary to determine platforms (areas) that are compatible and whose optimal humanoid, scientific and technical-technological engagement can contribute to the reduction of crises caused by epidemic/pandemic diseases.

When the efforts of multi-criteria and multi-dimensional areas are sublimated, then the rules and restrictions in the field of social distancing, distance education, stricter controls in different spheres, disallowing the organization of mass gatherings and manifestations would have a more meaningful and purposeful character. It is also distinctive that the media campaign and the transmission of information through the media space have their own importance.

In the years to come, epidemics/pandemics of various types and characteristics can be expected with a high level of reliability, which can leave an impact on living beings and environmental constituents on the planet. Through a systematic analysis of previous epidemics/pandemics, it is necessary to apply the knowledge and lessons learned to the arrival of new ones, the same or even much more severe than the previous ones in terms of mortality. This is a necessity in order for our moral, spiritual and knowledge capital to pay off in huge dividends.

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