

# RESCUE EFFICIENCY DETERMINANTS AS A GUARANTEE OF ACCEPTABLE SECURITY LEVEL

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## ABSTRACT

The constant progress of civilization characterized by intensive changes taking place in the environment of human existence, in addition to positive effects, often becomes a source of various dangerous situations (natural disasters, technical failures, accidents, etc.) that threaten people's lives and health and other values (tangible goods, natural environment). Ensuring the safety of people affected by these events requires a quick and effective response from emergency services, whose actions will enable them to survive in the given unfavorable conditions. The multitude of threats to humans and their well-being makes the organization of an efficient rescue system a serious challenge for the authorities responsible for ensuring a level of safety acceptable to the society. This study attempts to characterize contemporary threats to human safety and identify the basic determinants enabling efficient and effective response of entities operating in the structure of the rescue system.

DOI: 10.26410/SF\_1/21/5

## KEY WORDS

Societal security, rescue, response, security system, threat.

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Security is one of the basic factors determining the development of every human being, as well as the communities he creates and the areas that they inhabit (towns, administrative regions, countries, etc.). Ensuring a sufficiently high level of it *“translates into the economic and tourist attractiveness of a given area and the situation of people living or temporarily staying there”*<sup>1</sup>. The process of ensuring se-

curity is a complex and multidimensional undertaking involving various defense and / or protective activities, aimed at combating all threats and their negative effects, or preventing their occurrence. The main goal of various activities undertaken in the process of ensuring security is obtaining and maintaining in a given space (geographic, political, economic, social, etc.) *“A state of freedom from threats to human (people), enabling the creation of conditions enabling his (their) life and survival and development”*<sup>2</sup> in the

<sup>1</sup> J. Ziobro, *Ratownictwo transgraniczne jako forma współpracy i integracji międzynarodowej oraz środek w procesie zapewniania bezpieczeństwa powszechnego – wybrane aspekty organizacji transgranicznych działań ratowniczych*, Zeszyty Naukowe SGSP 2020, No. 73/1/2020, p. 167.

<sup>2</sup> Ibid.

future. As emphasized by Stanisław J. Rysz, security is one of “*the most important features of the human environment, a specific condition on which all human life is based, its existential, cognitive, creative, developmental dimension, etc*”.<sup>3</sup> Guaranteeing the expected level of safety for a person determines his individual efficiency<sup>4</sup>, which, in turn, translates into the proper functioning and development of the state<sup>5</sup>. It is worth noting that in the modern world characterized by the multitude of changes in the environment, man, as well as the unprecedented momentum of his life, achieving the expected level of security is a huge challenge for both the state and every human being. In democratic countries, ensuring the security of citizens and all persons staying on their territory is one of the main tasks of the ruling elites. The nature of the actions taken by the authorities and people / society, aimed at guaranteeing the expected level of security, is closely related to “*the threats to his existence. And the type and scale of the threat determine the choice and application of protective measures to ensure or restore a sense of security*”<sup>6</sup>. In practice, the implementation of this function by the state consists in the organization and maintenance of the so-called security system<sup>7</sup>, described

as “*a set of norms and legal guarantees, a method of organizing public authority with the definition of tasks in this field and the functioning executive subsystems, creating formal and practical conditions for protecting citizens against dangers threatening their life, health, property and environment*”<sup>8</sup>.

One of the important elements of these safety systems is rescue<sup>9</sup>, which, according to theorists, is associated in terms of the subject matter with the sphere of the so-called societal security. Defined in theory as “*A number of various activities (including in the field of health; ecological; educational; social; economic; legal; psychological; veterinary and sanitary), the main goal of which is to ensure the safety of the civilian population, and at the same time the state obtained as a result of organized protection of human life and health, as well as material and cultural goods and the natural environment, to the extent necessary for human survival, against the effects of human action against man or the forces of nature that pose a direct threat to protected values, in all states and conditions of the functioning of the state*”<sup>10</sup>. It is a very complex matter, in which the basic task of the security system is to ensure that everyone staying on the territory of a given state is “*the highest in terms of effectiveness and*

<sup>3</sup> S.J. Rysz, *Zarządzanie kryzysowe zintegrowane*, Warszawa 2016, p. 14.

<sup>4</sup> R. Gwardyński, *Safety in Praxeological Approach*, [in:] B. Wiśniewski, G.G. Sander, P. Kobes, Verlag Dr. Kovač (eds.), *Security – Threats, Law and Organization*, Schriften zu Mittel- und Osteuropa in der Europäischen Integration, Band 24, Hamburg 2019, p. 11.

<sup>5</sup> W. Fehler, *Bezpieczeństwo wewnętrzne współczesnej Polski. Aspekty teoretyczne i praktyczne*, Warszawa 2012, p. 7 and R. Jakubczak, B. Wiśniewski (eds.), *Wyzwania, szanse, zagrożenia i ryzyko dla bezpieczeństwa narodowego RP o charakterze wewnętrznym*, Szczytno 2016, p. 23.

<sup>6</sup> J. Ziobro, *Teoretyczne i praktyczne konteksty funkcjonowania ochotniczych straży pożarnych w krajowym systemie ratowniczo-gaśniczym. Aspekty prawno-organizacyjne i geograficzno-przestrzenne*, Part I, Warszawa 2019, p. 15.

<sup>7</sup> System – a set of certain elements, constituting a rela-

tively autonomous whole separated from the environment, whose elements have internal connections and there are interfaces between them. All elements of the system serve to achieve the main purpose of the system as a whole. Cf. *Encyklopedia zarządzania*, <https://mfiles.pl/pl/index.php/System>, access: 6.05.2021.

<sup>8</sup> J. Ziobro, *Teoretyczne i praktyczne konteksty funkcjonowania ochotniczych straży pożarnych (...)*. Part I..., ed. cit., p. 8.

<sup>9</sup> B. Kogut, P. Lubiewski, *Management and coordination of rescue activities*, Вісник Львівського державного університету безпеки життєдіяльності, No 17, Львів 2018, pp. 68-73.

<sup>10</sup> W. Kitler, *Bezpieczeństwo powszechne* [in:] W. Kitler, A. Skrabcz, *Bezpieczeństwo ludności cywilnej. Pojęcie, organizacja i zadania w czasie pokoju, kryzysu i wojny*, Warszawa 2010, p. 54.

efficiency level of security”<sup>11</sup>. In practice, it consists in the proper protection of human life and health, individual or public property (property) and the natural environment, against various threats caused by the forces of nature and / or arising as a result of multifaceted human activity and the related civilization development, referred to in the literature on the subject as: emergencies<sup>12</sup>, natural disasters, catastrophes, breakdowns, accidents, etc., dangerous events. This protection should be guaranteed by quick and effective help, adequate to the nature and scale of the threat, provided by specialized rescue entities on their own or in synergistic cooperation / collaboration with others. Bearing in mind the multitude of threats and the complexity of the negative effects they generate, in relation to the necessary aid needs, the satisfaction of which will allow a person to survive in a given situation. Adequate satisfaction requires undertaking properly coordinated rescue actions, carried out in the right place and time by the appropriate quality and quantity of forces and resources.

Taking into account the high intensity of various unfavorable events (failures, catastrophes, disasters, etc.), which are reported daily by the media, which disturb the existence of a person, touching them personally (directly) or affecting their goods, which they use to satisfy their living and developmental needs. The above considerations indicate that ensuring the level of general safety expected by the society is a significant challenge for the state and the emergency services responsible for an efficient and effective response. The aim of this study was to

try to identify the threats that emergency services face today and to characterize their essential features determining the organization and functioning of the rescue service, as well as to indicate solutions (methods, means, etc.) enabling efficient and effective response.

When starting to identify the threats that rescue is faced with today, it should be emphasized that the terms „security” and “threat” are interdependent concepts. “Security” is treated as something desirable, and “threat” as something burdensome (undesirable), negatively affecting the security of the subject. It is worth adding that “awareness of the threat” is a subjective feeling of a human (subject of security), resulting from an individual assessment of the state in which he is located, made on the basis of his knowledge and experience in the perception of the phenomena surrounding him<sup>13</sup>.

As previously mentioned rescue is associated with “societal security”, the above explanation of this term proposed by Waldemar Kitler is quite extensive but it shows the full spectrum of the explored issue. The analysis of the content of the cited interpretation makes it possible to identify a “threat to societal security” as a sudden or foreseen event (destructive situation) caused by natural forces and / or human activity (conscious or unconscious), which may lead to a threat to human life and health and the environment, as well as to any other values (goods) that are important for a human being or cause a crisis or a crisis situation, or lead to its occurrence<sup>14</sup>. The adoption of such assumptions allows, in a dichotomous

<sup>11</sup> T. Terlikowski, *System ochrony ludności i ratownictwa*, Zeszyty Naukowe SGSP 2018, No. 67/3/2018, p. 88.

<sup>12</sup> Vide J. Falecki, *Zarządzanie kryzysowe w teorii i praktyce. Relacje współdziałania, koordynacja działań*, Sosnowiec 2014.

<sup>13</sup> Vide B. Wiśniewski, R. Kowalski, J. Kozioł, M. Szyłkowska, *Bezpieczeństwo procesów decyzyjnych*, Wrocław 2018, p. 5.

<sup>14</sup> Vide S. Śladkowski, *Zagrożenia antropogeniczne (cywilizacyjne) wybór*, Lublin 2014, <http://docplayer.pl/7503587-Prof-dr-hab-stanislaw-sladkowski-lublin-2014.html>, access: 7.05.2021.

division, to distinguish two subsets in the set of threats to common security, including natural and anthropogenic threats.

Natural hazards are an extensive catalogue of unfavorable phenomena occurring in nature and the resulting dangerous situations that affect people and threaten their life or health, and generate material and / or environmental losses. It mainly covers the following phenomena<sup>15</sup>:

- geophysical (geological) – volcanic eruption, earthquake, tsunami, erosion and landslides;
- meteorological – rainfall (rain, snow, hail), atmospheric discharges, strong winds, blizzards and snowstorms, extreme temperatures causing droughts or glaciation, fog, rime;
- hydrological – floods, landslides, snow avalanches;
- climatological – affecting the vegetation cover of the soil and causing droughts, which may result in uncontrolled fires of: forests, pastures, crops, wastelands, etc.;
- biological – epidemics, epizooties, epiphytoses, pest infestations;
- cosmic – magnetic storms, collisions of meteorites, asteroids, comets and the so-called space debris with Earth, resulting in the release of large amounts of energy.

The phenomena mentioned may occur at any latitude, but their nature, frequency and strength are varied and mainly determined by geographic and climatic conditions in a given place. It should be emphasized that the effects of the progress of civilization are, among others, climate changes which increase the number and range of unfavorable natural phenomena

that threaten humans, their goods and the natural environment, from which they satisfy many of their needs<sup>16</sup>.

The second group of threats to societal security, as mentioned above, are anthropogenic (civilization) events arising as a result of widely understood human activity. They are associated with human life and all forms of his activity undertaken in order to meet individual or collective needs. The catalogue of these threats includes a wide range of dangerous events (incidents, accidents, accidents, catastrophes, etc. crisis situations), varied in terms of: nature, size, intensity of occurrence, scale of impact and negative effects. In this set we can distinguish in particular<sup>17</sup>:

- civilization diseases – e.g. heart attacks, strokes, mental disorders (resulting in dangerous actions towards other people or oneself);
- accidents related to human activity and its forms – including: work, leisure, sport, worship, etc.;
- fires – in the natural environment (e.g. peat bogs, forests, crops, wastelands), facilities and buildings (residential, public utility), industrial and storage facilities, pipelines (e.g. gas, fuel), means of transport, landfills, etc.;
- accidents / disasters in the transport of people and goods – in transport: land (road, rail), air, water;
- contamination and pollution of the natural environment (chemical, biological, radiological, nuclear) – resulting from the release of hazardous substances during production, storage and transport;
- construction disasters / failures of buildings as well as construction and

<sup>15</sup> J. Ziobro, P. Lubiewski, *Podstawowe problemy powszechności zagrożeń dla ludzi i środowiska* [in:] B. Wiśniewski, *Racjonalizacja zarządzania jednolitymi formacjami umundurowanymi odpowiedzialnymi za bezpieczeństwo wewnętrzne*. Vol. III, Warszawa 2018, p. 31.

<sup>16</sup> S.K. Więckowski: *Przyrodnicze podstawy inżynierii środowiska*. Kielce 2000, p. 31.

<sup>17</sup> J. Ziobro, P. Lubiewski, *Podstawowe problemy powszechności...*, ed. cit., pp. 39-40.

- engineering structures (e.g. bridges, viaducts, tunnels);
- failures of technical and municipal infrastructure: gas pipelines, energy networks, water pipes, sewage networks and sewage treatment plants, heating networks, fuel supply systems, etc.;
- failures of structures and hydrotechnical facilities;
- Explosions of liquid and gas vapors during technological processes and in transport and storage as well as pyrotechnic materials;
- Acts of terror.

Summing up, anthropogenic threats are a derivative of interactions between people and their civilization environment and / or the natural environment. Their materialization in a given place / space depends, among others, on the concentration of *“industry, the quantity and quality of municipal and transport infrastructure, agricultural land development, the degree of afforestation, weather conditions (including temperature, rainfall, wind, etc.) and the demographic and social structure of a given region”*<sup>18</sup>.

The above explanations prove that the contemporary threats to societal security, the materialization of which requires the intervention of emergency services, in order to protect the life and health of people and their property, as well as national property and the natural environment, is an extremely extensive and at the same time diverse set of dangerous situations *“resulting from relations and interactions between the elements of a specific triad”*<sup>19</sup>: człowiek/ludzie<sup>20</sup>, civilization environment<sup>21</sup>, the natural environment<sup>22</sup>.

<sup>18</sup> Ibid., p. 40.

<sup>19</sup> Ibid., p. 27.

<sup>20</sup> Along with the entire catalog of forms of his / their activity and actions taken during them.

<sup>21</sup> The author has in mind an artificial anthropogenic environment, created as a result of material human activity.

<sup>22</sup> Natural environment – all animate and inanimate ele-

These threats are characterized by high social harm, resulting mainly from: death of people or bodily injuries resulting in loss of health and other living creatures; material losses (generated in individual or state property); damage to the natural environment<sup>23</sup>, causing its condition to deteriorate.

In conclusion, the catalogue of threats that may cause the listed effects and losses is a set that is extremely diverse in terms of their type (nature), scale of impact and damage caused. It includes point and spatial, single and mass events, caused by natural forces and / or caused by human activity, on the ground and underground, in the air / space, and on water and under water (e.g. Earthquakes, tsunamis, floods, river overflows, avalanches, hurricanes, droughts, fires, catastrophes, accidents – communication, technical, chemical, ecological, terrorism, epidemics, sudden diseases). Features that characterize all the cited threats to societal security, threatening the life and health of people, material goods (personal and public) and the natural environment, are surprise and unpredictability of the place and time of their materialization, as well as the variability of the nature (type) and scale of impact and the adverse effects caused.

The aforementioned *“factors are the main determinants that should be taken into account when organizing rescue*

ments of nature, closely related to each other, surrounding living organisms, i.e.: geological structure, topography, climate, water relations, soil, living organisms. Cf. G. Dobrzański, *Podstawowe pojęcia i problemy użytkowania i ochrony środowiska* [in:] G. Dobrzański (ed.), *Ochrona środowiska przyrodniczego*, Warszawa 2008, p. 20.

<sup>23</sup> Human natural (geographic) environment – all external conditions (physical, chemical, biological and social) that have a direct or indirect, immediate or future impact on the overall human activity, life, health and offspring. Cf. M. Hajder, B. Florek, M. Nycz, *Klasyfikacja technologiczna zagrożeń wybranych obszarów Podkarpacia* [in:] M. Hajder (ed.), *Innowacyjna gmina. Informatyka w jednostkach samorządu terytorialnego*, Rzeszów 2014, p. 75.

*services and systems whose task is to provide assistance in the event of an emergency*"<sup>24</sup>.

The variety of threats<sup>25</sup> to societal security in terms of the nature, scope, scale of negative effects, in relation to their characteristic features (suddenness, unpredictability, surprise, changeability) makes modern rescue a specific type of service provided to those in need by the resources of rescue entities, as well as a complicated and ongoing process carried out by rescuers using their knowledge and skills as well as available equipment and technical means. Regardless of the nature and scale of the threat, obtaining the required / expected effectiveness of rescue actions may ensure that they are undertaken in the right place and time, and by the right amount of forces and resources with the desired quality parameters, adequate to the nature and scale of the adverse phenomenon. The indicated factors (the right place, the right time, the right amount, the right quality) are referred to in the literature as the "4W Rule"<sup>26</sup> and in practice they are a *sine qua non* condition, decisive for the effectiveness of the response. It should be emphasized that each of the presented factors is important and has its value in the final success. However, the time criterion comes to the fore, because the speed of reaction, defined as the time from the occurrence of an event to the arrival of adequate rescue resources<sup>27</sup> (in the right amount and of the right quality in relation to the type and scale of the

threat), largely determines the possibility of saving human life or health, reducing pain and suffering. It gives an opportunity to minimize losses in property and the environment.

It is worth noting that time, as a determinant of effective response, plays a special role in saving people's lives and health, threatened by the materialization of the threats presented above. It is "*the first regular partner (...) in the game for the survival of the victims*"<sup>28</sup> of various accidents, failures or catastrophes or diseases. The amount of time necessary for effective help, however, is not a constant value and depends on many factors, in particular on the type, nature and scale of the impact of destructive factors, the condition and resistance of the organism to their negative effects, as well as the ability of appropriate behavior of a person affected by a given threat allowing to survive in unfavorable conditions resulting from the materialization of the threat, e.g. in the event of loss of consciousness, disruption of the continuity of tissues, veins, arteries, exposure to low or high temperatures, poisonous substances, drowning, etc. The importance of time as a determinant of survival is emphasized by the results of research on safety<sup>29</sup>. Research also undertaken in medicine, especially in the field of emergency medical services, and the concepts formulated on their basis used in emergency practice, relating to the passage of time and the issues of saving human life and health. The terms "diamond minutes" can be cited as an example<sup>30</sup>,

<sup>24</sup> J. Ziobro, *Ratownictwo transgraniczne jako forma współpracy i integracji międzynarodowej...*, ed. cit., p. 172.

<sup>25</sup> Vide Czupryński, B. Wiśniewski, J. Zboina (eds.), *Nauki o bezpieczeństwie. Wybrane problemy badań*, Józefów 2017.

<sup>26</sup> J. Wolanin, *Zarys teorii bezpieczeństwa obywateli. Ochrona ludności na czas pokoju*, Warszawa 2005, p. 23.

<sup>27</sup> J. Prońko, J. Kielin, B. Wojtasiak, *Model reagowania systemu ratowniczo-gaśniczego*, Bezpieczeństwo i Technika Pożarnicza 2016, No. 1, p. 117.

<sup>28</sup> L. Brongel (ed.), *Złota godzina czas życia czas śmierci*, Kraków 2007, p. 10.

<sup>29</sup> Vide, B. Wiśniewski (ed.), *Bezpieczeństwo w teorii i badaniach naukowych*, Szczytno 2011.

<sup>30</sup> Diamond minutes – the maximum time (about 3 to 5 minutes depending on the individual characteristics of the human body) in which to start and perform resuscitation activities (heart massage, artificial ventilation, defibrillation) to save life. Cf. M. Goniewicz, *Pierw-*

“platinum minutes”<sup>31</sup>, or “golden hour”<sup>32</sup>. Apart from the above-mentioned implications functioning in emergency medical services relating to the role of time in saving human life and health, other areas of rescue are also interested in its significance, as an example we can mention research in the field of fire protection, concerning the resistance of the human body to fire conditions (high temperature, toxic products of combustion, etc.) Their results prove that the human endurance time in a fire environment fluctuates between 13 and 17 minutes. The first (13) dimension is treated as the “resuscitation limit”, and the second (17) as the “survival limit”<sup>33</sup>. The above clearly proves that the time of arrival of adequate (in the right quantity and quality) rescue forces at the scene of the incident largely determines the possibility of saving human life or health, it also contributes to reducing pain and suffering, and also gives a chance to limit losses in property and in the environment. Taking into account the multidimensionality of threats, it should be emphasized that effective rescue (response) generally consists in providing “*appropriate medical assistance and providing emergency rescue assistance in emergency situations*”<sup>34</sup>. The mentioned immediate rescue aid means

*szka pomoc. Podręcznik dla studentów*, Warszawa 2012, p. 14-15.

<sup>31</sup> Platinum minutes – the time in which the rescue team should be at the scene of the accident from the moment of its call (according to the standards specified in the regulations on the organization of the PRM system, it is up to 15 minutes). Cf. *ibid.* and the Act of 8 September 2006 on the State Emergency Medical Services (Journal of Laws of 2006, No. 191, item 1410, as amended), Art. 24.

<sup>32</sup> The golden hour – the time from the occurrence of an accident and the threat to human life and health, to the moment of providing help in the operating room. Por. L. Brongel (ed.), *Złota godzina...*, ed. cit., p. 59

<sup>33</sup> Raport O.R.B.I.T. 2010, *Zoptymalizowany system ratownictwa, walki z pożarami i pomocy technicznej* pdf. [http://www.giz-nord.de/cms/images/stories/Science/PCYAN/kaiser\\_yfdb2012.pdf](http://www.giz-nord.de/cms/images/stories/Science/PCYAN/kaiser_yfdb2012.pdf), access: 14.05.2021 r.

<sup>34</sup> G. Kunikowski, K. Rosstek, *Analiza porównawcza modeli systemów ratownictwa w Polsce i w wybranych krajach*, Zeszyty Naukowe UEK, 2016, 11(959), p. 94.

meeting the needs of people, enabling them to survive in given unfavorable conditions resulting from the materialization of the threat, and thus giving a chance for development in the future.

Taking into account the extensive set of threats to societal security (extremely diverse in terms of type, scale, intensity and impact as well as negative effects), posing the risk of losing things valued by people (life, health, material goods, natural environment), providing effective assistance often requires the intervention of various entities specializing in specific areas of rescue, which will efficiently undertake rescue or assistance activities on their own or in properly coordinated system cooperation with others. Thus, the organization (construction) of an efficiently functioning rescue system, the functioning of which would provide the society with favorable conditions for existence and development, is a considerable challenge for every state responsible for ensuring the safety of its citizens. In order to successfully counter such a wide range of contemporary threats and respond efficiently, it is necessary to recognize them in detail. First of all, their nature, causes, structures, possible effects, etc., characteristics, in order to design measures on this basis and organize systems (subsystems) to combat and prevent them, or protection or safeguard.

It should be emphasized that “*Each state, as a sovereign subject of international relations, has the right to create its own security policy, including building a rescue system at its own discretion and setting the rules for its functioning in its own territory and beyond*”<sup>35</sup>. For example,

<sup>35</sup> J. Ziobro, *Ratownictwo transgraniczne jako forma współpracy i integracji międzynarodowej...*, ed. cit., p. 176 and R. Socha, *Cooperation between Communal and City Guards, the Police Forces and the National Fire Service during Floods*, Scientific Journal of Bielsko-Biala School of Finance and Law, No. 23/2019, pp. 53-56.

in Poland, the structure of the rescue system includes various entities (state, non-governmental, commercial), specializing in specific areas of rescue, which undertake rescue activities independently or in cooperation with others.

To illustrate the complexity of the matter, let us present the main elements of the rescue system functioning in Poland. The entity responsible for providing help in states of sudden health threats caused by illness or accident is the State Medical Rescue system, in the structure of which there are medical rescue teams (in ambulances), Air Ambulance Service and hospital emergency departments. Fire fighting and combating the effects of natural disasters, technical disasters, etc. is the domain of the State Fire Service and other fire protection units<sup>36</sup>. Help in the mountains is ensured by a safety system in the mountains, based on the resources of the Mountain Volunteer Rescue Service and the Tatra Volunteer Rescue Service. Communal authorities, supported by social organizations associated in the structure of the Water Volunteer Rescue Service, or commercial entities are responsible for safety in inland waters. Searching for and saving life at sea, as well as combating threats and pollution of the marine environment are the tasks of the Maritime Search and Rescue Service. The Aviation Search and Rescue Service provides assistance to the crews and passengers of aircraft and other persons injured as a result of air incidents. Providing assistance during mining accidents is the task of the min-

ing rescue service of the entrepreneur and the Central Mining Rescue Station S.A. in Bytom. The rescue entities presented above and the related fields of rescue are only a part of the rescue system. In this sphere, there are many other local organizations that cooperate with the mentioned or independently perform specialized tasks aimed at saving and protecting human life and health, or the natural environment.

Taking into account the considerations so far, it should be emphasized that, regardless of the structure of systems operating in individual countries, obtaining the expected state of efficiency and effectiveness of undertaken actions requires, first of all:

- organizing (building) an appropriate spatial network of rescue entities that make up the system, taking into account the nature of threats that may occur in a given area and enabling them to arrive at the scene of the event at the right time;
- ensuring the technical and personal capacity of all entities operating in the rescue system adequate to the nature of threats that may occur in the protected area;
- permanent maintenance of readiness to take actions by all entities operating in the system;
- ensuring coordination and synergistic cooperation of all services assigned to rescue operations, guaranteeing their efficient course and expected effectiveness.

Summing up, the nature of contemporary threats to societal security is multidimensional and extremely diverse. Their intensity and scale of impact may significantly disturb the conditions of human existence and development. Therefore, the organization and maintenance of

<sup>36</sup> Apart from the State Fire Service, fire protection units include: organizational units of the Military Fire Protection; company fire brigade; factory rescue service; municipal professional fire brigade; powiat (city) professional fire brigade; field rescue service; volunteer Fire Department; union of volunteer fire brigades; other rescue units. Cf. Act of August 24, 1991 on fire protection (Journal of Laws of 1991, No. 81, item 351, as amended), Art. 15.



an efficient and effective rescue system, consisting of many interrelated elements operating as a whole, the assumed partial goals aimed at saving life, health, property and the environment, treated as precious values that require protection, and at the same time the main goal of the rescue operation is a complicated and complex task. In the process of organizing, it is important to properly identify threats, which should constitute the basis for building a network of rescue entities and their personal and technical preparation, allowing for efficient and effective<sup>37</sup>, response adequate to the needs.

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<sup>37</sup> The author assumes that the effectiveness of the system's functioning is the ability to achieve the goals of action in the required time, while the efficiency of the system is a property that expresses all the practical values of the actions taken, i.e. positively assessed features. Cf. P. Sienkiewicz, *Analiza systemowa*, Warszawa 1994, p. 267.

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