

## **THE EFFECTIVENESS OF CRISIS MANAGEMENT'S LOGISTICS SUPPORT IN LOCAL GOVERNMENTS**

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**Abstract:** Crisis management is a very important part of public safety. Its history has been changing over the last ten years, starting from the political changes, through various changes of its structural services, to the challenges have been put by all atmospheric phenomena in recent years. These changes caused that all services, after the years of theoretical discusses over the strategic documents, must be proceeded to implement them in practice. Today, in general, we can say that having a wealth of practical experience, it is possible to undertake the evaluation of the effectiveness in this area of public policy. The purpose of this paper is an attempt to assess the logistics support as key element of crisis management systems. Based on the assessment, becomes possible run the actions in purpose to evaluate the system. Irrelevant is here to judge the services from the subjective and political point of view only, but first of all, consider the implementation of an effective assessment model, which allows to approach to this such very important problem in the most objective way.

**Keywords:** crisis management, logistics support, local governments.

### **1. The legal and organizational basis of crisis management in Poland**

The current basic legal act in the field of crisis management in Poland, is the Act of 26<sup>th</sup> April 2007 on Crisis Management, Journal of Laws No 89, item 590. Act defines the crisis management term and divides the actions competencies taken by various level of administration structures. In the further part of this paper, I will try to briefly present the basic terms and principles of operation of the existing system.

Crisis management is a particularly organizational project, which includes: managing, administration and managing the society or the part of it during the crisis situation. Occurs during natural disasters, industrial and technical accidents (in the peace time) or the war threat. Is being taken and used when all above threats occur. In current practice, on all crisis management levels, the following phases are separated: preventing – connected with the elimination actions, reducing or limiting the effects of potential threats, preparation – related with the earlier projects planned in case of threat or disaster occurrence and increase of human force and means used in rescue action; responding – which main target is to directly help victims and reducing the loss and damage, reconstruction – as a kind of material and moral projects aimed at restoring (at least) the previous state [1].

The universal term of crisis management, introduced by the Act on Crisis Management, is defined as: “activity of public administration authorities as an element of managing national security management system, which consist of preventing crisis situations, preparing to take control over them by way of planned activities, responding in case of emergencies, removal of their effect and the reconstruction of the resources and critical infrastructure” [2].

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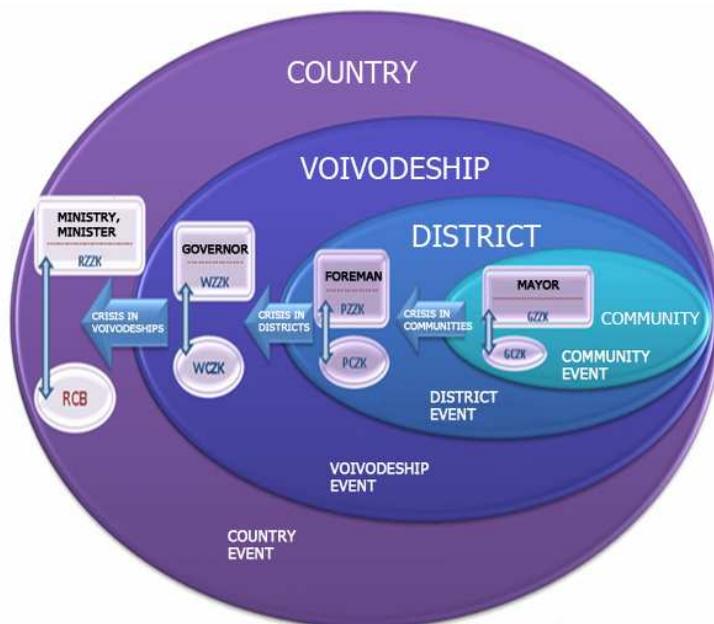


Figure 1. Crisis Management System in Poland

Source: [www.rcb.gov.pl](http://www.rcb.gov.pl) [5]

According to the above model, the competences of reaction are depend on the scale of the event occurred in a given situation with inclusion of indirect services till to the basic level of operation activity which is Community and its crisis management systems. It is worth to mention that in Communities the activity of emergency services is always run, at the moment when the crisis situation occurs, regardless of its territorial range. It is in the Communities we are dealing with a direct exchange of decisions and operation activities with the victims. Communities are the first, on which falls the odium from the population affected and frustrated by disaster. Therefore, in the further part we use the analysis of events with different territorial range but occurring in different locations in the country at the Communities level.

## 2. The analysis of crisis situations in Poland

According to the Act on Crisis Management, crisis situation is defined as: a situation that impacts negatively on the safety of people, property in large sizes or the environment, producing significant restrictions on the operation of the competent authorities of public administration due to the inadequacy of the possessed capabilities and resources.

Below, I will try to quote examples of phenomena which were crisis situations in Poland. The history of our country is very rich in crisis situations, but in the old days no one has defined this as a natural disaster. Ones of the most common disasters, until recently, were floods. Genesis of floods dates back to the 998 year, when Jan Dlugosz, mentions in his chronicles, the years with a large amount of rainfalls. Another event, much closer to us, is the year 1997 when the flood described as “Millenium flood”, has flooded

Wroclaw city. And Oder, in the year 1998, when the flood took place in Kotlina Klodzka, to the year 2010, when a small river has destroyed Bogatynia city.

Another massive weather events such as tornadoes, preceded by hail, with a very strong, gusty wind, who is destroying everything meet on its path. The first notes about the whirlwinds have appeared in the thirties of XX century and they were local, were destroying in buildings, on tree stands and on the water. Last, the most dramatic and with widespread in consequences is a whirlwind in Adamów, Huby, and Skrzydlow villages in Community of Klomnice in Silesian voivodeship, one year later, a large whirlwind passed through four voivodeships: Opolskie, Silesian, Lodz and Masovian. It must be mentioned the year 2012, when the whirlwind passed through the Bory Tucholskie, crossing slightly the building area, but causing the huge loss on tree stands. In the meantime, in the year 2012, the wave of icing took place, and has caused, especially on the north of Silesian voivodeship, energy disaster, because a lot of energetic lines were destroyed, both low, medium and high voltage. The reason of this disaster were freezing rains, which caused that branches and trees were overloaded and have broken which caused the interruption of the overhead power network as well.

These examples give us a sense of continuous improvement of crisis management systems, and especially its effectiveness. Galloping technological progress can help a lot, but to use it in proper way, it must be skillfully managed. In my opinion, it is impossible to prevent the crisis situations, but responding on time, can significantly reduce the impact of crisis situations on human safety and their life and property.

### **3. Operation of the crisis management system in Poland**

Crisis management is a particularly organizational project, which includes: managing, administration and managing the society or the part of it during the crisis situation. Occurs during natural disasters, industrial and technical accidents (in the peace time) or the war threat. Is being taken and used when all above threats occur. In current practice, on all crisis management levels, the following phases are separated: preventing – connected with the elimination actions, reducing or limiting the effects of potential threats, preparation – related with the earlier projects planned in case of threat or disaster occurrence and increase of human force and means used in rescue action; responding – which main target is to directly help victims and reducing the loss and damage, reconstruction – as a kind of material and moral projects aimed at restoring (at least) the previous state [3].

Analyzing the above phases, no one has never evaluated which one is the most important, also it is worth to consider, at this stage, if the responding phase is more important, because we can help victims, or preventing phase because we can assume that the disaster will never occur. Unfortunately, I have not found in the literature this kind of assessment. An attempt to getting an answer is very difficult and probably asking questions to different experts we can receive various answers. However, we should take a look into that problem and try to develop a model which allow for these terms systematization. Analysis of hazard crisis situations allows to realize that these phenomena cannot be comparable to each other and they do not let to carry out mathematical analysis of indicator or time-quantitative value. In any case it is necessary to carry out an empirical analysis on all phases pointing out an importance level of each factors. It is difficult to clearly define what factors are important in the whole evaluation process of these phenomena.

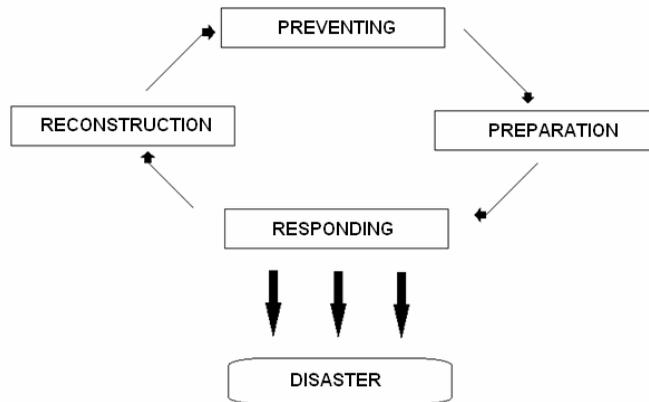


Figure 2. On the figure below the model of comprehensive crisis management is presented

Source: Author's own elaboration based on [8]

#### 4. Crisis management's logistics support in Communities

One of the most important factors of crisis management system is adequate logistics support. Its assumptions are described by emergency response plans, which are the basic conduct documents in crisis situations. Each unit has this kind of developed and agreed plan with the emergency services, neighboring municipalities and with the municipalities from the higher level. The arrangements are intended to identify the coherence in case of occurring a crisis situation covering the area of several Communities, districts and voivodeships. Emergency services need to know what kind of logistics resources they have and what kind of resource can be run at every phase of rescue and remove the effects of natural disasters. The reliability of prepared documents depends on people preparing these documents and often depends on the effectiveness of actions taken during the crisis situation. In these documents not only the resources are always defined which are directly available for Crisis Management Team (CMT), but also external resources such as services, materials, equipment, food and water, etc.

To this end, in emergency response plan are established the groups of logistics support performing the following tasks:

- a) Organization of logistics support for the needs of reaction forces and to secure own needs of CMT,
- b) Identification of current localization, the size and range of resources necessary for the prepared and conducted rescue actions and operations and also restoring the violated public order and safety,
- c) Preparation the proposals of decisions and commands which allow for acquisition and relocation the resources needed to protect conducted operations.

The main idea of logistics operation taken in crisis situations is the fastest attainment to all victims with the necessary supplies. The priority needs are considered by assessing the type of scale and kind of natural disaster. And, the most necessary supplies is drinking water, food, clothes, and from services – medical help, social services and household, such as meals preparation and accommodation.

## 5. Evaluate the effectiveness of logistics support

It can be said that logistics support in crisis situations is a process of supply with the necessary supplies and services needed to survive the crisis, which are directed to victims. Having in mind the factors determining logistics support in crisis situations and logistics activities connected with this, it is hardly not to notice, that it is based on specific rules. Therefore, how effectiveness should be evaluated? It is good and complicated question. during the evaluation process the effectiveness it is worth to consider what criteria adopt in case of such a wide range of help, which is often complicated by technical communication problems. Giving an example of providing the water to victims, to which the roads were destroyed, and the flood and obstacles did not let to reach them using a sail boat or dinghy. This kind of situation has occurred in the year 2010 in Bogatynia city. in that case it is difficult to use a time of reach, only. Lack of communication, lack of electricity, damaged roads and bridges, piles of rubble and trees constitute the apogee of obstacles. In this case, the effectiveness largely depends on a specialized military equipment such as a helicopter or amphibian used. Traditional forces and means being available for firefighters are not enough. It is difficult to be guided by time in such situations, because we should have in mind the safety of rescue workers, which health and life is also important as the victims. The measure of time which is based on increased risk of rescuers can be only apply in help the wounded who are found in direct health or life threat.



Figure 3. The street after the flood in Bogatynia city

Source: [www.e-bogatynia.pl](http://www.e-bogatynia.pl) [6]

Another extreme example, which I would like to present is situation of icing in January 2010, occurred on north of the Silesian voivodeship, when the rain with low temperature, has frozen on the branches, power and telecommunication networks, and has caused the breaking as a result of increasing weight of trees and branches or through the broken trees and branches close to power networks.



*Figure 4. The effects of icing in Janow Community*

Source: Archive of Janow

This is a specific situation because buildings have not been destroyed, but thousands of people have lost electricity, which is necessary to providing water, heat and meals preparation. It was impossible to predict this specific situation, due to fact that each failure has occurred after another one and no one could have predicted the end. At the beginning, the roads were being cleared because the vehicles with the people inside have stuck, and no one could determine when the electricity would return. The present home automation such as electronically controlled furnaces, heating circuits and communication elements, have caused a huge discomfort and in perspective – health and life threat. The low temperature makes that providing the water is difficult or even impossible. In shops the power aggregates to emergency power supply are immediately sold out, this is specific form of crisis situation. And here, also, it is impossible to provide a criterion for assessment of the effectiveness of logistics support actions. To be under assessment, the whole process of crisis management, whose connections are presented on the figure below, should be analyzed.

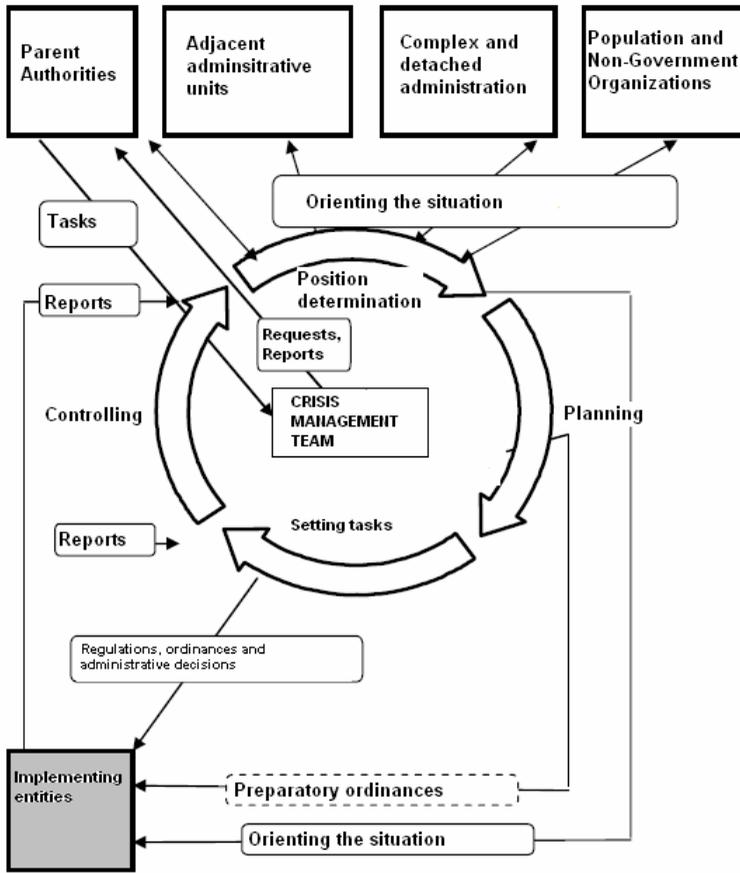


Figure 5. The process of crisis management  
 Source: Author's own elaboration based on [7]

The process of crisis management is defined as a decision process conducted by team, and is divided into four phases. So, the effectiveness should be assessed of each phase, that is why is difficult to determine the importance level of each of it and its influence on overall crisis management, especially on logistics management. Each phase, starting from the preventing phase and ending on reconstruction phase. If the government will correctly identify the resource of threat, estimated logistics resources and also, people will properly informed about the risks, they will know how to alarm and warn and they are aware how to behave in crisis situation, it will significantly improving the effectiveness of the system.

Another, effective and important actions must be taken in the preparation phase, when the developed information should be properly verified, create proper organizational and technical condition for logistics management, create the condition for logistics tasks realization, including distribution network organization and warehousing and proper training provided to logistics tasks performers, which will guarantee the effectiveness of this phase. The next phase of the response, it is above all an organization of medical services, supplying to the people, evacuation of the people located in hazardous areas,

organization of social and household services, temporary accommodation and all kind of operations in the field of psychological care, it requires quite big commitment of personnel involved in the works, both from CMT and emergency services. In the reconstruction phase, logistics organs are involved in estimating losses and damages caused by crisis situation, they run the logistics resources in the field of collective and individual help, organizing repairs and reconstructing technical infrastructure. The specialists from CMT, in this phase, should be primarily a high-class professionals with a great sensitivity sense and experience, and also, be very assertive during the cooperation with victims, who are, usually honest during the cooperation with the services [4].

## 6. Conclusion

This paper is only a preliminary analysis of approach to evaluating the logistics management systems effectiveness in crisis situations. At the moment we do not lack practical events, who have been successfully realized, both from practical and media, point of view. Therefore it is never as good that it could not be better. The more is important that all events are well published by the media, who not necessarily show the objective state and factual state. In such cases mistakes and weaknesses should be eliminated, which realization improves the efficiency of actions. It is worth to promote good cases and exchange the experience. It is better to gain an experience on cases, who took place outside the area on where we live, work and manage. Experience in the field of crisis management is a value, which we cannot test in the laboratory. Only careful analysis of the occurred cases and working out an effective effectiveness evaluation system, it is, for us the possibility to improve the quality of crisis management.

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