MUTUAL CONNECTION BETWEEN DISASTERS, DEVELOPMENT AND SECURITY OF THE COUNTY

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Abstract

For a long time, among the scientific circles there is a dilemma for mutual relationship between accidents and disasters within the economic, social and other development of society. Experiences and lessons learned from the past accidents lead us to conclusion that accidents, despite their destructiveness that manifests, have a positive impact on the economic development of society. The idea of developing large-scale disasters affect private companies and the state to allocate and invest large resources in scientific research work on finding ways to predict, prevent or minimize the consequences of accidents. In most cases natural disasters cannot be prevented, but people can reduce their effects. On one side, the accident can destroy the planned development initiatives and, on the other side, they can create opportunities for future development. Through the development schemes and plans, organizations can present both options how to enhance or reduce vulnerability to disaster. Most of the innovations that are created for the timely prediction of accidents find its practical application in the everyday life of people. Also, the occurrence of major disasters reduces the security of the country, especially for those countries which have limited resources. In this paper we will try to introduce a new concept of mutual connections between disasters, development and security of the society.

Key words: disaster, development, security, society

Introduction

When there is a large incident or accident, there are certain prescribed standards of conduct and procedures of decision making which the involved parties must respect in order to solve the chaotic situation which exists on the ground. There is not a universal organization or procedure or a single organizational blueprint that will satisfy every need in dealing with such situations. The key for effective response in dealing with disaster is to apply fundamental principles in the dealing with this problem. But, so far there is not a "universal solution" for dealing with grief in all situations. It is generally known that the major incidents, accidents can be out of different nature, and therefore unpractical to apply a single solution for all situations. In accordance with the international standards developed by the International Organization for Standardization, the accident in the wider public generally involves a great tragedy or accident (crash)[1].

In the context of urgent planning for disaster we can say that every case (happening with or without warning) causing death threat or injury, damage to property or the environment or disruption to the flow of society, because of the steps of the effort it could not be resolved in a day or two with the help of emergency services or local authorities as a part of their activities.

The accident implies to any danger that requires special arrangement of one or more rescue services for:

- Initial training, rescue and transportation of large number of casualties. [2]
- Direct or indirect involvement of people.
- Dealing with a large number of requests generated by the public and the media from the police.
- Combining the resources of the rescue services.
- Mobilization and organization of rescue services and other support organizations.

For example, care of local authorities for mitigating the consequences of the threat of death, serious injury or the appearance of large numbers of homeless. There is not a standard definition of an incident that would satisfy the rescue services, but large incident occurs when any phenomenon is a serious threat to health, it disrupts the normal functioning of society or causes or may cause as many casualties that would require special engaging health and other services.

[1] "A Risk Management Standard", London: The institute of risk management, 2002.
[2] "Dealing with Disasters", Cabinet Office Civil Contingencies Secretariat, Revised Third Edition, 2003.

In the definition of major incident, we can conclude that from the rescue services it was required deployment of additional special services and organizations whose participation is expected to increase the effectiveness of the response to this incident. However, any major incident can be classified as an accident disaster. As an example we can take a serious accident on the highway that includes a number of vehicles. It may be a major incident, if its rehabilitation requires increased involvement of police, fire services and other services (outpatient and inpatient).

An accident which happens often and causes no major consequences, such as a fire in a room without casualties - can have the same level of risk and accident as those which happen rarely but have major consequences when an accident such as fire in an apartment with injured and deceased persons is as in an aircraft accidents. While the causes of natural disasters can be sudden and unpredictable, certain types of industrial accidents, technical and technological accidents carry risks that may be the subject to regular planning. This includes chemical or nuclear hazards at fixed locations where the most types of incidents and their probable consequences are broadly predictable (examples of Bhopal and Fukushima). For those accidents, we must make detailed plans for the appropriate action which will be taken, in advance. The existences of these plans reduce the errors which result from wrong decisions made in crisis situations.

Accidents have many effects on society and the environment. This means that they require a combined and coordinated response, linking the expertise and resources of relief agencies and local authorities supported by other agencies and organizations. There is no independent organization which has available resources for autonomously cope with grief. The primary responsibility in dealing with accidents remains locally where we have available resources and expertise[3].

The conceptual link between accident and development

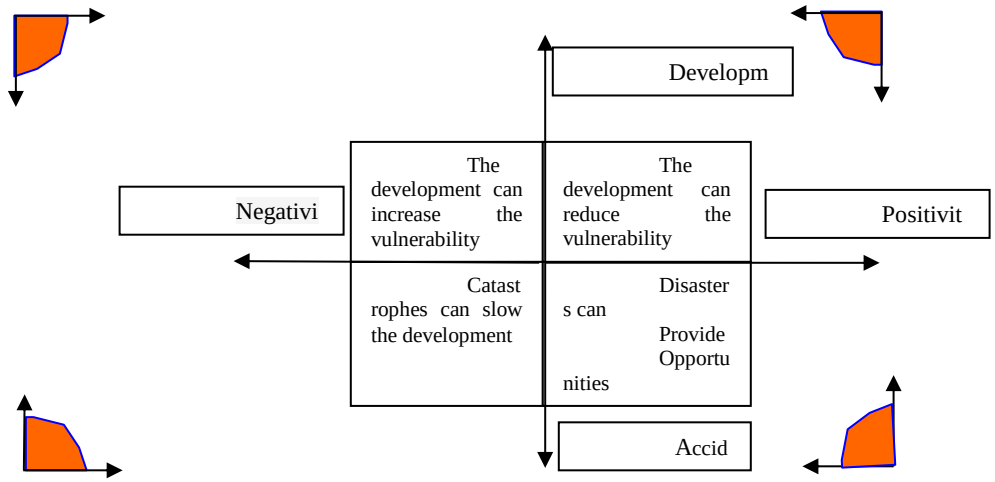
We will try briefly to represent the new concept of mutual links between disasters and development. Namely, for a long time the scientific community had ignored the mutual connection of causes and consequences between accidents and social and economic development on one hand, and security on the other side. In the best cases, development planners hoped that the incident would not happen but if it happened, it was operated with assistance from the various rescue agencies, organizations and donor countries.

[3] ibid

Development programs are not evaluated in the context of the possibility of accidents or the consequences that can cause accidents, but they can increase or reduce potential damage from a possible accident, and jeopardize the safety of the people on earth[4].

Accidents were seen only in the context of rapid response and not as a part of long-term development programs. When the accident would have occurred, the response was directed to rapid reaction and the urgent need of clearing the scene and removing consequences. The area where the accident occurred was seen as too turbulent a region to promote institutional changes aimed at promoting long-term development. Scientific thought is concerned with studying the relationship between disasters and development, and carved 4 main topics.

From the picture we can see positive and negative aspects of the relationship between disaster and development in verticals. The right half presented positive or optimistic expectations and the left side of the diagram presented negative aspects of the mutual relationship between the accident and the development[5].



Aspects of community development and vulnerability to disasters are presented in detail in the following schemes.

Schemes below show us the "orientation" through which we can analyze the "areas" of development and vulnerability to accidents. The four topics presented at the image are presented descriptive as follows[6]:

[4] Stephan Klingebiel, " New Interface between Security and Development – Changing Concepts and Approaches", Bonn: Dt. Inst. fur Entwicklungs politik, 2006.
[5] Stefanson. R.S, "Disasters and Development", 2nd Edition, UNDP, 1994.
[6] Ibid

1. Accident slows the development of initiatives and development programs in the year of accident.

Advance in infrastructure has been destroyed by flooding, such as transportation and electricity supply and sanitation system.

2. Rebuilding after the disaster provides significant opportunities to initiate development programs.

Self-assistance program to rebuild houses which are destroyed in the earthquakes teaches new skills, strengthens community pride and leadership and directs the money to other higher priority areas and targets for performing major construction works for the benefit of society.

3. Development programs can increase the sensitivity of the area by accident.

Increasing development of reserves leads to the destruction of food and contributes to the sacking of the country and increases the vulnerability of people for food.

4. Development programs can be designed to reduce the sensitivity of accidents and their negative consequences.

For example, when we are preparing project for building a house, the house must be designed to support high winds and to reduce destruction in case of strong winds.

The decisions that ignore the mutual relationship between accidents and development belittle people who have confidence in them. It is known that the development requires structural and institutional transformation of society in order to accelerate economic development, reduce the level of inequality and to break down wealth from one hand to increase the security of the country on the other side. Over time, the effects of disaster can seriously degrade the long-term potential of the sustainable development of the country and cause governments to modify their development programs and priorities. In most cases the modifications of these programs are favoured of the country's security to the detriment of the development of other projects of interest to social and economic development of society.

At the same time the accidents often give the opportunity to develop and they can enhance the atmosphere in favour of changes to create and establish rational development programs, but a poor management space. They can have several negative implications for development in the years to follow and may increase the vulnerability of the countries in future hazards.

Variation of the effects of accidents from one to another danger

The variation of hazards depends of their impact, geographic location and duration of effects. Taking into account the level of hazards that occur in

a particular country, they can include tropical storms, coastal flooding, earthquakes, and winds, fires in urban and mountainous environment, droughts, landslides, and civilian conflicts, technological and industrial accidents.

These accidents have a huge impact on the security of countries especially in the case of small countries such as Macedonia, or in countries with unstable political systems where institutions do not function according to democratic principles[7].

Each of these examples has a different potential danger of destruction, depending on the severity of the accident and his geographic relationship with the population and the level of economic development.

By analyzing the information on the type and size of social and economic losses caused by a more recent natural disaster (tsunami and nuclear accident in Fukushima, floods in Australia, Hurricane Irene in the USA), can give us several conclusions as follows:

- Natural disaster / accident caused by meteorological phenomena such as tropical storms and winds, basically occupy larger geographic area than geological disasters. This conclusion is based on the effects of Hurricane Irena and Catherine, which came to the USA occupying larger territory, causing great material damage and human losses. Hurricane Catherine is known for destroying New Orleans, and damages from Hurricane IRENA are still being determined. Compared to the earthquakes, they affected major urban centres and smaller settlements.
- If we compare the number of casualties occurring as a result of geological natural disasters like earthquakes and those caused by meteorological phenomena, we can see that geological disasters in the number of victims is much higher[8]. For example, the Guatemala earthquake of 1976 caused the deaths of 22,000 people as Hurricane Irene in the USA in 2011 caused only thirty casualties.
- The losses of capital stocks caused by earthquakes occupied social and physical infrastructure are higher than those incurred as a result of flooding.
- Adverse loss of capital reserves, production and other indirect losses are basically much larger in case of flooding and strong winds. When geological phenomena cause flooding or landslides the lost

[7] Samir Elhawary, Marta Foresti and Sara Pantuliano, "Development, Security and Transitions in Failure States", Overseas Development Institute, London, 2010.

[8] Robert A. Olson and Richard Steward Olson, "The Guatemala Earthquake of 4th February 1976: Social Science Observation and Research Suggestions", Amsterdam: Elsevier Scientific Publishing Company, 1977, pp. 69-81.

production and other indirect losses are much greater than in cases of geological disasters.

As common effects for all types of natural disasters we can mention the following:

- When in the affected country the significant number of casualties and limited qualified human resources can disappear (as in the case with the earthquake in Guatemala in 1976, when 19% of the population was affected by the effects of the earthquake[9]).
- Commonly, there is a significant accommodation of facilities and infrastructure associated with health and educational facilities.
- Temporary interruption with water supply, electricity, communications and transportation system.
- Joint effects of natural disasters are a temporary shortage of food and other materials related to agricultural and industrial production.
- The country's security is reduced and the risk of hostile is increased.

Impact of the effects of the economic situation, accidents and security in the country

The development is basically a process of investing the funds in the economy over the long period, which positive affect increases the security of the country in the world. There are many different types of economies where each entity is differently associated with different processes and patterns of investment, institutional change and structural reorganization.

Each type of economy shows varying degrees of sensitivity to short and long term depending on the size of the disaster and hazards affecting the security of the country.

As an example for analytical purposes, in this paper we took into account and defined four common types of economies that are characteristic of the countries which are most susceptible to the consequences of the occurrence of accidents of major proportions. In these economies, we have a large imbalance between economic and social development and security of the country in the event of accidents of major proportions.

The main goal is to focus on broad differential effects that cause accidents on these economies, and in their effect on safety. Using these four categories, we can begin to develop an overview of how to distinguish different types of economies according to their vulnerability to any kind of accident.

[9] Ibid

Newly industrialized economies, highly urbanized and high density of population in the urban areas are rather indifferent to the damage caused by natural disasters in agriculture. On the other hand these economies can be vulnerable to damage caused to infrastructure by earthquakes or tropical storms, which, for example, damages the power systems, transportation, communications and public utilities.

Rural / agricultural economies are typical for many less developed countries. These economies, which are often characteristic of countries with slow growth, are relatively immune to accidents with short and sudden impact.

However, they are vulnerable to accidents that have extensive impact on agriculture, such as droughts, damage caused by pests and civil conflicts. Small economies (especially Island) are mostly dependent on several types of crops or goods. They are usually prone to tropical storms (which destroy crops), droughts and volcanic eruptions.

Generally, the economies which are susceptible to "stress" and local conflict are vulnerable to droughts and major floods, but almost every accident has destabilizing effect on these economies. Accidents can also destabilize other processes that complement or underpin development activities, especially those activities related to structural bonding. Requests for emergency recovery and reconstruction after disaster can cause disruption to the process of adjustment to negative influences. For example, depending on the specifics of the accident, demands for public expenditures could increase significantly, while at the same time it can have a decline in investment and employment. The outcome of this situation will be further decline in future development.

Increasing of the capacity for analysis and mitigation of the benefits of development alternatives before and after the accident

Accidents can significantly impede the effective development and the location of resources. However, we can see the general picture of disruption of the mechanisms through the following indicators:

- Loss of resources;
- Termination of programs and diverting crucial resources for other short-term needs;
- Negative impact on investment climate; and
- Disruption of the functioning of the informal sector.

Accidents can also be a driving force for greater development program that has a positive impact on the security. Political influence in the country as a result of damage and disruption can be a real catalyst for

change. Accidents which inspire development initiatives, have different affect on the ways for development, but two general aspects should devote special attention:

First, accidents can highlight vulnerability in certain areas, for example when we have a larger loss of life or when the economic losses have an incalculable value as a result of a crash. These results highlight the general level of underdevelopment.

Second, for several weeks or months, the political environment may favour the much higher rates of economic development or social change than before, especially in the areas of training, structural improvement and restructuring of the economy.

International assistance given after the accident can partially compensate for economic losses, although the amounts of money will be smaller than the actual loss. The initial aid rarely exceeds 10% of the total damage, and is usually significantly less than that[10]. In the coming months and years we will have additional long-term development assistance which otherwise, in normal situation and conditions, would not be available. The economy may long benefit as a result of the accident and restructuring. For example, small economies that were previously dependent on the production unit cultures may have expansion in their economic base as a result of an international aid.

The extent of growth which can follow the accident can usually be limited by a donor investment policy for emergency loans from foreign financial institutions. According to Sarah Cliffe, Special Representative and Director for the 2011 World Development Report of the World Bank, "forward-looking programmes that strengthened national institutions and governance while providing security, justice and jobs were crucial to ensuring that fragile countries did not relapse into violence and instability"[11]. Assistance will take a considerable inflow of funds in small communities - resources that can be purchased at the local level, and the method of injection of these resources may discourage independence and entrepreneurship.

The volume and variety of external sources of relief in some accidents hamper this problem and emphasize the need that governments and international agencies continue to emphasize the development of disaster response. The development of the economy on the other hand provides increased financial outlays for security. Often, the development of military capabilities has a positive influence on the economic development, because

[10] "State of the Art Review on Environment, Security and Development Cooperation", OECD Development Committee, 2004.

[11] "Security Council Presidential Statement Stresses Need to Consider Economic, Social as well as Political Factors in Maintaining International Peace, Security", Security Council 6479th Meeting, 11 February 2011.

most of the funds are allocated for security back again in the economy. In major economies like USA, Russia, China, United Kingdom, etc., military industrial complex plays a major role in the development of society.

Natural accidents vulnerability of the Republic of Macedonia

Natural disasters do not recognize geographical, political and administrative boundaries. They can engulf the territory of several countries and even entire regions. Macedonia is geographically located in the central part of the Balkan Peninsula, and certain natural disasters, which are common to all countries of the region, such as earthquakes, floods, fires, are potential threats for our country as well. For example, the Danube passes through several states and at the same time it can cause floods in more countries by its flooding. All Balkan states are characterized by small economies, and to a greater or lesser extent feel the effects of natural disasters; this can directly affect the slowdown of development, and the security of countries.

Republic of Macedonia has established its own National platform to reduce the risks of accidents and disasters, such obligation arising from the accession of Macedonia to the Framework for Action Hyogo in January 2005. This National platform is also obligation set by two key conceptual and strategic documents, as the National Security and Defence Concept (2003) and the National Security Strategy of the Republic of Macedonia (2008), and the Law on Protection and Rescue adopted in 2004, and the Law on Crisis Management adopted in 2005.

Macedonia has a small economy and any major accident could have strong consequences on the development of society, welfare and prosperity of citizens and the security of the country. For example, in the last 90 years, the Republic of Macedonia had experienced several hundred earthquakes, of which many had destructive manifestations, some of them to express themselves with disastrous consequences. The catastrophic earthquake of 26.07.1963 in Skopje was a particularly rigorous example of extreme seismic hazard. Casualties (1,070 killed and 3,300 injured) and damage to material goods in terms of national income, surpasses all previous known catastrophic earthquakes in the world. The Republic of Macedonia faced with the destructive effects of earthquakes; in its legislation entered specific criteria for the design and construction in the seismically active regions in order to mitigate the consequences of possible occurrences. But after the 1963 earthquake in the Republic of Macedonia there has been rapid economic development. However, that does not mean that the state should experience a disaster and then to develop.

The Republic of Macedonia, in the past, registered a number of floods that have caused very serious consequences on the population and material goods. To reduce the effects of flooding, in its development plans, the Republic of Macedonia has provided construction of more dams. Hydro reservoirs in Macedonia have great significance, both in terms of production of electricity, water, tourism. In the recent years, the construction of several reservoirs in the country decreased flood waves in some areas and regions. These dams have depreciated a wave of flooding, while also protecting large areas from flooding and causing large drifts in the lower parts of the flat terrain. For example, with the construction of the dam Kozjak on the river of Treska, the water of the river Vardar on Skopje area and partly in the area of Veles have been controlled. In this segment we can clearly see the impact of the development of the country in terms of prevention of natural disasters. For example, demolition of a dam can have serious consequences not only for human life but also for the animal and plant life, and also on economic development and security of the country. On the other hand the development of the country is for respect with the construction of such a preventive hydro assist. Each country should develop and customize its own development plans aimed for preventing possible disasters that can be prevented.

Conclusion

Overall, we can conclude that there is no a universal model for dealing with problems that cause accidents of wide scale. The latest results from the researches and analyses of existing risks point to new opportunities - methodology and application for protection against natural and technological risks (disasters)[12]. To facilitate further investigation of the reasons that caused the accident and to provide evidence for further investigation, it is necessary that all decisions and actions which will be implemented on the ground, to be recorded. Each rescue service needs to provide its own shots. Experience has shown that video recordings are a useful resource in providing evidence from the spot of the accident.

Good storage and analysis of images provides further identified and lessons learned from dealing with the accident which can be applied in any similar situations in response to the future accidents.

Also, it is necessary to mention the following facts related to researches of the phenomenon of elementary catastrophes and their consequences on the mankind and the environment, and the impact which

[12] Vladimir P. Mihailov. "Ecological Dimension of the Risks from Natural and Technological Catastrophes", Institute of Seismological Engineering at the University "St. Cyril and Methodius", Skopje, 1992.

disasters have on the security of the country. It is obvious that the results are not sufficient to eliminate the risks on security of the country caused by accidents. All these further highlights are necessary, as well as to devote special efforts and attention to all aspects related to the design of development plans for economic development and development of the security of the country.

Mutual connection between the accident and the development of the country and its security is complex, because the development may increase vulnerability to the occurrence of accidents (especially technical and technological) which can jeopardize the security of the country. If the development plans are designed according to the risk of any accidents, then they can reduce vulnerability to adverse effects that can crash the country's security. Generally, we can conclude that the effects of the accident are different, depending on the type of accident and accordingly the vulnerability of disaster varies in relation to different societies and economies.

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